

# Agri-environmental management and rural development: Hungary after EU accession

Judit Kovács Katona

*Faculty of Agricultural Economics and Rural Development, University of Debrecen*

**Abstract:** In Hungary, similarly to developed countries, the share of agriculture in the GDP has declined. Even so, preparation of the sector's long term strategy is crucial, as the role of agriculture exceeds the results represented in the GDP. Environmental and social functions of agriculture are reevaluated in developed countries, and consumers at the end of the food chain actually govern the entire process. This is why information plays an increasingly important role, and gives signals (Verbeke, 2005) to the actors in the economy and society. This research area is diverse (including agricultural policy, environmental policy, rural development and sustainable development), and so I applied an interdisciplinary approach and conducted an integrated examination. The results show that in recent decades, the pressure of agriculture on the environment has been lower in Hungary than in the EU-15 and agri-environmental measures have taken hold in all types of land-use systems, even though they are more important in protected areas. Although this development provides a good basis for a long term strategy social capital has lost strength (Csath, 2002), so fostering the creation of internal and external rural networks – one instrument for this could be the Leader programme – is essential for sustainable rural development.

**Keywords:** agri-environment, leader, rural development, social capital, sustainability

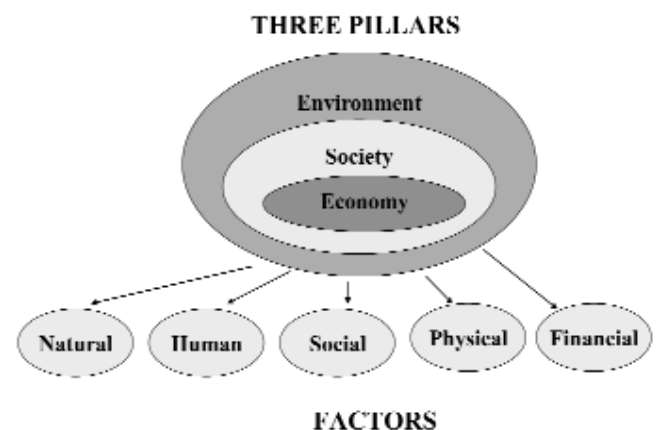
## Introduction

The aim of the dissertation,<sup>1</sup> out of which this paper presents some important results, was to confirm the hypothesis that the application of multifunctional agriculture determined by the Common Agricultural Policy (CAP) – with a supportive political background – could be a promotional factor for the Hungarian national economy.

Sustainability is a horizontal principle in the EU, which means that it must be considered in agriculture as well. Environmental, social and economic pillars have to be analysed jointly. In general, the three pillars of sustainable development are transformed into five factors, which are (Fig. 1): the natural, human, social, physical and financial ones. Besides financial and physical factors – which are more emphasised along development – natural, human and social factors have to be taken into consideration.

In June 2005, the European Council (EC), with regard to the proposal of the European Commission in July 2004, and with certain adjustments, adopted regulation 1698/2005/EC on the support for rural development by the European Agricultural Fund for Rural Development (EAFRD). This regulation forms a new basis for the EU's rural-development policy. The new regulation builds rural development policy on four axes, as follows:

Axis 1: Improving the competitiveness of the agricultural and forestry sector



**Figure 1:** One possible illustration of sustainable development  
Source: Olsson et al. (2004:5) Own complementation on the figure is the addition of the five factors for the detailed investigation of the three pillars

Axis 2: Improving the environment and the countryside  
Axis 3: Quality of life in rural areas and diversification of rural economy

Axis 4: Leader

The regulation determines what percentage of the EAFRD should be reserved for different axes (Table 1). Leader becomes a key element of rural development programming and implementation.

<sup>1</sup>Carried out under the Doctoral School of Interdisciplinary Social and Agricultural Sciences. Supervisor Prof. Gábor Szabó, DSc.

**Table 1:** Framework of rural development financing for the period 2007–2013

		Regulation 1698/2005/EC
Competitiveness	Axis 1	min. 10%
Land management	Axis 2	min. 25%
Diversification	Axis 3	min. 10%
Leader	Axis 4	EU-15 min. 5% EU-10 min. 2,5%
Latitude for states*		EU-15 50% EU-10 52,5%

Source: Council of the European Union (2005:7) \* own complement

Agriculture contains the elements of the three pillars of sustainable development, and a parallel between the axes in the new rural development regulation and the three pillars of sustainable development can be drawn (environment – axis 2, society – axis 4 and 3, economy – axis 1 and axis 3).

The structural, institutional, technical and technological regulation of Hungarian agriculture – preparing for the new tasks – has not overtaken the participation in the competition of the single market. It is crucial that Hungary itself manages this process for itself. Regarding Hungary's natural and social conditions, it is of common interest to create a long term strategy for agriculture, which has been missing for years. In the dissertation, natural and social resources, as basic factors for sustainable rural development, were examined. Although Hungary is a country with an open economy, it is vital that it ensures sustainable development in agriculture besides financial and physical factors the adequate evaluation of natural, human and social factors, as part of national wealth, and their proper management.

## Materials and methods

Regarding methodology, an interdisciplinary approach was applied. First, as a consequence of the review of the literature on the CAP, relationships of agriculture, in the form of a logical model (Csáki-Mészáros, 1981), were demonstrated.

The effects of accession to the EU were examined. In Hungary, as well as in other new member countries, the reallocation mechanism of the EU's budget and the common regulation of agricultural and structural policies have brought significant changes. These changes were observable mainly in the support system. Conclusions were drawn regarding the main methods of support for agricultural policy. From the three support methods – price support, direct payments and rural development schemes – rural development schemes were analysed. The four axes of the rural development regulation of the EU for 2007–2013 (1698/2005/EC) gave a guideline for the analysis of Hungarian rural development payments.

Examinations related to the environmental factors have two main groups. Firstly, from statistical-mathematical methods a graphic figure was applied to illustrate how indicators carry information and how the general decline of

the national economy after the changed regime affected agriculture from an environmental aspect. Among graphic figures a polar coordinate was used. Secondly, data of the National Agri-environmental Protection Programme (NAPP) between 2002 and 2003 were analysed. The Ministry of Agriculture and Rural Development gave unrestricted access to the whole anonymous database, containing more than 5000 applications, for the two years Programme. This was an enclosed database as the NAPP was concluded and its measures were carried on in the National Rural Development Programme (NRDP). Comparative evaluation was used to examine the results of the NAPP at different NUTS (Nomenclature des Unités Territoriales Statistiques) levels. The available data were analysed from different aspects and on different territorial levels with the help of statistical and mathematical-statistical methods. For data processing Excel programme was used whilst the spatial statistical analysis was done using ArcView 3.2. Programme. The relationship between the NAPP's processed data and the selected factors from the available dataset of the Hungarian Statistical Office (HSO, 2005) were examined by correlation evaluation (Szűcs, 2002).

Finally, studies conducted on Leader Programme – as a possibility for strengthening social factors – was overviewed and the introduction of the Programme was examined through empirical analysis.

## Discussion

### 1.1 Linkages of agriculture

The changes along the development of the CAP can be observed at a global level, as well. The role of agriculture has a broader base. Today, agricultural activity means not only the production of agricultural and industrial commodities; the multifunctionality of agriculture includes also the production of non-commodities (positive externalities) (Fig. 2).

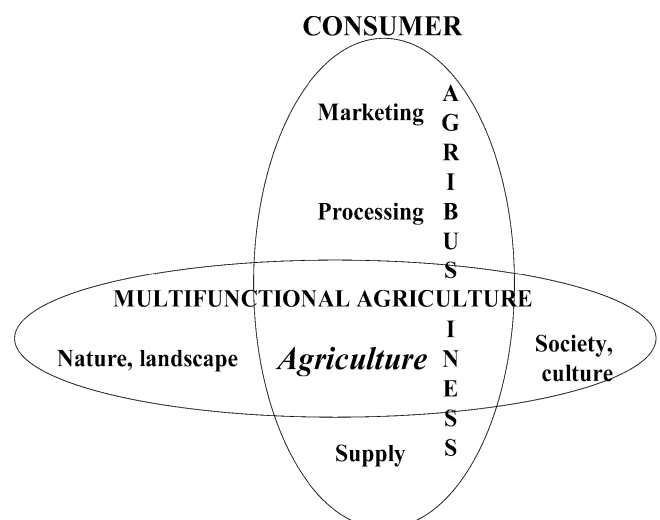


Figure 2: Linkages of agriculture (own illustration)

Agricultural payments are made in three main groups, from which market and direct payments are closely tied to agribusiness while rural development payments to multifunctional agriculture. The price and payment systems are the strictest regulations of the CAP, hence the EU's agricultural payment system in Hungary was analysed. As a result of the accession negotiations, the distribution of payments among these groups alters between the EU-15 and the EU-10. While in the case of the EU-15 the ratio of market, direct and rural development payments, financed from the European Agricultural Guidance and Guarantee Fund, is approximately 2:7:1, respectively, in the period 2000–2006, for Hungary, in 2005, this was 1.2:5.3:3.5. New member states will reach the EU-15 direct payment level presumably only in 2013.

In the dissertation, among agricultural payments, that for rural development was analysed closely. The measures of Special Accession Programme for Agriculture and Rural Development (SAPARD), Agricultural and Rural Development Operative Programme (ARDOP) and Hungarian National Rural Development Plan (NRDP) – these programmes formed the basis for rural development payments from the EU funds in Hungary – were set along the axes of the new rural development regulation. The results show that in Hungary, according to the present rural development payments, measures related to the first axis play the leading role. In the future the enhancement of the third and fourth axis is also important.

**1.2 Environmental factors**

**1.2.1. Pressure of agriculture on the environment Hungary related to the EU-15**

Indicators at the EU level can be classified into three groups: indicators related to environmental policy, sectoral policy and sustainable development. The role of different groups has changed in connection with the transformation of European policy. Indicators for environmental, sectoral and sustainable development policy have been developed after each other but in close relation.

Indicators in the EU developed for agricultural sector primarily monitor the environmental pillar. Agri-environmental indicators are placed in the DPSIR (driving forces – pressure – state – impact – response) model (European Commission, 2000:13). Indicators which form part of the driving force groups inside the DPSIR model were examined. In this way, the pressure of agriculture on the environment in Hungary, compared to the EU-15, could be illustrated, considering a system which is accepted at the EU level. To illustrate the changes polar coordinates, which made the transparency between statistical data and the monitoring of the process between 1980 and 2000 were used. The data (Fig. 3) show that in recent decades the pressure of agriculture on the environment was lower in Hungary than in the EU-15, as a result of the decreasing intensity and the reduction of input use, which was harmful to the environment.

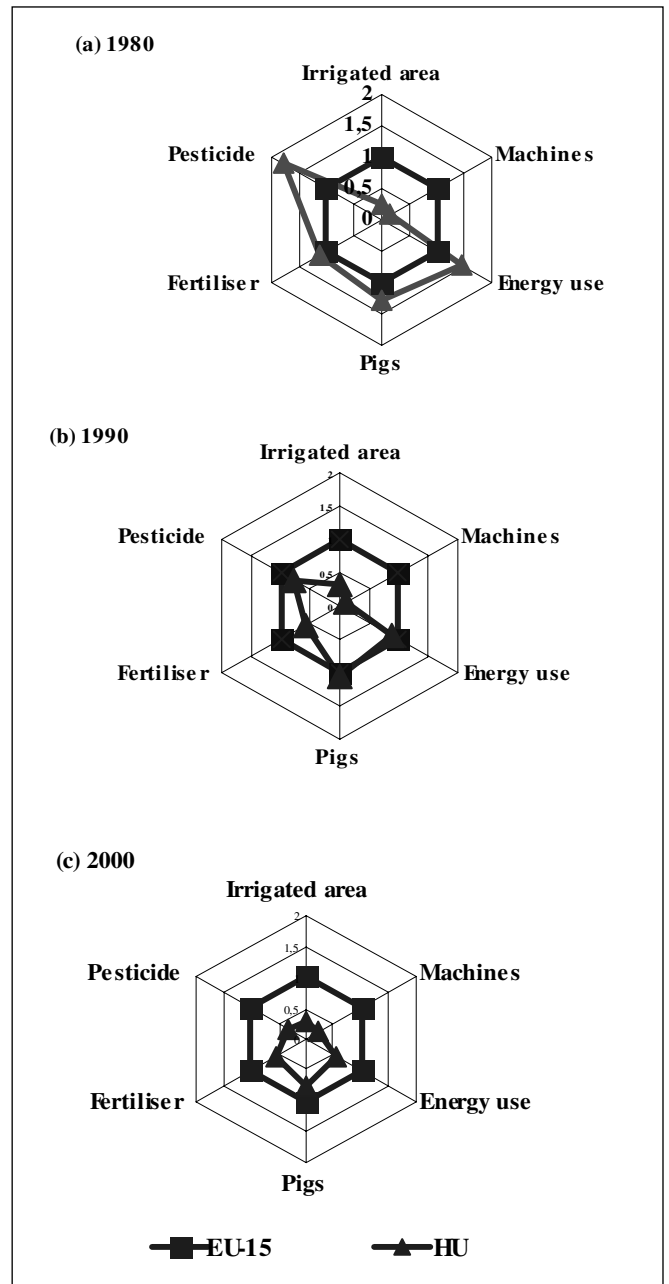
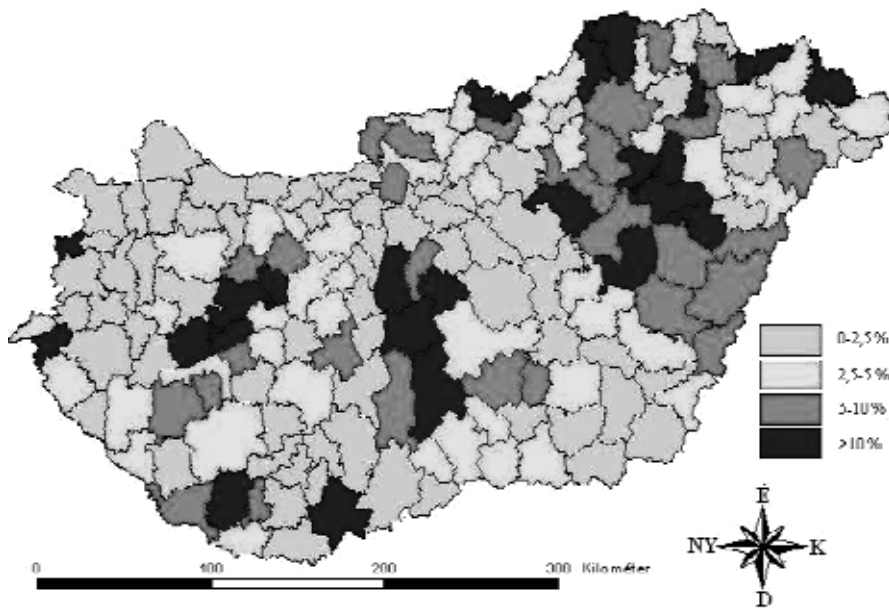


Figure 3: Agricultural pressure on the environment in Hungary related to the EU-15 average in (a) 1980, (b)1990, and (c) 2000 (own illustration)

**1.2.2. Agri-environmental measures**

The National Agri-environmental Protection Programme (NAPP) provided EUR 10 and 18 million in 2002 and 2003 respectively for farmers taking part in NAPP. In 2003 the Programme covered 4% of the total agricultural area of Hungary. The data for NUTS IV level were defined as the response indicator of agricultural DPSIR model (Fig. 4). Different analyses were carried out to examine the environmental and natural relations of the NAPP. Spatial statistical analysis was used to examine the NAPP's territory ratio under different land-use zones. The digitalized version of Ángyán's land use statistic map (Ángyán et al., 2001:183)



**Figure 4:** Percentage of utilised agricultural areas involved in NAPP at the NUTS IV level in 2003 (own calculation by P. Takács, J. Kovács Katona)

was overlapped with another database, which contained the location of all settlements that applied for the NAPP. The results of the spatial overlapping showed that 49.1% of the NAPP's area was covered by extensive, 42.1% by intensive and 8.8% by naturally protected area. 9% of the protection zone's agricultural area, 5% of the extensive zone's agricultural area and 3% of the intensive zone's agricultural area took part in the NAPP. This means that agri-environmental measures in Hungary are now grounded in all types of land-use systems, but they are more important in protected and extensive areas. This statement was underlined by estimating the correlation between the ratios of county areas involved in NAPP and the ratios of county areas (HSO, 2005:147) under natural protection on NUTS III level. The value of the correlation coefficient (at a significance level 0.95) was  $r=0.55$ , which shows a positive relation.

These statements support the guideline of the EU that rural development measures should be built on different axes, as different measures strengthen certain pillars of sustainable development. For example, agri-environmental measures play an important role in connection with the environmental pillar.

Relative to the National Rural Development Plan, areas under agri-environmental protection have increased to over one million hectares – which meant EUR 176 million in payments in 2005. In view of the experiences in connection with SAPARD and ARDOP it can be expected that for the period 2007–2013 the first and the second axis of the new rural development regulation will get those payments which are not fixed along the axes (52.5% of the total amount). The first version of the National Agriculture and Rural Development Strategy<sup>2</sup> – for the period 2007–2013 –

allocates 40 and 45% to the first two axes, respectively.

### 1.3 Social factor

The outcomes of the dissertation have drawn attention to the fact that the social pillar of sustainable development is not taken into consideration in national rural development plans. A great problem is that *social capital* – understanding as relation of trust, respect for norms and association (willingness to cooperate) (Putnam, 1993; Wolz et al., 2004) – has lost strength as a consequence of the social-economic progress after the change of regime in Hungary. Trust, which is the basis of social relations and social cohesion, has weakened. The findings of international studies (Putnam, 1993; Wolz et al., 2004) suggest that actors in rural areas and their inside and outside

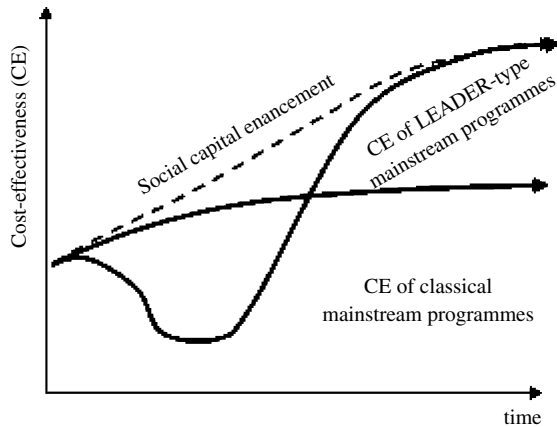
networks are basically essential for sustainable rural development.

Leader, started as a Community Initiative in 1991 in the European Union, has positive results in rural development (Pylkkänen-Hyyryläinen, 2004), especially on social capital. It is important to emphasize that rural development plans have to be prepared on local level, and Leader funds are available only for those groups who are able to bring together different partners from the region. Following the principles of the Leader Programme – area-based approach, bottom-up approach, local partnership, innovation, multi-sectoral integration, inter-territorial co-operation and networking as well as decentralised management and financing – we can find more principles which are in connection with social capital. More publications (European Commission, 2002; ÖIR, 2004; Pylkkänen-Hyyryläinen, 2004) highlight the role of this measure in strengthening social capital. The effect of Leader on social capital is demonstrated in an Austrian publication (ÖIR, 2004:57) (Fig. 5), where the Leader Programme and classical rural development programmes were examined.

The outcomes of the ÖIR research demonstrate that at the beginning Leader-type programmes need higher expenditure and are cost-effective in the long run. From the social capital aspect, they have a positive effect already at the beginning, and this impact should only strengthen over time.

Considering the above mentioned factors, the Leader Programme might assist in solving problems related to social capital in Hungary. The EUR 8.8 million per year, which is available for the programme on a yearly basis during the period 2004–2006, should be increased and Hungary should also consider the 5% of total payment allocation, as it is for

<sup>2</sup>From the webpage of the Ministry of Agriculture and Rural Development [www.fvm.hu](http://www.fvm.hu)



**Figure 5:** Slingshot pattern of cost-effectiveness in Leader-type mainstream programmes (Source: ÖIR, 2004:57)

the EU-15 after 2006. This is important also for the reason that Hungarian LAGs will get their first payments only in 2006.

Enhancement of social capital is very important. Without it, economic development cannot be achieved. During the first phase of the LEADER measures, in July 2005, 186 Local Action Groups (LAGs) were established in Hungary, which include 2332 settlements (75% of Hungary's settlements) where 34% of the population lives. 108 LAGs were invited to the second phase (Paszternák, 2005). Finally, 70 groups were selected and were given the possibility to start their projects with a EUR 400,000 per group resource in 2006. Other groups were rejected because of the lack of funds. It can be stated that the Leader programme covers the whole country. The number of settlements in individual LAGs ranges from three to 48. Following the process of Leader application, the first outcomes show that Leader itself is only one step forward and it will not solve all the problems, as social capital is a complex feature. It would be important to inspire these 186 LAGs which have already been established to continue their cooperative efforts, as there are other calls for regions which could be more effectively applied for if such collaboration persists.

## Acknowledgement

Agriculture plays an important role in preserving the landscape, nature, the environment and in preserving the material and cultural heritage of rural society. The more developed a country is, the less is the proportion of agricultural production inside agribusiness. On the other hand the importance of multifunctionality increases. In a consumer society the statement that consumers determine the future of producers is also true for agriculture. Therefore, it is vital to properly inform the consumer – who is at the end of the food chain – how products are fulfilling the aims of multifunctional agriculture. The better consumers are informed, the more and better the influence they can have on supply.

Agri-environmental measures can be considered as the common group of environmental, agricultural and rural policy, so the multiplied effect of expenditures on the agri-environment should be taken into account. With supports, the positive environmental externalities will be internalised. Analysis of NAPP underlines the EU's guideline that, in the future, supports for rural development have to be distributed along different axes. Agri-environmental measures alone cannot solve the problem of rural areas, while this measure primarily strengthens the environmental pillar.

The future and sustainable development of Hungary strongly depends on how national resources are used. Agricultural areas form of the determinative parts of Hungarian natural capital. Another important fact is, in regard to the changes in EU policies, that agricultural activity is as vital for a sustainable countryside as a living countryside for agriculture. Unfortunately, Hungary has notable problems, both in agriculture and with its rural economy. New approaches have to be followed in the preparation of a national agricultural strategy, which will take into consideration a careful reevaluation of agriculture's environmental and social functions.

Experiences gained from SAPARD, ARDOP and NRDP, show the dominance of axes for competitiveness. Experiences gained through research demonstrated that if the right balance among the four axes is not achieved, and if Hungarian conditions are not taken into consideration, neither a proper functioning, nor a sustainable rural economy, can be achieved. It is very important how national latitudes – which are approximately 52.5% – along the four axes will be transferred.

## References

- Ángyán, J., Podmaniczky, L., Szabó, M., Vajnáne, Madarassy, A. szerk. (2001): Az Érzékeny Természeti Területek (ÉTT) rendszere. Tanulmányok Magyarország és az Európai Unió természetvédelméről. (Studies about environment protection in Hungary and in the EU.)
- Csáki, Cs., Mészáros S. (1981): Operációkutatási módszerek alkalmazása a mezőgazdaságban. (Research methods in agriculture.) Mezőgazdasági Kiadó, Budapest 1981
- Csath, M. (2002): Erős társadalmi tőke, sikeres nemzet. (Strong social capital, successful nation.) Valóság XLV. évf. 5.sz. 82-92
- Council of the European Union (2005:7): Press Release 2669<sup>th</sup> Council meeting Agriculture and Fisheries [http://ue.eu.int/ueDocs/cms\\_Data/docs/pressData/en/agricult/85525.pdf](http://ue.eu.int/ueDocs/cms_Data/docs/pressData/en/agricult/85525.pdf)
- Council Regulation (EC) No 1698/2005 of 20 September 2005 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD). Official Journal L 277 21/10/2005
- HSO (2005): Környezetstatisztikai évkönyv 2003. Központi Statisztikai Hivatal, Budapest (Yearbook of environmental statistics 2003. Hungarian Statistical Office)
- European Commission (2000): Communication from the Commission to the council and the European Parliament 2000 Indicators for the Integration of Environmental Concerns into the Common Agricultural Policy. COM 2000, 20 final

- European Commission (2002):** Thematic Evaluation on the Contribution of the Structural Funds to sustainable Development: A Synthesis Report Vol. 1, Vol. 2 and Annexes, DG Regio, Brussels
- Verbeke, W. (2005):** Agriculture and the food industry in the information age. *European Review of Agricultural Economics*, Volume 32 No 3 Sept. 2005 347–368
- Olsson, et al. (2004):** Indicators for Sustainable Development. European Regional Network on Sustainable Development. Paper for discussion
- ÖIR (2004):** Methods for and Success of Mainstreaming Leader Innovations and Approach into Rural Development Programmes Final Report by ÖIR-ManagementdiensteGmbH <http://europa.eu.int/comm/agriculture/eval/reports/leader/full.pdf>
- Paszternák, T. (2005):** Experience of first application round and prepare for the second one. Presentation at a conference "Rural development in the Northern Great Plain region". 19<sup>th</sup> of October 2005.
- Putnam, R.D.(1993):** The Prosperous Community. Social Capital and Public Life. *American Prospect Online*. 1993.03.21. <http://www.prospect.org/web/printfriendly-view.wv?id=5175>
- Pylkkänen, P., Hyyryläinen, T. (2004):** Mainstreaming of the Leader Method in Finnish Rural Policy. University of Helsinki, Mikkeli Institute for Rural Research and Training A paper to be presented at the 8th Annual Conference of The Nordic-Scottish University Network for Rural and Regional Development in Ristiina, Finland, June 17–19, 2004
- Štulhofer, A. (2000):** Dynamics of social capital in Croatia 1995-1999. Department of Sociology, Faculty of Philosophy, University of Zagreb
- Szücs I. szerk. (2002):** *Alkalmazott statisztika. (Applied statistics.)* AGROINFORM Kiadó és Nyomda Kft., Budapest
- Wolz, A., Fiege, U., Reinsberg, K. (2004):** The Role of Social Capital in Promoting Institutional Changes in Transitional Agriculture. In: *Role of Institutions in Rural Policies and Agricultural Markets*. G. Van Huylenbroeck, W. Verbeke and L. Lauwers (Editors) 2004 Elsevier B.V.