The Effect of CAP Payments on Territorial Cohesion in the North Great Plain Region of Hungary[1]

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„What was expected, what we observed,

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ABSTRACT

The paper discusses the effect of CAP payments on territorial cohesion in Hungary with special regard to the North Great Plain Region. It deals with the issue raised by HUBBARD et al. (2007) that the adoption of the CAP in CEE is unlikely to help those most in need in rural areas. Firstly the territorial distribution of the Single Area Payment Scheme (SAPS) is analysed at the NUTS III level. After that the database of the SAPS (first pillar payment of the CAP), the agri-environment payments and the investment in agriculture measures (second pillar funds of the CAP) are examined on a settlement basis and analysed following the spatial categories defined by the 2007-2013 Regional Operative Programme of the North Great Plain Region . The results at the NUTS III level underline the statement of DAX (2006), that Pillar 1 support is distributed in a way that tends to benefit richer regions with larger farms.

Keywords: CAP payments, territorial cohesion, farm structure

1 INTRODUCTION

As a member state of the EU, from 1 May 2004 Hungary has been adapting the regulations of the Common Agricultural Policy (CAP). New measures came into force – some of them had been already introduced with the pre-accession programmes financed by the EU – and the budget for agriculture and rural development doubled. This paper examines whether or not agricultural payments have had an impact on territorial cohesion in Hungary. For the analysis, the Agricultural and Rural Development Office and the National Development Agency made available an anonymous database for the most important payments in terms of budget: Single Area Payment Scheme (SAPS), the agri-environment payments and the investment in agriculture measures, related to the two pillars (EUROPEAN COMMISSION, 2004:7) of the CAP in Hungary.

The 100 % EU-financed SAPS represents the most important type of support, related to the first pillar of the CAP, affecting the widest sphere of farmers regardless of the type of crop cultivated on the particular plot of land. SAPS payments give the 31% of the Hungarian agricultural budget in 2007 (Figure 1). It represents an increasing percentage of the budget as a result of the Accession Treaty (OJ, 2003:346), which states that the direct payments shall be introduced in accordance with the following schedule of increments: 25 % in 2004, 30 % in 2005, 35 % in 2006, 40 % in 2007, 50 % in 2008, 60 % in 2009, 70 % in 2010, 80 % in 2011, 90 % in 2012 and 100 % as from 2013. It is also regulated, that SAPS should be made once a year, and it should be calculated by dividing the annual financial envelope by the agricultural area. It notes that where in a given year the SAPS in a new Member State would exceed its annual financial envelope, the national amount per hectare applicable in that new Member State should be reduced proportionately by application of a reduction coefficient (OJ, 2003:370). Because the SAPS exceeded the base area in 2005 (year examined in the paper), this year farmers got 86.21 €/ha payment. (ARDA, 2005)

The pre-accession measure of Special Accession Programme for Agriculture and Rural Development (SAPARD) was the first possibility for Hungary to obtain funds for rural development from the EU. About 92% of these funds were spent on investment in agriculture, on food processing and marketing and on infrastructure. Share of North Great Plain Region (NGPR) (map about NGPR,Figure 2) in SAPARD funds is around 20%.Two programmes were prepared for the disbursement of funds of the EAGGF for rural development after Hungary's accession to the EU: Agricultural and Rural Development Operative Programme

(ARDOP) and Hungarian National Rural Development Plan (NRDP). From 2007 the New Hungary Rural Development Programme (NHRDP) gives the basis for funds from European Agricultural Fund for Rural Development.

The first rural development payment analysed, which has been examined earlier by KATONA and SZABÓ (2007), is agri-environment measures (AEMs). AEMs account for nearly 10% of the budget in 2007, and gives about 50% of NRDP co-financed funds (Figure 1).

Figure 1: The Hungarian budget for agriculture and rural development in 2007[2]
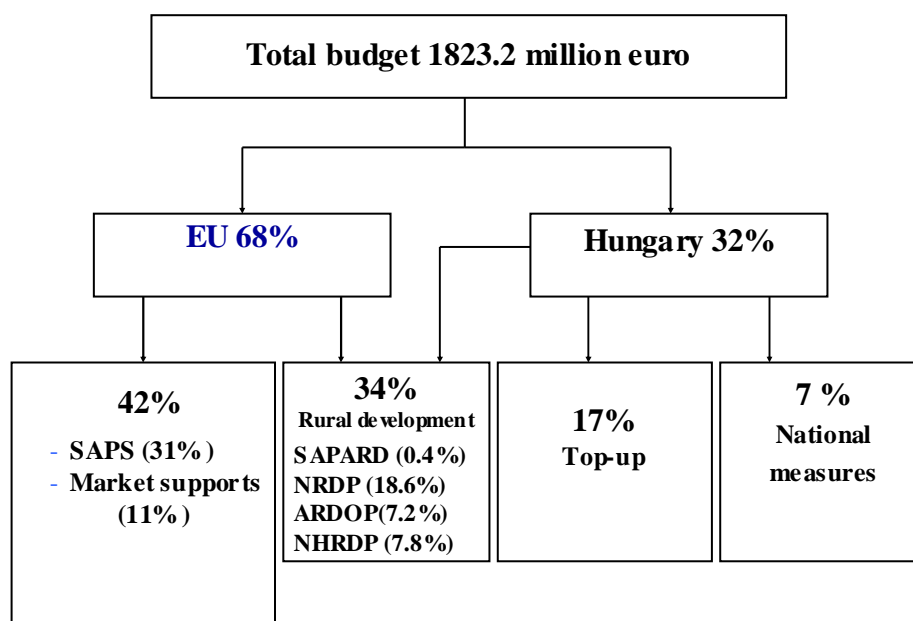
Source: Adapted from data by LACKÓ (2007:4)

In Hungary the financial resources of measures similar to AEMs were first available in 1997 (about ten years later than in the EU-15), when farmers who wanted to begin organic farming on their land could apply for payments. Between 1997 and 2001 about EUR 2 million was available for this purpose. It was followed by the National Agri-environmental Protection Programme (NAPP), based on EU principles, which provided EUR 10 and 18 million from the national budget in 2002 and 2003 respectively for farmers taking part in NAPP. In 2003, with more than 5,000 applications, the Programme covered 4% of the total agricultural area of Hungary. After accession to the EU, Hungary prepared the NRDP with the aim of getting funds from the Guarantee Section of EAGGF, including Hungarian regulations for AEMs. The average farm size per applications was 46 ha in the case of NAPP and 51 ha for NRDP's AEMs (KATONA – SZABÓ, 2007). As the data for the settlements was cumulated, standard deviation was not calculated. Although this is also important related question, as in the case of settlements, where one application was submitted per settlement (representing 10 % of the total number of the applications) 5% of the applications were over 300 hectares, covering the 60% of the territory. (KATONA – SZABÓ, 2007)

The other, second pillar payment analysed is 1.1 payment of the ARDOP (Table 1), assistance to investments in agriculture.

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[2] Euro in the study is calculated using an exchange rate of HUF 250

Table 1: Breakdown of ARDOP measures in the total fund*

Measures	Importance country level	Importance NGPR
1.1. Assistance to investments in agriculture	55.2 %	66.3 %
1.3. Structural assistance in the fisheries	3.0 %	2.1 %
1.4. Setting up young farmers	1.6 %	1.3 %
1.5. Assistance to vocational training and retraining	1.5 %	1.3 %
1. Priority Establishment of competitive material production in agriculture	**6.3 %**	**71.1 %**
2.1. Improvement of processing and marketing of agricultural products **2. Priority Modernisation of food processing**	**15.1 %**	**10.3 %**
3.1. Expansion of rural income earning opportunities	6.4 %	1.5 %
3.2. Development and improvement of infrastructure connected to agriculture	13.4 %	12.1 %
3.3. Renovation and development of villages and protection and conservation of rural heritage	3.8 %	5.1 %
3. Priority Development of rural areas	**23.6 %**	**18.6 %**
Total	**100 %**	**100 %**

* Without Leader and Technical assistance till summer 2006
Source: Own calculations based on data from Agricultural and Rural Development Office

A big difference between the two examined second pillar payments is, that contrary to investment payments agri-environmental payments do not need own resources.

2 METHODOLOGY

The Agricultural and Rural Development Office granted access to the database of SAPS payments and agri-environmental measures for 2005, and the National Development Agency to the database of investments in agriculture for the NGPR from the database of the Information and Monitoring System dated 15 June 2007:

Firstly, data of SAPS payments, more than 200,000 contracts were analysed at the NUTS III level. Territory of NUTS III regions (counties, Figure 2) under SAPS and contracts per counties were totalled.

Secondly, data on the number of applications and area under AEMs and SAPS were grouped on a settlement basis of the NGPR (NUTS II region, Figure 2), which is made up of the counties Hajdú-Bihar, Jász-Nagykun-Szolnok and Szabolcs-Szatmár-Bereg.

Following the principles of the EU, the North Great Plain Regional Development Agency prepared its Regional Operational Programme (NGPROP, 2006) for the period 2007-2013. In this programme the settlements of the region are grouped in spatial categories according to the economic and social characteristics of the settlements. Three main groups were created, with sub categories as follows:

1. Regional development poles and sub-centres
   1.1 The Debrecen regional development pole

The distribution of SAPS and AEMS payments and, thirdly, investment in agriculture payments of ARDOP were grouped according to the categories given in the Operative Programme.

The correlations between the calculated data and the selected factors from the available dataset of the Hungarian Central Statistical Office (HCSO, 2006a) were examined. The correlations were derived using Microsoft Excel and SPSS 13.0 for Windows.

3   RESULTS

Results of analysed database of SAPS are shown in Table 2 and Table 3.

In Table 2 data are presented in an order, where those counties where the highest percentage of SAPS area is covered by contracts over 500 hectares stay at the end of the row e.g. Pest and Baranya. In those counties, where this rate is lower, represents a higher percentage from the number of the contracts e.g. Szabolcs. Between these two data – 1. SAPS area under contracts above 500 hectare related to the total SAPS area of the county and 2. distribution of contracts between the counties, fifth and third columns of Table 2 – there is a negative correlation, -0.66 at the 0.01 level (2-tailed). There is a positive correlation between the average size of contracts for SAPS below 500 hectares and the SAPS area under contracts above 500 hectare related to the total SAPS area of the county. In this case (between column fifth and sixth) Pearson Correlation is significant 0.618 at the 0.01 level (2-tailed). Of course, there is a very strong correlation between the total utilised agricultural area (UAA) of the county (Figure 2**.)** and the distribution of SAPS payments (Pearson Correlation is significant 0.97 at the 0.01 level, 2-tailed). There is a weaker correlation between the ratio of UAA/total area of the county and the distribution of SAPS payments between the counties. In this case Pearson Correlation is significant 0.66 at the 0.01 level (2-tailed).

Figure 2. Agricultural area of Hungarian counties (NUTS III) in km^2.

Source: Own additions from the database of HCSO (2006a:59) map of Euro Info Centre (2006:1). The line around three counties indicates the boundaries of the North Great Plain Region (NUTS II)

Table 2: SAPS payments in 2005/2006 at the NUTS III level in Hungary

	Breakdown of SAPS area among NUTS III regions	Area under SAPS/ UAA	Breakdown of contracts among NUTS III	Contracts above 500 ha/ total	SAPS area under contracts above 500 ha/ total SAPS area	Average size (ha) of contracts below 500 ha
Szabolcs E*	6.6 %	83.7 %	13.7 %	0.11 %	11 %	10,5
Bács E	9.4 %	83.5 %	12.9 %	0.32 %	26 %	13,2
Nógrád E	1.6 %	65.9 %	1.4 %	0.63 %	28 %	20,3
Heves E	2.2 %	50.6 %	4.5 %	0.41 %	28 %	13,3
Hajdú-Bihar E	8.6 %	92.6 %	10.8 %	0.34 %	28 %	14,1
Békés E	8.7 %	97.4 %	8.8 %	0.49 %	30 %	16,9
Zala W	2.8 %	70.9 %	2.0 %	0.94 %	31 %	23,8
Csongrád E	5.5 %	84.1 %	6.7 %	0.41 %	34 %	13,1
Tolna W	4.3 %	84.9 %	3.3 %	0.77 %	35 %	20,9
Borsod E	5.9 %	72.3 %	5.3 %	0.66 %	37 %	17,3
Jász E	7.9 %	94.0 %	5.8 %	0.79 %	39 %	20,6
Győr W	4.8 %	88.0 %	3.7 %	0.89 %	39 %	19,6
Veszprém W	3.4 %	79.1 %	2.4 %	1.02 %	43 %	20,3
Vas W	3.0 %	83.1 %	1.9 %	1.38 %	43 %	22,8
Komárom W	2.3 %	86.4 %	1.3 %	1.22 %	46 %	23,4
Fejér W	5.6 %	92.6 %	3.3 %	1.23 %	46 %	22,4
Somogy W	5.2 %	82.3 %	3.7 %	1.17 %	46 %	18,8
Pest W	7.5 %	106.8 %	5.9 %	0.91 %	51 %	15,2
Baranya W	4.6 %	86.0 %	2.4 %	1.31 %	51 %	22,6
Total	**100 %**	**84.6 %**	**100 %**	**0.59 %**	**36 %**	**16,0**

Source: Own calculations based on data from the Agricultural and Rural Development Office
* E= east of the river Danube (Duna, see Figure 2); W= west of the river Danube

Results of SAPS data analysis on smaller regional level, NUTS III and NUTS V in the NGPR are shown in Table 3. Every settlement has SAPS contracts. The average of SAPS area per contract in Jász county is higher than the country's average, while in Hajdú and Szabolcs it is smaller. The lowest is the average SAPS area in the categories called potential spaces of the utilisation of rural resources and regions in the agglomeration of regional poles and their sub-centres. In every county about 60% of SAPS belongs to those categories, defined as regions awaiting convergence.

Table 3: Breakdown of SAPS payments (2005/2006) among the settlements according to the categories defined by the NGPR Operational Programme

County	Settlement category	Number of settlements	Number of settlement with SAPS contract	Number of contracts for SAPS	UAA (ha) under SAPS	SAPS (ha)/contract	Distribution of county's UAA (%)
HAJDÚ-BIHAR	1.1	1	1	2607	60028	23	7
	1.3	17	17	3886	53647	14	13
	2	5	5	5200	104267	20	20
	3.1	15	15	5491	114152	21	27
	3.2	44	44	4678	95476	20	33
JÁSZ – NAGYKUN-SZOLNOK	1.2	1	1	593	20390	34	5
	1.3	13	13	1132	37276	33	10
	2	8	8	3192	121037	38	30
	3.1	15	15	3282	111899	34	29
	3.2	41	41	3451	100288	29	26
SZABOLC SSZATMÁR - BEREG	1.2	1	1	1977	30240	15	9
	1.3	31	31	5454	52735	10	16
	2	6	6	2314	33323	14	10
	3.1	18	18	3556	47186	13	14
	3.2	174	174	14631	163110	11	51
Total		**389**	**389**	**61444**	**1145054**	**19**	

Source: Own calculations based on data from Agricultural and Rural Development Office

17.3 % of the NGP Regions' total territory is covered by AEMs. (KATONA and SZABÓ, 2007:6) The participation rate differs among the categories(Table 4). It is important to note that the location of the land and the settlement where the applications was submitted can differ, especially in the case of the three main cities – Debrecen, Szolnok, Nyíregyháza, representing 10% of area covered by AEMs. The distribution of areas under AEMs from total area of the other settlements categories are as follows:

        1.3 category – 11.8%, 1085 applications
        2 category – 24.9%, 1380 applications
        3.1 category – 30.6%, 1608 applications
        3.2 category – 16.5%, 3504 applications

The average area per application in the NGPR is 36 hectares. Although the area covered by AEMs is 16.5% from the total in the 3.2 category (potential spaces of the utilisation of rural resources), the number of the applications is the highest here, so the average area per

application is lower and gives 26 hectares on NUTS II level. The very high average of AEMs areas on NUTS III level (Hajdú and Jász) in the case of the category 3.1 and 3.2 is a result of the fact that high percentage of these areas belongs to National Parks, where the National Park applies for AEMs. Similar to SAPS payments in every county about 60% of AEMs area belongs to those categories, defined as regions awaiting convergence.

Table 4: Allocation of agri-environmental measures (2005/2006) among the settlements according to the categories defined by the NGPR Operational Programme

County	Settlement category	Number of settlements	Number of settlement under AEMs	Number of contracts	Area covered by AEMs hectare	Average AEM area (ha)/ application	Distribution of area covered by AEMs on county level
HAJDÚ-BIHAR	1.1	1	1	447	20353.2	45.5	15.3
	1.3	17	17	253	12006.6	47.5	9.0
	2	5	5	562	26651.5	47.4	20.1
	3.1	15	15	655	51200.3	78.2	38.5
	3.2	44	39	737	22652.8	30.7	17.0
JÁSZ – NAGYKUN-SZOLNOK	1.2	1	1	40	2084.2	52.1	2.7
	1.3	13	10	64	2179.6	34.1	2.8
	2	8	8	329	24776.8	75.3	31.8
	3.1	15	14	339	23162.4	68.3	29.8
	3.2	41	36	274	25626.7	93.5	32.9
SZABOLCS SZATMÁR-BEREG	1.2	1	1	237	10461.3	44.1	10.9
	1.3	31	26	768	13649.2	17.8	14.3
	2	6	6	489	12444.6	25.4	13.0
	3.1	18	18	614	15743.5	25.6	16.4
	3.2	174	163	2493	43447.3	17.4	45.4
Total		**389**	**360**	**8301**	**306440.1**	**36.9**	

Source: Own calculations based on data from Agricultural and Rural Development Office

Finally results of Assistance to investments in agriculture payments are summarized in Table 5. This measure has six sub-measures which are cumulated, these sub-measures are: 1.1 1 facilities related to animal husbandry, 1.1 2 investments in plant production and horticulture, 1.1 3 purchase of machinery, construction and improvement of immovable property, 1.1 4 restructuring of apple, pears and peaches orchards, 1.15 establishment and development irrigation systems, 1.1 6 investments for on-farm amelioration activities.

Regarding the number of settlements having contract for investment funds, 58.5 % of the total applied for it. Less than in the case of AEMs, which measure as mentioned earlier does not need own resource. In general payments represented the 38% of the total cost of the investment. In the case of Jász the percentage of the payments from the total cost is the smallest in the less developed regions. The average payments per contracts are the smallest in the rural areas of the NUTS III regions.

Table 5: Breakdown of investments in agriculture measures (2005/2006) among the settlements according to the categories defined by the NGPR Operational Programme

County	Settlement category	Number of settlements	Number of settlement under of AVOP	Number of contracts	Payments (euro)	Average payments/contracts (euro)	Payments/Total cost %	Allocation of payments on county level (%)
HAJDÚ-BIHAR	1.1	1	1	15	1215266	81018	38	4.6
	1.3	17	13	38	4808173	126531	38	18.5
	2	5	5	69	8937363	129527	39	34.3
	3.1	15	14	49	4759308	97129	40	18.3
	3.2	44	35	79	6319961	80000	39	24.3
JÁSZ – NAGYKUN- SZOLNOK	1.2	1	1	2	163307	81654	40	1.0
	1.3	13	8	13	697477	53652	40	4.0
	2	8	7	43	5921726	137715	35	34.6
	3.1	15	14	57	6987440	122587	38	40.8
	3.2	41	20	45	3358725	74638	35	19.6
SZABOLCS SZATMÁR- BEREG	1.2	1	1	14	1595102	113936	39	6.0
	1.3	31	19	46	5323416	115726	38	20.0
	2	6	5	27	4804964	177962	38	18.0
	3.1	18	11	38	5910516	155540	39	22.1
	3.2	174	72	123	9057162	73635	38	33.9
Total		**389**	**226**	**658**	**69859906**	**106170**	**38**	

Source: Own calculations based on data from National Development Agency

4   DISCUSSION AND CONCLUSION

DAX (2006) states that Pillar 1 support is distributed in a way that tends to benefit richer regions with larger farms. This statement was examined according to the results in Table 2, SAPS/UAA[3] correlated to data GDP per capita, and unemployment rate in the counties of Hungary from the database of HCSO (2006a:56 and 2006a:38). There is no significant correlation. In case of SAPS/UAA correlated to GDP/capita result was 0.433, while in the case of SAPS/UAA correlated to unemployment rate result was negative, -0.337. These results tend to support those of DAX (2006) who reported a positive result in the first and a negative result in the second case. This scenario is the opposite to what would be expected from a programme which was having an impact "*in a manner consistent with cohesion*". In the western part of Hungary high percentage of the SAPS area is covered by contracts over 500 hectares (behind contracts different forms of farms exists, from the 0.3 hectare land-user to the limited and other type of companies formed from former cooperatives).

The average farm size in case of those farms getting SAPS payments and below 500 hectares (their number is above 200 000, supposing that 1 contract = 1 farm) is similar to the EU-25 average.

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[3] As SAPS payments are area based and are the same in the case of every contract, 86.21 €/ha in the examined year, the result of SAPS area/UAA can be used as SAPS support/UAA.

The average EU-25 farm size is 16 hectares with large variations between Member States (MS). Variations among MS and regions are even greater when measuring the economic size. On average, the economic size of farms in the new (2004) MS is six times lower than in the EU-15 (the Czech Republic is the only new MS where the average economic size of farms is above the EU-25 average). For example in Hungary from the 964,460 farms nearly 90% are under the economic size 2 European Standard Unit, while for example in the Netherlands 78% are above 16 ESU. (KOVÁCS, without year) High percentage of the contracts for SAPS are 1 hectare or below. It means that subtracting the contracts number of SAPS from the 964 thousand farms, there are still 700 thousands which are very small. Presumably these farms are situated in those areas where SAPS area covers less part of total UAA areas (e.g. Nógrád, Heves counties).

Although there is not correlation between the SAPS/UAA and the percentage of contracts above 500 hectares per counties (result 0.355 without significant correlation), one reason for the difference between the percentage of involvement between counties can be the information flow. This statement is firmed by the results gained for Pest county. In Table 2 the area under SAPS related to the UAA of PEST county (including Budapest, the capital of Hungary) was 106.8%. (As earlier was mentioned it has to be added that the location of the land and the settlement where the applications were submitted can differ, especially in the case of main cities.) The results obtained in an another study about Less Favoured Areas (LFA), (KATONA et al, 2006:3) bought similar results for Pest county. Applications for LFA funds related to the total LFA areas in Pest county, defined according to article 19 and article 20 of Council Regulation (EC) No 1257/1999 (OJ, 1999:89-90), were much higher than the average for the country. While the area covered by applications was 34% and 18% respectively from LFA 19 and LFA 20 total area in Hungary, it was 90% and 59% respectively for Pest county.

The results of analysis on NUTS III and settlement level shows better relation between CAP payments and territorial allocation, as around 60% of these payments go to those areas categorised as regions awaiting convergence. One reason for this of course comes from the definition of rural areas. The NHRDP (2007:13) states that "*rural areas comprise a special type of region characterised by low population density, heavy reliance on land as a source of livelihood, and a non-urbanised settlement structure (typified by villages, small towns, and, in certain regions, by isolated farms)*" It is stated that these areas are heavy reliance on land. The results of SAPS payments analysis in Hungary underlines the statement of the Commission document, that agriculture is often based on more extensive farms in rural areas as, in most cases, the economic size of farms is lower in rural areas. (EUROPEAN COMMISSION, 2006) Despite this 60% allocation, all of the three payments presented in the paper are related to agricultural production, which gave only the 4.3% of the GDP[4] in Hungary in 2005. (HCSO, 2006b:17). So "investing in agricultural production" may not have the result of territorial cohesion. Adding the facts raised by AHRENS (2004) firstly that entrepreneurial spirit is essential for development in these regions (which is missing in a lot of cases, although there are some good examples) and secondly that agricultural policy boots income and employment in the upstream and downstream sectors, however these effects increasingly accrue in non-rural regions as a result of concentrated processes taking place in the sectors concerned, show the problem around CAP.

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[4] On the other hand arises the question, can we say that development is sustainable, when a sector (agriculture), which main resources are natural and human capital accounts a decreasing rate from the GDP.

Results on settlement basis show big differences between regions. For rural development analysis, there is a need for a detailed geographical breakdown. (European Commission, 2006) There are a lot of reasons for this, for example:

− in many settlements there is a contract covering more than 1000 hectares SAPS area, as former cooperatives are located here which are continuing to operate in other forms of organisation. Other settlements have never had such big areas concentrated under a single ownership,
− density of settlements differs between regions (e.g. Szabolcs- Jász counties),
− attendance of National Parks (e.g. Hajdú county).

This also underlines that not only development analysis, but also programming should be prepared on regional bases (Leader programme).

Finally, to increase the cohesion impacts of the CAP in the future, the proposal of the Commission in July 2002 (COM, 2002), related to modulation, should be followed and a ceiling of 300 000 euro should be placed on payments for each farm.

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