

Increasing Farm Concentration in Hungary

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ABSTRACT

In the EU as a whole, there was a reduction of 1.658 million AWU (12.4%) in those employed in agriculture, between 2003 and 2007. In Hungary the decrease was 21% in terms of AWU per 100 hectares of agricultural land. In Hungary the concentration of land areas took place between 2005 and 2007 in such a way, that the arable land used by farms of less than 50 hectares declined, while that of larger farms increased. The motivation and intention of 104 farmers in three LEADER micro-regions in Northern and Eastern Hungary with respect to the present and future structures of their farms were investigated using questionnaires and narrative interviews. Almost two-thirds of the respondents spoke of the existence of non-agricultural activities and functions, but few of these were market-driven.

1. INTRODUCTION

The Annual Work Unit (AWU) index per 100 ha agricultural land dropped in all 27 countries of European Union between 2003 and 2007, but there were great fluctuations: 1.9-41% (Eurostat, 2010). According to data from the Hungarian Central Statistical Office, the AWU index per 100 ha agricultural land decreased by 34% in Hungary between 1998 and 2008, with a reduction in farm employment corresponding to the loss of 307,000 full-time workers! Within this 10-year period the figures for the period before EU accession (1998-2003) were 13% (or 162 000 full-time workers), while a further 24% (or 145,000 full-time workers) were lost after EU accession (KSH, 2009).

The farm concentration process was more intensive in private farms in Hungary. This was equivalent to the loss of 122,000 jobs in agricultural enterprises! Research indicates that this process is related to the fact that there is less demand for labour per unit area on larger farms, so they are unable to

employ those whose land they have rented or purchased. This Hungarian process may be exacerbated by supports granted for the purchase of machinery aimed at improving competitiveness, since these payment schemes back up the endeavours of farmers to carry out all farm operations with their own machinery. They then need to utilise this increased capacity, but are unable to do so as other farmers also prefer to make their own investments. This unexploited machine capacity tends to influence both increases in farm size and, partly due to the latter and partly to the replacement of live labour, reductions in the number of employees.

The proportion of payments made to aid machinery investments for conventional agricultural activities amounted to 13.2% of the resources available in the Hungarian national rural development programme between 2004 and 2006. During the 2007–2013 period, 17.7% has been earmarked for this purpose. Between 2000 and 2007 the ratio of Hungarian farms involved in non-agricultural activities was around 5% and this number was declining (GSZÖ,

2007). The terms farm diversification, multi-activity and multi-functionality are often used together in the literature (Brouwer et al. [2], 2008). The synthesis of these terms at farm level and a classification of their similarities and differences were carried out, based on the literature, in earlier papers (Fehér [3], 2003; 2005).

2. MATERIAL AND METHOD

The database used in this study were compiled for farmers in settlements belonging to three LEADER action groups located in Heves and Jász-Nagykun-Szolnok counties, namely the *Karcag Micro-region ("A")*, *Tarna Mente Micro-regional Spatial Development Association ("B")*, and *Tisza-Tarna-Rima-Menti Action Group Association ("C")*.

In order to discover farmer's motivation and reaction, a survey was carried out in 2008 involving 104 farmers in settlements belonging to three LEADER action groups (fig. 1). The following major aspects were taken into consideration when compiling the questionnaires and survey and conducting the interviews:

- separate sections should deal with the farm, farmer, the farmer's family and the farmers opinion on the introduction and spread of multifunctional agriculture in his own farm and in the given micro-region;
- there should be questions allowing the results to be compared with other foreign and Hungarian surveys;
- both open-ended and closed questions should be included. The majority of closed questions should allow a certain extent of openness through the "other" (separately detailed) option;
- different types of questions should be combined. We put also *dichotomous questions* which requested "yes" or "no" answers and *ordinal-polytomous questions*, in case of which the respondent has more than two ordered options, and *continuous questions*, where the respondent is presented with a continuous scale;
- for certain questions there should be opportunities to query to check the correctness of other questions;
- there should be no personal questions (e.g. finances, income) which could make the farmers mistrustful;
- the interviews should include family members working on the farm or with a substantial financial interest;
- farmers from all the major settlements in each region should be included in the survey;
- in settlements where special crops (vines, fruit and vegetables) are typical, farms with less than 10 hectares of land should be included;
- the survey was planned as a personal in-home, researcher-administered survey. The respondents were

interviewed in person, on their farm or in their home, ensuring full anonymity. The questions also formed the selection of the narrative interviews with the farmers, thus allowing project workers to become acquainted with the circumstances of the farmers (and their families) and the background to the replies given in the questionnaire.

The information requested about *the farms* was concerned mainly with the production, structure, market relations, employment, mechanisation, informatics background, land use and self-evaluation by the farmer.

Apart from their age, qualifications and place of residence, *the farmers* were also asked about their motives for establishing and developing the farm, how they obtained information, and the extent to which they used computer.

This basic information collected on the family included the number of family members, their sources of income and their qualifications.

Separate questions dealt with the relationships between the farm and the family and the possibilities of inheritance and transferring of the farm inside the family. With respect to multifunctional agriculture, the farmers were asked about the source of their information, the circumstances under which multifunctional agriculture was introduced and developed in the given farm and region, stimulating and inhibiting factors, and measures that needed to be taken. At the sample selection we applied the non-probability, convenience sampling approach. The sample of respondents was determined as 5% of farmers with more than 10 hectares land in the average of three micro-regions. At farmers with 10.1-50.0 hectares this rate was 2%, at those with more land the proportion was up to 10%. Farmers with less than 50 hectares of land made up 21% of the sample, those in the 50.1-100 hectare category 16%, the 100.1-300 ha farms 44% and estates of over 300 hectares 19%. The mean farm size (own and rented land, or land used without payment) within the four categories was 26, 66, 191 and 1,258 hectares, respectively. The research results and the conclusions drawn from them are basically only true of the population examined. However, the size of the sample makes it possible to draw conclusions valid for micro-regions in question. On the surveyed farms there was a very modest proportion of market-driven, non-agricultural activities ensuring employment. The only really decisive elements of agricultural multi-functionality are heavily supported, non-market-driven activities and functions. Farmers intending to diversify did not consider diversification as a means of creating jobs for other people. Despite the tensions in their micro-regions due to unemployment, the need to introduce flexible forms of employment came near the bottom of their list of priorities.

In response to another question, they clearly regard this as a task for the central government, and do not feel that they have any substantial role to play.



Fig. 1. Settlements belonging to three LEADER action groups.

3. RESULTS AND DISCUSSION

3.1. Farm concentration in EU and Hungary

There was a 16,4% decrease in the number of farms in the EU-15 countries between 2000 and 2007, while the average size in hectares of each farm

increased by 17,5%, and the size in terms of European Size Units (ESU) by 27,5% (fig. 2).

In the table 1 can be seen the number of farms in Hungary declined by 35% between 2000 and 2007, while the land area/farm increased by 43% (Eurostat, 2010).

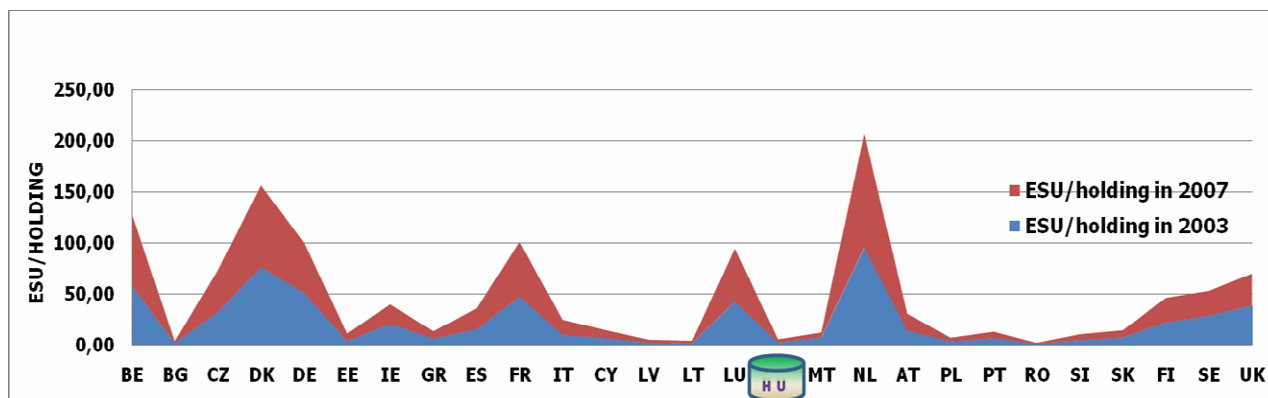
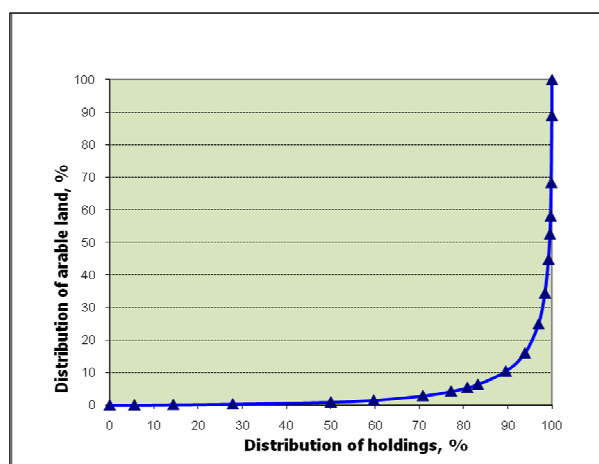


Fig. 2. Farm size measured by ESU in the member countries of EU in 2003 and 2007.

Table 1. Increasing farm size and concentration. in 2007.

DENOMINATION		2000-2007	2003-2007
Reduction in the number of farms, (%)	EU-15	16,4	9,2
	HU	35,0	12,4
	EU-27	-	8,8
Increase in the average area of farms, (%)	EU-15	17,5	8,9
	HU	43,0	20,0
	EU-27	-	9,0
	EU-10	-	11,9
Increase in the ESU size of farms, (%)	EU-15	27,5	14,9
	HU	42,0	42,8
	EU-27	-	14,2
	EU-10	-	12,6

Fig. 3. Lorentz curve of Hungarian farm concentration



Source: own calculation and composition from Eurostat data

3.2. Farm concentration in EU and Hungary

Motives and motivations. The farmers in the three micro-regions (A, B, C) were asked to give their reasons for setting up and developing their farms (table 2).

It can be seen in the table that, despite certain regional differences in the order of motives, providing a living for the family was by far the most frequent motive, followed by the endeavour to continue family traditions. The desire for an independent life and the agricultural orientation of the farmers can also not be ignored. The significance of these motives was also revealed by research carried out by Petrics [6], 2008. In addition to the motives for setting up a farm, the motivation of development of farm business was also deemed extremely important (table 3).

The motivation for economic growth is the most intense (54% of farmers plan to expand their farm over the next 5–10 years, and the majority of these farmers are thinking in terms of land purchase.). *Farmers wish to create jobs for family members, not for outsiders!* The idea of providing jobs for other people appeared to be a negligible motive, with 35% of the respondents being emphatic about it being the last of their motives. This confirms that the statement made in the ex ante evaluation prepared in 2007 by Proce Waterhouse Coopers in advance of the New Hungary Rural Development Programme, that “no substantial expansion of job possibilities could be expected in rural areas”, is certainly true of agriculture (Új Magyarország [7], 2007).

Farms with an area of 50.1–100 hectares require 70% less labour per hectare than those smaller than 50 hectares, while farms larger than 100 hectares employ less than a seventh of the labour needed per hectare by farms with less than 50 hectares of land. The responding farmers considered the standard of mechanisation on their own farms to be moderate to good. Nevertheless, machinery purchases were given priority in their development plans, since they desired to carry out practically all major farm operations at a higher standard, using their own machinery. About 45% of the responding farmers accept the farm

concentration processes taking place in their micro-region and are in agreement with them. The family played a major role in taking important decisions on the farm. The farm was the main user of the land belonging to family members; all the farms that rented land were farming on the land of family members and relations.

Multi-functionality and non-agricultural activities and functions. According to Knickel et al [8]. (2004) “multi-functionality could be operationalised at the level of the individual farm household”. Information on multifunctional agriculture was available to 65% of the farmers surveyed.

Table 2. Order of motives given for setting up farms.

Motive	A	B	C	Total
To provide living for the family	I.	I.	I.	66
To continue a family tradition	II.	II.	II.	49
The desire for a more independent life	V.	III.	III.	34
Unqualified for anything but farming	III.	IV.	IV.	33
No other jobs available in the neighbourhood	IV.	V.	V.	23
Other	VI.	VI.	VI.	8

Source: own data and calculation

Table 3. Motives for farm business development, in order of importance.

Motive	A	B	C	Mean
To ensure slow but sure development	I.	I.	I.	I.
To provide a living from the farm for as many family members as possible	II.	II.	II.	II.
To produce healthy foodstuffs and ensure a healthy environment	III.	VI.	III.	III.
To leave as large a farm as possible to their children	IV.	V.	IV.	IV.
To obtain as much community support as possible	V.	VII.	VII.	V.
To obtain maximum liquid cash income	VI.	IV.	V.	VI.
To increase their wealth	VIII.	III.	VI.	VII.
To provide jobs for others	VII.	VIII.	VIII.	VIII.

Source: own data and calculation.

In *Tarna Mente micro-region*, where the LEADER+ Programme had been implemented, this percentage was 87%, while in the *Karcag micro-region*, which withdrew from the second round in 2006, it was only 42%. The most frequent sources of knowledge were farm magazines and training courses or meetings organised within Hungary to exchange information.

In the *Karcag micro-region* (A) the narrative interviews suggested that the better agricultural potential, the larger farm size and the higher standard of farming were the most important “conserving” factors. Among the activities and functions that are not market-driven, substantial community and national supports and payments can be obtained for nature protection and agricultural environment protection.

Landscape management receives less support or supervision at present and is difficult to quantify, as it contains a number of subjective elements (fig. 4).

It could be seen that on the surveyed farms there was a very modest proportion of market-driven, non-agricultural activities; in most cases the level was much lower than that recorded ten years ago in the framework of the IMPACT project¹.

Questions on future plans for non-commodity outputs were answered by 99% of the respondents (!), 57% of whom have no plans for such activities. The distribution of those considering future developments is illustrated in Figure 5.

The distribution over the three micro-regions of those planning new developments was similar to that for non-agricultural activities and functions. It is worth noting that, with the exception of two cases, all those planning new developments already carry out some form of non-agricultural activity or function. Among the

¹ In the late of 1990s seven EU member countries carried out a survey of 3250 professional farms within the framework of the IMPACT project in order to investigate the interaction between policy and practice.

farmers considering new developments a relatively large number were clear about the importance of strengthening the economy of their micro-region and of increasing the role of local food market.

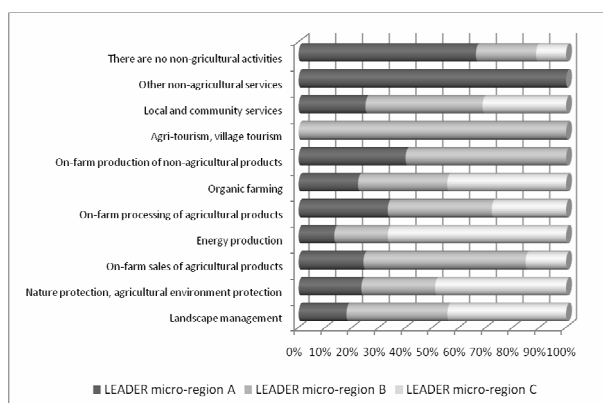


Fig. 4. Percentage of non-agricultural activities and functions in the surveyed micro-regions².

This is an agreement with earlier research which showed that nowadays the emphasis in Hungary should be put on building up and stabilising the rural economy, using various approaches in each region (Fehér, 2005).

The order in which the farmers ranked the various measures clearly indicated their desire to strengthen the economy of the micro-regions, indicating that the farmers appreciate the importance and urgency of developing the local economy. The motivation of farmers already involved in non-agricultural activities and functions and of those considering new developments in non-commodity outputs was also investigated. The security, ensuring a living for the family, the production of healthy foodstuffs and ensuring a healthy environment also played a decisive role in the increase in multi-functionality (fig. 6).

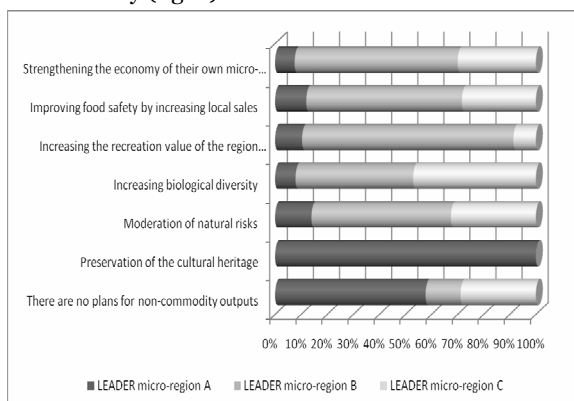


Fig. 5. Percentage of farmers planning to introduce non-commodity outputs in the surveyed micro-regions.

The farmers in question did not link multi-functionality with creating jobs for other people.

In general the surveyed farmers ascribed an over-modest part to the local and regional government. On the contrary, the economic role of the local council is over-evaluated. Unfortunately, due to the low standard of development of local economics, they do indeed have a disproportional role in the employment and in the income transfers in most of the settlements surveyed.

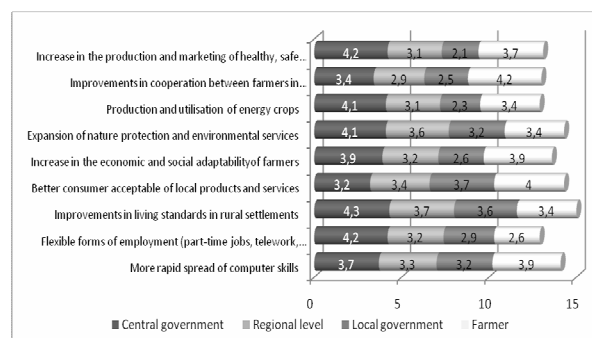


Fig. 6. Farmer's opinions on the role of various administrative levels in the implementation of measures to improve multi-functionality in their micro-region³.

In other cases, however, the evaluation appears to be less sound. For instance, in the case of the measure "Improvements in living standards in rural settlements; better ability of the local economy to provide for a population" the farmers thought their own role was unimportant, and chiefly expected solutions from central government, the regional level or the local council. The role of the central government was generally over-evaluated. This level scored highest (4,4). The responders assigned the second most important role to the farmers. However the very modest role of farmers, according to the Figure 6, in the spread of flexible forms of employment is not realistic.

4. CONCLUSION

The farming families play an important, complex role in both the establishment and development of the farms. On the one hand, the family is an economic factor (joint wealth, land use, source of labour), but on the other it is a subjective driving force in that it motivates the farmer to take economic steps that will ensure or improve the welfare of the family.

This latter role is extremely important in farm-level surveys of multifunctional agriculture and in the implementation of measures aimed at enhancing multi-functionality. The method employed in the present work proved to be suitable for the survey in question and for determination of correlations.

Neither of heads of farm already carrying out non-agricultural activities and functions, nor the whole

² As the respondents could designate several activities, the figures total more than 100%. source: own data and calculation.

³ The each level was evaluated on a 1-5 scale, the most important role being awarded 5 points. The question was: "What level could do most to promote multifunctional agriculture in the surveyed micro-regions?" Source: own data and calculation.

of the farmers surveyed displayed any great motivation to create jobs for outsiders. Almost two thirds of the farms reported the existence of non-agricultural activities and functions. However, the proportion of market-driven activities was low. The given level of multi-functionality was attributable to landscape management, agricultural environment management and nature protection. More than third of the farmers were planning new developments in non-commodity outputs. They were chiefly concerned to strengthen the economy of the micro-region, to develop local food markets and to improve the traditional value of the landscape. The respondents considered the most urgent measures in their micro-regions to be the improvement of living standards for local inhabitants, an increase in the production and marketing of healthy, safe foodstuffs, and the greater economic and social adaptability of farmers. In some cases (e.g. improvements in cooperation between farmers in marketing, production and machinery utilisation, increase in the economic and social adaptability of farmers, better consumer acceptance of local products and services) the farmers' evaluation of the role of central government, the regional level, local councils and the farmers themselves appears to be realistic, while in other cases the evaluation was often contradictory. The majority of the on-farm factors listed as stimulating multi-functionality were of an economic nature, but the desire for independence, personal ambitions and the desire to make use of their professional knowledge were also mentioned. The majority of the inhibitory factors mentioned were also of an economic nature, but the lack of knowledge and the farmer were also decisive. It seems highly probable that farm concentration can be largely attributed to the desire of Hungarian farmers to expand their farms, primarily by means of land purchase. The reduction in the number of jobs available on Hungarian farms is aggravated by investment supports aimed at improving the competitiveness of farms.

The modest level of resources earmarked for farm diversification and the diversification of the rural economy also plays a role in the unfavourable trend in farm employment.

5. ACKNOWLEDGEMENTS

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