

COUNTRYSIDE AND GLOBALIZATION: THREATS AND POSSIBILITIES THROUGH THE EXAMPLE OF HUNGARIAN RURAL MICRO-REGIONS

VIDÉK ÉS GLOBALIZÁCIÓ. VESZÉLYEK ÉS LEHETŐSÉGEK MAGYARORSZÁGI KISTÉRSÉGEK PÉLDÁJÁN SZEMLÉLTETVE

VIDIEK A GLOBALIZÁCIA. HROZBY A MOŽNOSTI DEMONŠTROVANÉ NA PRÍKLADOCH MAĎARSKÝCH MIKROREGIÓNOV

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Összefoglaló

Az elmúlt évtizedek során jelentős változások és egyben növekvő területi különbségek voltak megfigyelhetők a fejlett országok vidéki területein az egész Európai Unióban, de különösen Nyugat-Európában. A kelet-közép-európai országokban azonban ezzel párhuzamosan politikai és gazdasági átalakulások is végbementek. Ezeket a változásokat a globalizáció gazdasági és társadalmi hatásainak egyenlőtlen terjedése fokozta még tovább, amely a vidéki területekre, településekre, illetve fejlődésükre és a helyi gazdaságra különböző módon volt hatással.

Kulcsszavak: mezőgazdaság, humán erőforrás, globalizáció, vidékfejlesztés, munkanélküliség

Rezumé

V posledných desaťročiach sme mohli zaznamenať značné zmeny a tiež nárast územných rozdielov vidieckych oblastí vo vyspelých krajinách celej Európskej únie, ale hlavne v západnej Európe. Avšak v krajinách východnej a strednej Európy došlo priebežne k aj politickým a hospodárskym zmenám. Tieto zmeny zapríčinila hlavne globalizácia a nerovnomerný rozmach hospodárskych a spoločenských zmien ktorých dôsledkov bolo, že na vidiecke oblasti, obce a taktiež na miestne hospodárstva mali tieto vplyvy rôzne následky.

Kľúčové slová: poľnohospodárstvo, ľudské zdroje, globalizácia, rozvoj vidieka, nezamestnanosť

Abstract

In the last decades the tendencies of the global economy and the decreasing employment in agriculture have caused heavy structural problems in a number of rural areas all over the EU and other developed countries as well. The role of agriculture in the employment has sharply dropped, which had different effects on the various rural areas. The negative effects have hit rather those peripheral rural areas which have agricultural traditions and unfavorable structure of the human resource. In the light of the most important economic and social changes which have effects on rural areas in global context, the main objective of this paper was to explore the relationship between the long term agricultural unemployment and the state of territorial development; and to determine the possibilities of local endogenous development on those

impaired micro regions that suffered most from the decrease of employment in the agriculture in Hungary during the period 1990-2003.

Based on the results of multivariable statistical methods, the areas involved in the examination have strong correlation with the spatial inequalities. The selected micro-regions lag behind concerning the necessary local resources, especially the human ones. On the ground of the results, it is not the decreasing role of the agriculture in employment that is the main problem affecting the lagging rural areas, but the economic, social, infrastructural, and mainly human disadvantages that have been accumulated. These factors are the main handicaps in their adaptation to global economy and competition.

Keywords: agriculture, human resource, globalization, rural development, unemployment

Introduction

Over the last decades, significant changes and increasing territorial differentiation could be observed in the rural¹ areas of developed countries, mainly in Western Europe, but - parallel with the political and economic transformations in Eastern-European Countries - all over the European Union (EU). These changes have been accelerated by the unequal expansion of economic and social effects of the globalization that affect rural areas and settlements, their development and local economy differently (see Byrden and Hart 2004).

One of the most important elements of the changes is the strengthening and modification of the expression *rural*, since it has meant a totally different and new dimension for the society and the economy in the developed countries for a while. It has been shown by the suburbanization, by the re-evaluating of natural resources, by the economic development of a certain part of the countryside (the new rural economy) etc. In addition, as the major location of the agricultural raw material production and food industry, rural areas play important role in the EU's Common Agricultural Policy (CAP) as well. Rurality has been defined by the predominance of agriculture in the economic activity, in social and environmental context as well as concerning the ethic values of an area for a long time. By now, the transformation of the European economy and the wide-spread distribution of industry and services in the territory have profoundly modified the rural dimension, resulting in growing integration between *cities* and the *countryside*.

In spite of the abovementioned, general problems of the rural areas that are mainly caused by the fact that the importance of agriculture has been gradually decreasing in the employment, (e.g. depopulation, fewer jobs, increasing social burdens, low accessibility to the basic services etc.) cannot be ignored. As a result of that, the unemployment causes further rural problems not only within the EU (SERA 2006, EC 2008a), but for example in the United States as well (e.g. Lichter and Johnson 2007, Macke 2003).

Although declining agricultural employment is a usual tendency in the developed countries, it does not have the same effects everywhere because of the special characteristics of the territorial structure. Negative tendencies hit rather such rural areas where there are traditional agricultural activities carried out, the qualification of the population is low, the share of

¹ Although each individual member country has its own definition, there is no uniform definition of rural areas (IWG.AgRI 2005). In this paper - similar to the general approach in the EU - the term is used according to the OECD regional typology based on population density (see OECD 1994).

elderly population is high, there are no large cities nearby, and they have unfavorable accessibility, especially in the post-communist Eastern-European Countries, where the territorial aspects of economic and social processes following the political transition have even deepened those negative impacts (EBRD 1999 and 2002, SERA 2006).

One of the most important indicators of structural problems in Hungarian rural areas is the long term *agricultural unemployment*: those, who used to work in the agriculture, are now trying to flow into other sectors. Strong correlation has been supposed between this indicator and the general socio-economic underdevelopment of a region at micro-regional level.

In the light of the most important economic and social changes affecting rural areas (emphasizing agricultural features), the main objective of this paper is to explore the relationship between long-term agricultural unemployment and the state of territorial development; and to determine the possibilities of local endogenous development on those impaired micro regions that have suffered the most from the decrease in the agricultural employment in Hungary over the last decades.

Countryside and globalization

Analyzing the connection between the countryside and the globalization is as hard and wide-ranging task as the definition or explanation of the globalization² itself. The aim of this paper is not to introduce the discourse or the different interpretations of the globalization, but rather to underline the most important and generally agreed consequences that especially affect rural areas. One of them is the emerging importance of territorial competitiveness. In literature, the frequently used term of **competitiveness** means, indeed, the adaptability to the rapidly changing global economic and social circumstances (however, according to Bristow (2005) it is used mainly in economic context) (EC 1999, Lengyel 2003). This ability has a very strong influence on territorial inequalities.

Due to the rapid changes in the international economy, rural regions need to face some obvious threats but they can have significant opportunities as well. These changes include globalization, improved communications, reduced transportation costs, changing trade patterns for commodities and the emergence of important non-farm activities in rural regions. Globalization, increased accessibility (development of transportation infrastructure and ICT) and new migration patterns offer new opportunities for rural areas to develop. In many rural areas the diffusion of clusters, as seen in food processing or in other industries, has played an important role in improving the economic performance of the area. Moreover, thanks to the improvement in transport links, a large number of rural regions have been able to take advantage of some emerging elements that increase their economic and social performance; it is the case for some rural areas that have been able to respond to the new demand for services, such as clean environment, attractive landscapes and cultural heritage (EC 2006a, OECD 2006).

The assets of rural regions, the development of transportation and infrastructure can retain or attract people and businesses. The infrastructure helps to reduce per unit costs for businesses. Therefore, in the past twenty years, many rural areas have shown an increasing capacity to attract permanent investments. As a consequence, many rural regions have experienced

² Although since the appearance of the term the discourse of globalization has grown steadily in both amount and complexity, there is little consensus on what it does or should encompass, or even on the term's definition. It is used generally in economical, social and political context (Fiss és Hirsch 2005).

positive employment growth rates in industrial and service sectors (and parallel the loss of agricultural jobs). Between 1996 and 2001, in many OECD countries (10 out of 27) the region with the highest rate of employment growth had rural character. In fact, the level of industrial employment in predominantly rural regions increased by 0.5% annually over the 1990s (Table 1), while there was a decline in urban and intermediate regions (OECD 2006).

In addition to globalization, localization (see Porter 1990, Dicken 2003) is an important factor as well, advancing local values and endogenous resources of the countryside (Moseley 2003, Terluin and Post 2001). So a large number of successful rural regions have been able to valorize public or quasi-public goods such as clean environment, attractive landscape and cultural heritage (including food). It has raised the demand for residential houses and commuting which have played an important role in changing the economic and social aspects of many rural areas. Easier commuting across longer distances has expanded the sphere of influence of major urban areas enabling people to live in rural regions while working in cities.

Table 1. Employment growth rates by sector in the 1990s, selected* OECD countries
Annualized rate of employment growth (%)

Regions	Agriculture	Industry	Services	Total
Predominantly urban (PU)	-3,0	-0,8	1,7	0,9
Intermediate	-2,9	-0,1	1,8	1,0
Predominantly rural (PR)	-2,3	0,5	1,9	1,0
Total	-2,6	-0,2	1,8	1,0

* 20 countries with data available

Source: OECD 2006.

Rural assets such as quality of life and environment, natural heritage and other amenities are also more in demand and constitute real attributes that attract investment and workers as well. All these factors have contributed to a partial reversal of the trend of rural out-migration in many rural areas in countries such as France, the UK and Italy and also in some of the EU's New Member States, such as Poland and Hungary (EC 2006a, OECD 2006).

The positive perspective on globalization highlights the increasing *post-productivist countryside* with economic and social changes (Ilbery and Bowler, 1998), growing social demand on the *new functions* of the space (for example tourism, recreation, environment functions etc. see Marsden, 1995), expansion of services, industry and technology, and integration of *new rural economy* into the regional, national and international economies (Clout 1993). That kind of expansion of modern industry and service sector is perfectly realizable by the development and researches on the agriculture, rural economy, rural clusters of the United States (EDA 2007, Isserman 2000, Porter et al. 2004, Rosenfeld 2004) and the OECD (OECD 2006) as well. However, as these changes are strongly related to improved transport links that make investments, recreation and residential location in rural areas increasingly feasible, growth tends to be concentrated on the more accessible rural regions.

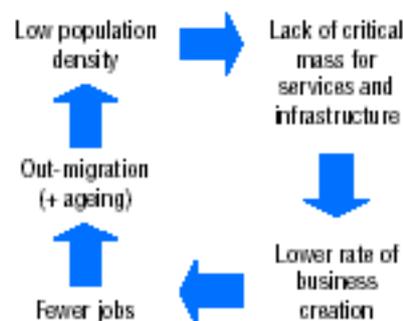
While positive effects could be realized in accessible rural areas, countryside in general terms shows considerable heterogeneity and differentiation (Byrden and Hart 2004). Globalization has escalated competition, as it has brought competitors at international level close to or into local markets sweeping away former geographical, identity-based community borders that had defended the local products, industry and cultural traditions of rural areas earlier. Meanwhile, new technologies and intensive production have been crowding out manpower from labour-market, especially in case of agriculture. According to Kulcsár and Brown

(2005), modernization accompanied by globalization changes the rural social structure as well. It coincides with other opinions in literature where negative perspective on globalization highlights mainly the social aspects, especially from the rural point of view: e.g. cultural homogenization (Fiss and Hirsch 2005), vulnerability of local societies (Kirby 2006, Luloff and Bridger 2003, Putnam 2000), the risk of poverty and social exclusion, and increasing inequality (Wade 2003).

Whether the positive or negative side of the globalization is stronger depends on how a region or settlement is connected to the changing international economy, how much it is able to attract capital and how the residents as a critical mass make demand for goods and services (Cloke and Goodwin 1992). These are in strong correlation with accessibility, but not just in physical or geographical meaning, but in terms of easiness to access to all those services and activities which represent public goods for people living in urban centers (such as schools, hospitals, sports, social and cultural facilities, basic services etc).

What is apparent is that rural areas tend to show a weaker economic performance and face significant challenges in comparison with other regions in the OECD countries and in the EU as well. The problems stem, in general, from a declining and ageing population and from the distance from markets and services. These characteristics have an impact on enterprise dynamism and job creation, on the accessibility and quality of educational and other public service resources, on the quality and density of infrastructure, and so on. These factors can interact to generate what is called the *circle of decline* (Figure 1.) for rural areas (EC 2008a, OECD 2006).

Figure 1. Circle of declining rural regions



Source: OECD (2006)

Actually, the problems of rural areas in the field of demography, remoteness, education and labor market may generate their own circles, and may interact to reproduce and amplify the phenomenon of poverty of rural areas. The *demography circle* starts with the unfavorable demographic situation of many rural areas: large share of elderly people, few young people and low density negatively affect the economic performance of the area; as a consequence, low birth rates and migration of young people worsen the demographic situation further. The *remoteness circle* is generated by poor infrastructure, which negatively affects the economic performance of the area, thus fostering out-migration; this has a negative consequence on the demographic situation, representing a further obstacle to the development of infrastructure. The *education circle* is generated by the low educational levels of most of the rural population; this causes a low employment rate and, consequently, may increase the poverty rate, which, in turn, negatively affects the chance of receiving high quality education. Finally, the *labor market circle* starts with poor labor market opportunities of many rural areas, which force many qualified people to migrate and thus worsen the quality of the local labor force; a

low-skilled labor force is a disincentive for investments of domestic or foreign firms in the area; the consequence is a further deterioration of the labor market situation (OECD 2006, Patrick 1997, SERA 2006, EC 2008a)

This is kind of a *vicious circle*, in which unemployment and lack of services lead to *rural exodus* (movements of population and economic activity out of rural regions over the past few decades) that has been a common pattern in rural regions ever since the agricultural sector began to shed employment (EC 2008a, OECD 2006).

Decline of agricultural employment

In the advanced stages of economic development, such as in the case of the European Union or OECD – despite its internal differences – the relationship between agriculture and rural areas seems to become weaker because of the development of industry and services in the countryside (OECD 2006). European agriculture currently faces several major global challenges including enlargement, more liberal trading arrangements, environmental issues, changes in consumer preference and in the degree and nature of public support.

Historically, one of the major ways how the sector has adjusted to these competitive pressures is the continuous reduction of labor used (it has been carried out by adopting new technologies and structural adjustments such as larger farming units). Thus, the result in many regions is that agriculture now represents a small share in the total employment. However, in these regions and in those where agricultural employment is of much greater importance, the inexorable trend of labour moving out of the sector seems to continue (SERA 2006).

In the past, the agricultural sector was often the drive for growth in rural economies and represented the predominant source of rural income, employment and output. That situation has changed, principally because agriculture is no longer the main sector in rural regions, either in terms of output or employment (Table 2.). While agriculture has an important role in shaping rural landscapes in many OECD countries and in the EU, its weight in rural economies is often low and declining (OEC 2006).

Table 2. Role of agriculture in the EU

	Employment in agriculture*						Agriculture's share in Gross Domestic Product		
	1000 employed in agriculture (1000 persons)			Share in total employment (%)			Agriculture's share in Gross Domestic Product (%)		
	EU25	EU15	HU	EU25	EU15	HU	EU25	EU15	HU
1980	n.a.	12730	989	n.a.	9,5	19,5	n.a.	n.a.	17,0
1990	n.a.	9562	693	n.a.	6,6	14,2	n.a.	n.a.	12,5
1999	n.a.	6954	263	n.a.	4,5	7,0	n.a.	1,8	4,5
2000	10680	6770	246	5,7	4,3	6,5	n.a.	1,7	3,9
2001	10595	6724	235	5,6	4,2	6,1	n.a.	1,7	3,8
2002	10419	6539	233	5,4	4,0	6,1	n.a.	1,6	3,1
2003	10419	6557	211	5,3	4,0	5,4	1,6	1,6	2,7
2004	9653	6208	205	5,0	3,8	5,3	1,6	1,6	3,1
2005	9541	6180	187	4,9	3,7	4,8	1,3	1,3	2,7
2006	12985**	6073	187	5,9**	3,4	4,8	1,7**	1,5	3,5

*: Including hunting, fishing and forestry

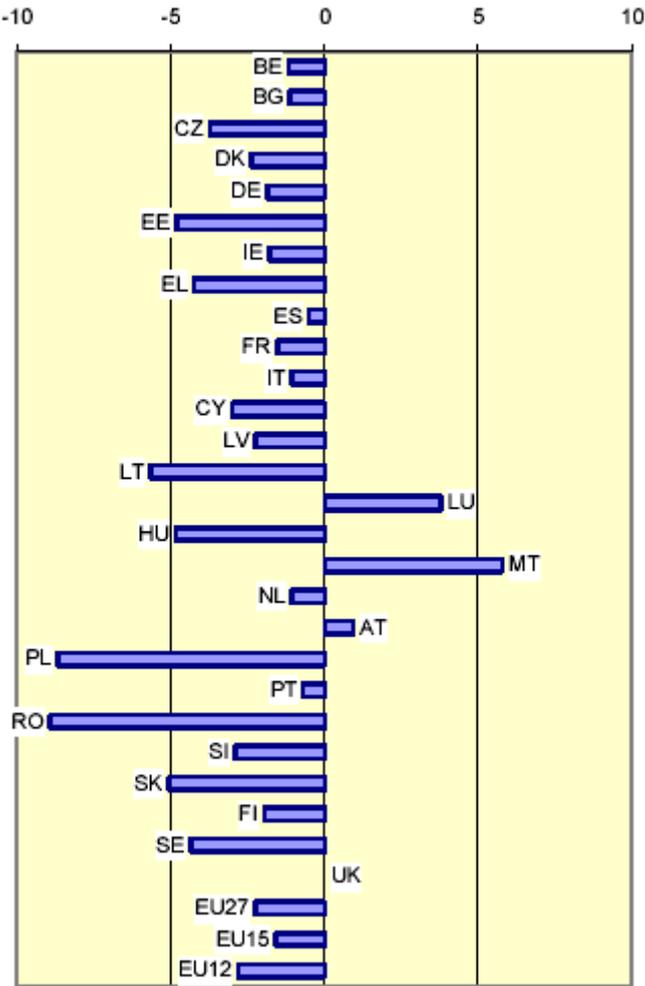
** : EU27

Source: Own edition based on Eurostat and Hungarian Central Statistical Office (HCSO) data

The development of industry and services in the countryside along with the increasing productivity in agriculture have driven dramatic decline in agricultural employment across OECD countries in both absolute and relative terms. Over a 20-year period (1983-2003), the drop has been marked most in those countries where the primary sector initially represented a very significant share in the total employment (e.g. Turkey - from 52% of total employment to 34%, Greece - from 30% to 15%, Spain - from 20% to 5%). Overall, within predominantly rural regions across the OECD, less than 10% of the workforce was employed in agriculture in 2000 (OECD 2005 and 2006).

Over the last 20 years, agricultural employment has generally been characterized by a continuous decline in the EU as well. The number of persons working in agriculture decreased on average by 2.3-2.5% annually, and this trend has remained the same (see Figure 2.) for EU-27 over the last few years (EC 2009a).

Figure 2. Average Annual Growth Rate of Employment in Primary Sector (2000-2006)



Source: EC (2009a)

In the Central and Eastern European Countries (CEE), the transformation of the agricultural workforce since 1990 has been much more pronounced due to restructuring processes during the transition. For example in Hungary, the Czech Republic, Slovakia and Estonia, there was a significant slump in agricultural employment in the first years of the 1990s with annual average changes of -10 % to -30 %, coinciding with a consolidation of large scale farm structures and the release of non-family labour. This has been followed by a more stable

period, but with an annual decrease which still exceeded that of in the former EU-15 countries (SERA 2006, Macours és Swinnen 1998, Swinnen et al. 2005). In Hungary, due to the restructuring in agriculture, privatization of former state-owned farms and compensation of farmers after the political transition (see Abrahams 1996, Brown et al. 2006, Burger 2006), agricultural employment decreased between 1980 and 2005 from approximately 20% to less than 5% (Source: HCSO).

Recently, in most rural areas of the EU, the primary sector accounts for less than 10% of total employment. In one third of the rural areas its share is less than 5% (EU-25 average is 5.2%, EU-27 average is slightly more than 7%)³, moreover, agricultural productivity is far lower in most predominantly rural areas (EC 2006b, SERA 2006). On average, the more rural a region, the higher is the share of primary sector in the employment. In the PR regions of the EU-27, the share of primary sector employment was 19% in 2003 (12.4% in EU-25), while 1.4 % in PU regions (both in EU-27 and EU-25). In Hungary, the share of primary sector in the employment was slightly more than 10% in PR and 0.6 % in PU regions at the same time (SERA 2006).

It is commonly agreed that technological change leads to labour saving activities, which are primarily adopted by larger farms. Labour input per hectare and per animal respectively has drastically reduced over the last decades in the EU. Although, labour saving technical progress was much more pronounced during the 1950s and 1960s, the ongoing reduction is still remarkable (Henkel 2004, Swinnen and Dries 2003). For the CEE region – where agricultural production was generally more labor-intensive than in the EU-15 – farm modernization and the reduction of the labour force have been accelerated by the EU accession (SERA 2006).

The exceptional increase of agricultural productivity in the last few decades now means that the modern supply chain for commodity production includes relatively few farmers and there is increasing concentration of production in relatively fewer rural places. Decline in agricultural employment has been compounded recently by decreasing public sector employment, which had been, in many cases, the main source of job growth in rural regions (EC 2008a).

In some Eastern Countries (Poland, Bulgaria, Romania) the problem of farmers and agricultural workers is even more severe because of the transformation of the agriculture from state to private farms. Problems of fragmentation of farms and small dimension of economic activities represent important determinants of poverty and exclusion for farmers and their families (EC 2008a).

As a consequence of the decline, full-time agricultural employment, farming households rely increasingly and significantly on non-farm income. As full-time farm employment has decreased, part-time farming and off-farm work have become more prevalent among farming households. In many countries, there are significantly more part-time than full-time farmers. In the EU-25, 54% of the farmers in 2003 worked in part time (SERA 2006), and in 2005, at EU-27 level, only 15% of the family farm holders worked the equivalent of full time farmers

³ There are significant differences in the importance of agricultural employment in the EU-27 between countries and also regionally within countries. Regions with a very high share of primary sector employment above 25 % can be found in the Central and Eastern European countries of Romania, Bulgaria, Poland, Lithuania and Slovenia as well as in the Southern part of the EU (Greece, Spain, Portugal) (SERA 2006).

in agriculture. However, this share increases with the size of the farm: 76% of farm holders with more than 100 ha worked full time (EC 2008a).

Moreover, the diffusion of very small or even semi-subsistence farms is a matter of serious concern because in most Eastern and Mediterranean countries (Bulgaria, Lithuania, Romania, Greece, Italy, and Portugal) less than 30% of farmers have other gainful activities which can top up the income received from agricultural activities. Diversified sources of income may indeed reduce the risk of poverty among farmers. Therefore, small farmers appear to be a specific group at risk of poverty and social exclusion in rural areas (EC 2008a).

The adjustment by farming families to a mixed revenue-structure is part of a much larger transformation of the sector that has seen significant consolidation of farm enterprises. Farmers with larger or more capital-intensive holdings will tend to be full-time farmers, while those with smaller farms will tend to seek alternative forms of income. There is some polarization in the sector and this has clear regional implications. Farm structure is partly a function of the productive characteristics of the land itself; in other words, some areas are more conducive than others in the consolidation of farmland. Thus, farm structure will vary from one region to another, and, in consequence, the agricultural component of individual and regional revenues will also vary (SERA 2006, EC 2008a).

In many rural areas with declining agriculture, where the *determinants of relative economic performance* (see. Agarwal et al. 2009) are missing, and lack of alternative employment is reported, smaller farms seem to be unable to find alternative forms of income (EC 2008b, OECD 2006). In the context of the global economy, this fact seems to be the fundamental problem of disadvantageous rural areas that suffer mostly from the effects of the recent world economic crisis as well⁴.

Forgotten places in Hungary

Countryside, in general terms, shows big heterogeneity and differentiation in OECD and EU countries as well. On one hand, the areas with the most spectacular development are rural, on the other hand, there are several *places forgotten*⁵ by the actors of global economy, decision makers and politicians, accumulating structural disadvantages that defeat local endogenous initiatives and development.

The changes in the global economy of the past few decades were experienced by Hungary in a special way, since, in addition to those changes, it had to face political and economic transition with its consequences, resulting in significant spatial differentiation greatly influenced by inherited/historical problems and inability of adopting to globalization (see Barta et al. 2005, Faluvégi 2004).

⁴ This paper does not treat the effects of the crisis. However, according to the outlook for EU agricultural markets and income (EC 2009b) while the agricultural sector is generally more resilient to economic crises than other sectors, it is expected to face further great challenges, especially in demand growth and farm income, which may continue to exert strong pressure on agricultural prices and trigger significant structural adjustment. Till 2015 the agricultural labour input is assumed to fall by 3.5% in EU-12 (member countries joined after 2004) and by 2,3% in EU-15 on annual average.

⁵ Originally the expression „forgotten places” is title of a book edited by Lyson and Falk about the main problems of rural America, emphasizing peripherality and accumulation of economic and social disadvantages (see Lyson and Falk 1993).

While slow reevaluation of the roles and functions of the countryside can be observed in Hungary as well, rural areas have been the *losers* of transition in general. A considerable share of these areas - especially forgotten places - was not able to make a reply to the processes of the new market economy and the globalization, and have accumulated significant disadvantages. Declining agricultural employment seems to have impaired adaptability of localities causing, among other things, high and long term unemployment. It has been supposed to contribute to the increase in the spatial inequalities as well.

Material and Methods

In the light of introduction, the main goal of this paper is to discover Hungary's rural areas suffering from *agricultural employment crisis* (high and long term unemployment rate in agriculture) and to compare them to the spatial inequalities, examining the possibilities of local economic development and the adaptability to new processes. The research introduced in this paper concentrates not on the most up-to-date situation, but rather on the changes happened between the change of regime and Hungary's EU accession. The micro-regional aspect of the analyses was based on the increasing orientation of literature concerning with local economic development and competitiveness (i.a. Huovari et al. 2002, Lukovics and Kovács 2008, Moseley 2003, Ottaviano and Pinelli 2006, Wong 2002).

Reduction in the rate of agricultural employment within the total employment has been analyzed using the data of the census in 1990 and 2001 interpreted by the Hungarian Central Statistical Office (HCSO) aggregating settlement-level data to micro-regional-level. Territorial distribution of agricultural (registered) unemployment has been studied taking the database of the Employment Office (EO) into consideration. To compare the agricultural employment and registered agricultural unemployment with the economic-social spatial structure of the country the following data have been applied: the figures of the two census, the annual settlement-level data of the HCSO T-STAR database aggregating to micro-regional level and the data of certain other examinations on spatial inequalities.

The research has been based on processing of abovementioned secondary database, forming further indicators, relying on the statistical instruments and possibilities provided by the multivariable statistical methods (factor and discriminant analysis), using the SPSS program.

Results

The first goal was to state which Hungarian micro-regions have been affected the most unfavorably due to the change of regime and the transition concerning the agricultural labor force. The followings have been considered in the research:

- reduction in the rate of agricultural employment (by the census in 1990 and 2001),
- rate of registered unemployed people (who had worked in agricultural before) in the given year (thereafter: agricultural unemployed) (on the basis of EO data between 1990-2003),
- the rate of long term (registered for more than 12 months) agricultural unemployed people (on the basis of EO data between 1990-2003).

The territories where, on one hand, the rate of agricultural employment decreased significantly (which is not a crisis-sign itself), on the other hand, where this decrease has resulted in high, continuous and long-term agricultural unemployment, have been identified as *micro-regions with agricultural employment crisis* (Figure 3.).

Figure 3. Micro-regions with agricultural employment crisis, 2003



Source: own calculation based on HCSO and EO data

Concerning the methodological aspect, areas have been selected with indicators from the upper quarter in all the three cases, supposing that other sectors could not absorb the agricultural unemployment.

The analysis of the relation between agricultural unemployment and spatial inequalities at micro-regional level has been carried out with factor and discriminant analysis with important indicators created on the basis of the literature and other researches. The sources of original data were the census of 2001 and the HCSO T-STAR database for 2003 aggregated to the analyzed territorial level. These have been supplemented with two other indicators from other researches, namely the HDI, indicating the development of the human resource (see Human Development Report 1990, Obádovics and Kulcsár 2003) as well as the complex indicator of accessibility (by Faluvégi 2004). As a result, eight main rotated factors (Table 3.) explain territorial differences and processes in Hungary⁶.

Table 3. Factors of territorial differences in Hungary

Factors	Eigenvalues	Variance (%)	Cumulative (%)
Economic dynamism (F1)	11,46	22,48	22,48
Social status and level of development (F2)	10,63	20,84	43,31
Qualification (F3)	5,57	10,93	54,24
Tourism (F4)	4,41	8,65	62,89
Youthfulness (F5)	3,52	6,90	69,79
Population growth (F6)	3,39	6,64	76,44
Urbanization (F7)	2,83	5,55	81,99
Agricultural orientation (F8)	1,75	3,42	85,41

Source: own calculation based on HCSO data

Based on independent samples T-test and discriminant analysis, the selected 18 micro-regions suffering from agricultural employment crisis are in significantly unfavorable social and economic situation, the qualification of the human resource is much lower and the agriculture clearly have strong role compared to other areas (Figure 4.).

⁶ According to the analyses two original variables - average years of education and the income base of personal income tax - have had the highest eigenvalues in explaining territorial differences in Hungary in micro-regional level.

Figure 4. Result of discriminant analysis by factors

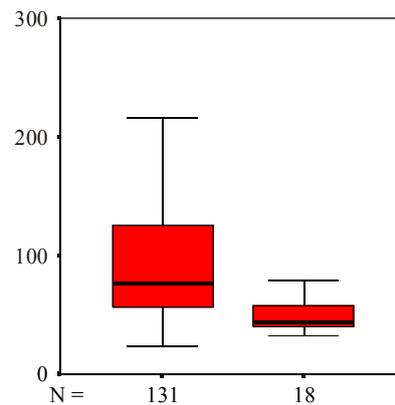
Standardized Canonical Discriminant Function Coefficients		Functions at Group Centroids	
Factor	Function	Micro-region group	Function
Social status and level of development (F2)	0,723	Not selected (N=131)	0,168
Qualification (F3)	0,562	Selected (N=18)	-1,225
Agricultural orientation (F8)	-0,543		

Source: Own calculation based on HCSO data

For further analysis on the relation between agricultural unemployment and spatial inequalities, descriptive statistic and discriminant analysis have been used to expand the basic/original variables involved in the factors. The interpretation of the basic data has produced the most important and significant differences as well as the consequences drawn as follow:

Selected areas have much lower population density than the others (sig. = 0,000), since they are also the least inhabited areas in the country (Figure 5.). This result is very important because the population density - as a main element of the *vicious circle* mentioned in the introduction - has significant influence on further economic and social tendencies.

Figure 5. Population density in the analysed groups, 2003 (persons/km²)



Notes: Boxplot diagram illustrates the distribution and frequency of a variable's values. The top of the box is the upper quartiles (75%) and the bottom illustrates the lower quartiles (25%). The box includes 50% of the variable's values. It means that half of the analyzed objectives have the variable value from that range. In this case extreme values are not illustrated. N=131 means non-selected, N=18 means selected micro-regions.

Source: Own calculation based on HCSO data

While between the two census in 1990 and 2001 the selected areas had net out-migration indicating the outflow of more mobile and skilled human resource during that period, at the end of the whole examined period (2003) net migration is clearly differentiated regarding the two groups (Table 4.). In the 18 micro-regions clear out-migration could be experienced, while in the other 131 micro-regions the balance was positive on average (sig. = 0,017).

Table 4. Net migration of the analyzed groups, 2003 (persons/1000 inhabitants)

Groups	Average	Percentiles (%)						
		5	10	25	50	75	90	95
Non selected	0,729	-7,818	-6,396	-3,378	-0,190	2,466	9,442	16,678
Selected	-3,308	-9,899	-7,555	-6,172	-3,449	-0,438	2,626	n.a.

Source: Own calculation based on HCSO data

Moreover, most of the people leaving the agricultural sector during 1990-2003 was more than 45 years old. For this age-group, migration or commuting usually does not serve as a survival strategy because of i.e. qualification problems. Thus, the agricultural employment crisis may ruin the demographic conditions of an area and prevent the settlement from further opportunities and jobs.

Analyzing the number and the rate of total unemployment and social payments (aid), it can be stated that the selected areas show significant arrears (sig. = 0,000) compared to the other areas. The average number of people getting social payments/aid per 1000 inhabitants in selected micro regions was 34.91 (it was 16.9 in the other micro regions) while there were 70 registered unemployed/1000 inhabitants on average (43 in the non-selected areas). Moreover, regarding unemployment, the 18 micro-regions had the worst figures even in absolute terms⁷ in Hungary.

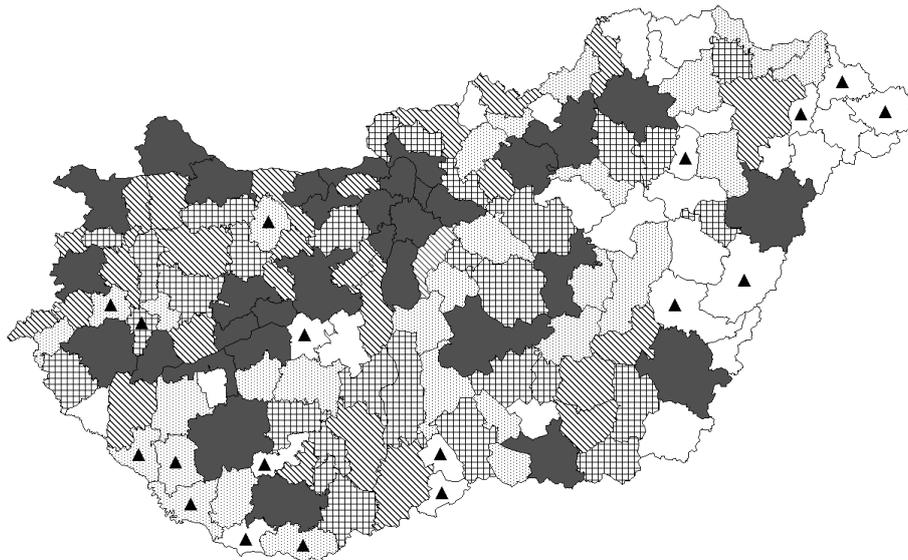
Qualification (average years of education) of the unemployed was significantly (Sig. = 0,007) lower in the 18 areas than in the others. The rate of unemployed with less than eight grades finished⁸ was 9.7% in the non-selected while 6.8% in the selected micro-regions. What is more important, in the selected micro-regions the rate of the unemployed formerly worked in agriculture with maximum eight grades in most cases exceeded 60% and in some cases approximately 70%.

According to former researches (e.g. Fazekas 2005), the qualification of active population is an important explanatory factor for the spatial distribution of workers employed by both domestic and foreign enterprises. Therefore, it has been important to examine the spatial distribution of the qualification (Figure 6.).

⁷ Based on cluster analysis not detailed in this paper, the cluster of the most underdeveloped selected micro regions have a close correlation with the high rate of gipsy population, increasing long term unemployment and social problems. In this group number of the registered (!) unemployed mostly exceed 100 persons per 1000 inhabitants.

⁸ The elementary school level in Hungary

Figure 6. The territorial distribution of the population's qualification in Hungary, 2001



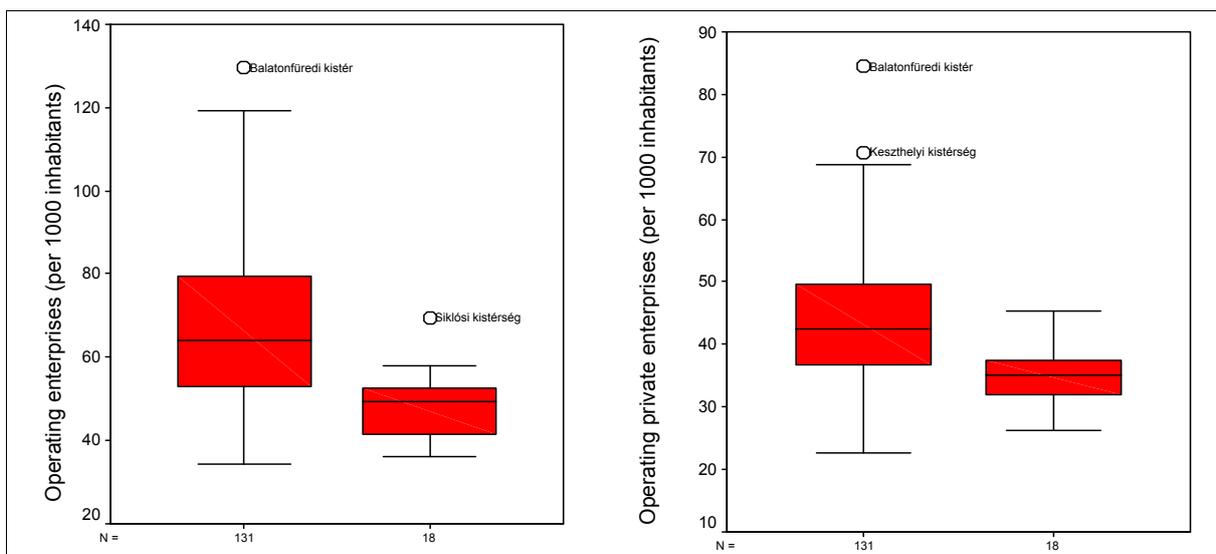
Average grades finished 7,80 – 8,20 8,21 – 8,44 8,45 – 9,09 9,10 – 9,46 9,46 – 10,02
 ▲ Selected micro-regions

Source: own calculation based on HCSO data

It can be stated that agricultural employment crisis implies the low qualification level of the population concerned. This fact is to be emphasized due to the coherence detailed in the introduction between the average years of education and the development of an area.

The unemployment may be caused by the lack of local jobs. Regarding the number of locally employed people, the local enterprises and private enterprises - per 1000 inhabitants (Figure 7.) - it can be stated that in the selected areas there are significantly (Sig. = 0,000) fewer opportunities to work locally, while, regarding the local employment, the 18 micro-regions are among the most unfavorable ones.

Figure 7. Number of operating enterprises and operating private enterprises in the analyzed groups, 2003

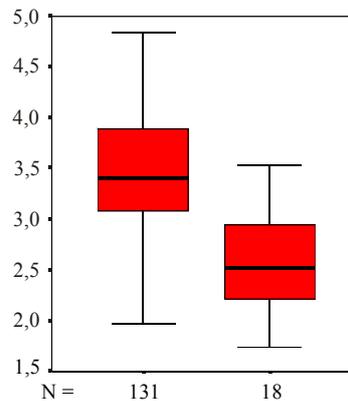


Not selected (N=131), Selected (N=18)

Source: own calculation based on HCSO data

Unemployment and the lack of jobs highlight the importance of links to developed areas and centers and to examine how the labour is able to take jobs in big cities nearby and how much the transportation system allows that. Accessibility is important from the point of view of the domestic and foreign large-scale companies and SMEs as well the approach to the free, but not too mobile labour force in Hungary. However accessibility (Figure 8.) of the selected micro-regions was very unfavorable (sig. = 0,000 in comparison), even in absolute terms.

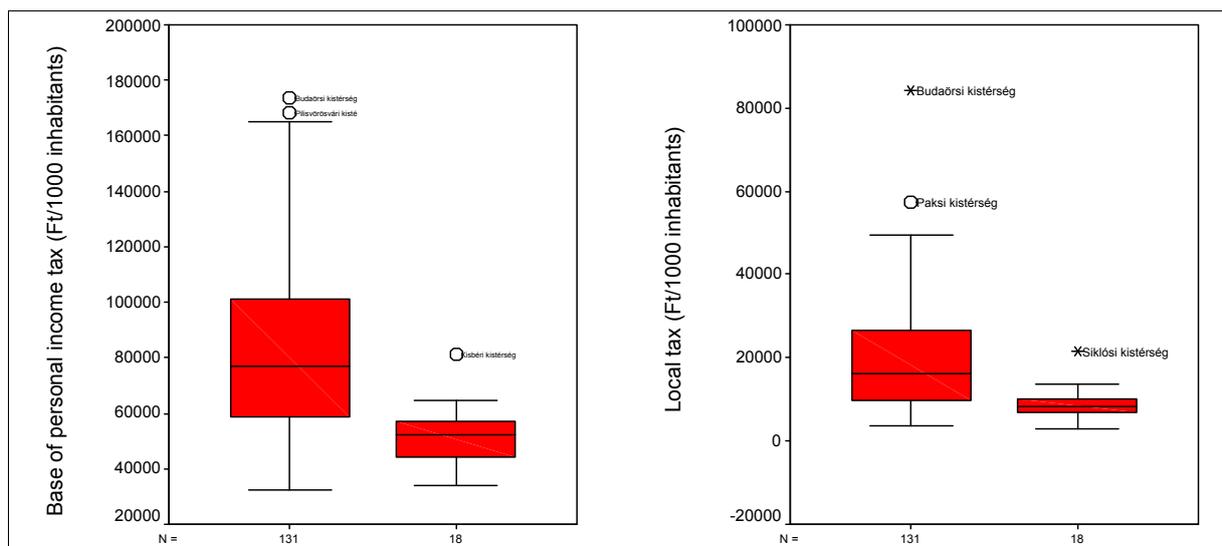
Figure 8. The accessibility* in the analyzed groups



In this adopted model the accessibility of a micro-region means the average of its settlements accessibilities, where the accessibility of Budapest has 40, the closest county- and micro-regional centers have 25-25, and the "own value" based on the institutional system of the settlements has 10% weight (see Faluvégi 2004).
Source: own calculation based on original data of Faluvégi, 2004.

It can be seen that the accessibility of cities and centers nearby providing job opportunities for the workforce in the selected areas is limited. The accessibility reduces further the already low job and capital attractiveness. The lack of local employment and the difficult accessibility of jobs outside the area are proven by - over the already mentioned social burdens - the local tax incomes and the base of personal income tax (Figure 9.).

Figure 9. The personal income tax base and the local tax in the two groups, 2003



Not selected (N=131), Selected (N=18)

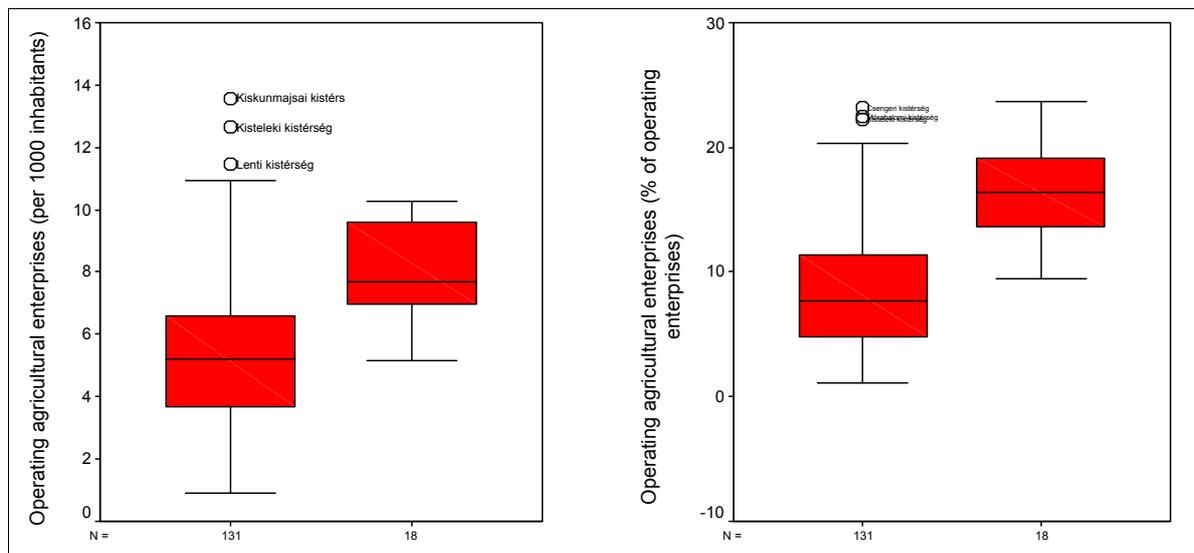
Source: own calculation based on HCSO data

In the light of these facts, two unfavorable tendencies must be mentioned. One of them is the decrease in the solvent demand, which prevents further services and jobs. The other problem is that low level local incomes (taxes) may query the possibility of local developments.

According to introduction, there are hardly any other economic activities but agriculture in several rural areas and small settlements. Therefore, the agriculture and the related activities basically influence their ability of keeping the population.

The difference between the two groups is characteristic (Figure 10.), even if we calculate the operating agricultural enterprises compared to the number of population (number/1000 inhabitants) or to the total number of operating enterprises (rate of total enterprises).

Figure 10. Agricultural enterprises in the analyzed groups



Not selected (N=131), Selected (N=18)
Source: own calculation based on HCSO data

The 18 micro-regions are clearly and significantly characterized by the exposure to agriculture. On one hand, it is because they are traditionally agricultural areas; on the other hand, it is because the agriculture is a forced line, due to the lack of other opportunities.

Based on independent samples T-test and discriminant analysis, the two groups can be well distinguished based on the rate of operating agricultural enterprises and the number of registered unemployed people per 1000 inhabitants (Figure 11). The selected areas represent much more exposure to agriculture and also high unemployment compared to other parts of the country.

Figure 11. Result of discriminant analysis by original variables

Standardized Canonical Discriminant Function Coefficients		Functions at Group Centroids	
Factor	Function	Micro-region group	Function
Rate of operating agricultural enterprises	0,797	Not selected (N=131)	-0,229
Number of registered unemployed	0,446	Selected (N=18)	1,667

Source: Own calculation based on HCSO data

Conclusions

The transition to market economy and the globalization have not left the Hungarian spatial structure untouched in the past two decades. Along with the changes, the role of agriculture in the employment has significantly decreased. These changes affected several rural areas unfavorably, and micro-regions can be defined where the phenomenon can be experienced through the agricultural unemployment.

The areas involved in the examination have strong correlation with the spatial inequalities from the agricultural unemployment aspect. Being aware of the relation with the spatial inequalities and the characteristics of the labour leaving the agriculture, it can be stated that there is no possibility for that labour to get back to the global labor market, at least in short terms. It is because there are limited job opportunities, it is difficult to access the workplaces outside the area and the level of qualification and the age structure of the human resource are not sufficient. These factors, however, raise the issue of the possibility of local/endogenous development. This is really important from the unemployment perspective because in long terms it is the economic development and not the employment- and social policy that can bring real positive results, according to the literature. However, from that aspect, 18 micro-regions lag behind concerning the necessary local resources (especially the human resource).

In spite of its declining role in employment, several reasons make particular the importance of agriculture in the rural development in the examined areas. The first reason is the traditional agricultural farming of centuries and the importance of the accumulated knowledge, which can be a great advantage on the global market, especially in the light of the need for stable and safe food-supply even in global or in local/household context due to the economic crisis. The loss of such knowledge and experience is a real threat if the sector's role continues to decline. Another reason is that in these areas agriculture is usually the only alternative (or chance), providing living and earning for the population. In this approach, taking advantage of and strengthening the social function of the agriculture are principal tasks of the developments. This is inevitable also from the large rate of gipsy population aspect.

However, it must be stated that the development of agriculture cannot be the only solution for the areas involved in the examinations. The traditional agricultural approach cannot result the increase in the employment in the rural areas. Regarding the rural policy, the focus must be put on the supplementary measures and programs in addition to agriculture. In addition, the role of other sectors must be considered in local employment.

The possibility for development outside the agriculture is rather questionable – at least under the current circumstances. The most important obstacle of the developments is its subject, i. e. the human resource. The situation is even more difficult, because of the lack of local jobs and services it is hard to keep the qualified labor force, while its lack keeps away the investments and workplaces also due to the bad accessibility, social burdens and unfavorable demographic tendencies. Moreover, even with the local economic growth, it is doubtful that the agricultural unemployed people are able to go back to the labour market.

The development of an underdeveloped area, even if the local resources are emphasized, is only possible with integrating it into larger areas in regional, national and global level. However, the local strategies rarely include the demand for cooperation with larger territorial units, in spite of the increasing importance of global and local networks. In order to initiate, manage and coordinate it, the local governments seem to be the most suitable ones – under

the current circumstances – and their role in organizing the economy and society is also increasing.

From the aspect of job creation, the community-based economic development and the implementation of public utility projects may have important role in the future. In such forgotten places like the selected micro-regions, it is almost impossible to develop the economy on market-base or/and make the areas adaptive to global circumstances. According to international practice and experience (e.g. Leader programs), the solution in such areas is the civil and non-profit-based development, using the tools of community animation. The development of the local communities is strongly recommended as preferential priority, because only a strong local community is able to elaborate and realize local development plans.

It is also recommended for such forgotten places to build efficient relations with the most important social and economic actors of the larger area while elaborating the development plans. They should make contact with the players outside the area, build up an efficient network and try to create the mutual interest in the developments.

The attention of the European Union's decision- and policy-makers must be called to the fact that the fields outside the agriculture have to gain place within rural development, focusing on the principles related to agriculture, promoting the sustainable and viable small- and medium-sized farms, but recognizing the decreasing earnings provided by the agriculture.

Regarding the direction of the new programming period and the results of the research and literature as well, it seems that rural development is able only partly to mitigate the lack of employment, and the entire range of community instruments must be used to promote the growth and employment in rural areas. The member states must ensure the most possible synergy of the structural, employment and rural policies.

It is recommended, especially for the government, to urge such areas selected in this paper to use the Union's funds as effectively as possible in order to take advantage of the synergic effects of the various funds. Whereas, the efficient local development is problematical in their current status, the elaboration of state-level special programs must be carried out for the 18 areas and similar forgotten places by funds allocation, as well as measures aiming at rural economy in wider sense.

Based on the conclusions of the research, the social aspects have to be considered at the first rank, while defining the goals of rural development, since it makes the rural development especially important. Human resource always has to play primary role in the rural development, and the actions aiming at the economic growth may get involved only following the abovementioned factor.

In the light of the increasing importance of endogenous development in the last decades, rapid changes in the international economy and growing integration between city and countryside provide rural regions with significant opportunities. Literature and several researches emphasize the role of increased accessibility (development of transportation infrastructure and ICT), improved communications and reduced transportation costs, changing trade patterns for commodities, the emergence of important non-farm activities, the clean environment, the attractive landscapes and cultural heritage, the importance of new migration patterns and easier commuting across longer distances.

On the contrary, the analyzed areas, similar to other forgotten places, are peripheral, with poor physical, educational and social infrastructure, uneducated and aging workforce, degraded environment, ruinous cultural heritage, showing continuous out-migration, unfavorable demographic trends, and among other things heavy and long term unemployment. In spite of the fact that declining agriculture serves as a last chance, small farmers of these areas appear to be a specific group at risk of poverty and social exclusion, especially without any other possibilities.

The areas concerned would have not been able to reply to the effects of the global economy if rural advantages had not come to the fore in the last decades. Without special programs and actions, many rural areas with agricultural unemployment crisis seem to just face the threats of globalization with raising territorial inequalities.

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