REVIEW

Development and evolution of forms of cooperation in Hungarian agriculture during the 20th century

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SUMMARY FINDINGS, CONCLUSIONS, RECOMMENDATIONS

The forms of cooperation which are common in Hungarian agriculture are fundamentally different from those characteristic of Western Europe. This was caused principally by the collectivisation process implemented after the Second World War. Our paper presents the various forms of cooperation found in Hungarian agriculture and food industry, form the beginning of the 20th century to our present days.

The socialist reorganisation of Hungarian agriculture resulted in close ties between the entities engaged in agriculture and food industry, creating straightforward product chains and enabling the modernisation of production processes. Co-ops and state farms, as well as production systems and agro-industrial corporations employed state-of-the-art technologies of the time, and their production was comparable to that of the rest of the world.

After the change of political system in 1989, the tights product chains between agriculture and food industry in Hungary became fragmented. Industrialized agricultural production was replaced by farming carried out on small estates, leading to a considerable loss of efficiency and competitiveness in agriculture. In the years between 2000 and Hungary's accession to the European Union in 2004, the establishment of forms of cooperation commonly used in Western Europe, such as Producer Groups, gained momentum. Currently, in 2008, the share of Producer Groups in agricultural production is not significant.

FORMS OF COOPERATION IN HUNGARIAN AGRICULTURE BEFORE 1945

The basis for formation and development of forms of cooperation was created by the establishment of intensive agriculture in Europe at the end of the 18th century. At the beginning of the 19th century with the gradual diminishment of feudalism, industrial development gathered more ground and the demand for agricultural goods gradually grew, resulting in the growing efficiency of agriculture.

The growing efficiency of agriculture was guaranteed by the formation and development of intensive farming both in Hungary and Europe. The most common definition of intensive farming can be described as „the ratio of live and materialized labor in comparison to the size of the farming area" Though it is necessary to emp-

hasize that the adjectives „intensive" and „extensive" can only be used in a comparison regarding agriculture, a branch of agriculture or an individual farm.

Thus the change to intensive farming – appearing as a process in agriculture – is a result of a necessary development resulting – among others – from the progression of the industry and the rise of society's standard of living. The development of intensive farming brought with it the perfection of production technology, which enhances the better utilization of potential possibilities hidden in high-yielding plant cultures and high-productivity animal breeds.

Erdei (1958) through the analysis of the development of Hungarian agriculture he proved that between 1900 and 1955 „economic productivity calculated by area units (area productivity) grew by 51.2%, and work productivity by 31.5%", which is the result of formation and development of intensive.

In the first decades of the 20th century the productivity of agriculture evolved significantly, for the following reasons:

- Old soil cultivation systems were replaced by new ones (alternating cultivation without fallow, for example).
- Soil cultivating machinery evolved parallel to those (appearance of the steam plough).
- The composition of animal stock and its keeping conditions were changed.
- Changes in the sowing structure and cultivation departments signaled the process of agricultural fulfillment.

Márton (1977) evaluates the importance of intensive farming in Hungarian agriculture as follows: „By changing agricultural production to intensive, the whole production process changed, (...) this brought the re-organization of production elements of agriculture with it. For this particular reason the process of changing to intensive farming eventually progressed with the transformation of work-sharing within the agriculture" which couldn't help but spread different forms of cooperation.

In pre-WWII times the typical cooperation formats in Hungary were the „HANGYA" („ant") co-ops, which were present at every settlement with its halls, commercial trade posts and co-op loans partnerships. Their guarantee for their successful operation was tightly coherent with their approach, that is *cooperation and alliance is the only way to let the producers achieve higher positions on the market, to make the market- interests of the farmer society prevail*. Beside that, they were also favored by significant political sponsorship. That's how HANGYA became Central Europe's largest association of companies regarding its membership or trade activity respectively, since in 1940 it had more than 2000 members associations with 700 000 members, 30 canning plants, 20 industrial plants and more than 400 shops. URL[1]

Another type of cooperation in these years was the „kaláka[1]", which was based on the common teamwork and cooperation by people living in villages and on farms. This represented a kind of exchange where households do work for each other, endeavoring toward the approximately even distribution of work between the participants. On a social level, their importance peaked during the collective construction of dwelling-houses. URL[2]

As the third type, the *National Hungarian Milk Cooperative Centre* is worth mentioning. At the end of the 1890's milk processing units have been established one after another in the Hungarian villages. Similar to other European countries, most units operated as farmers' coopera-

[1] Work done for other households is worth 144-208 billions of Forints in 2000, adding up to 2% of the annual income of the population.

tives; these farmers established the National Hungarian Milk Cooperative Centre in 1922. The centre became the largest milk processing facility within one decade.

DEVELOPMENT OF FORMS OF COOPERATION BETWEEN 1960 AND 1990

After WWII they ventured to repair the wrecked agriculture and the significant economical problems by the introduction of an agrarian reform. In accordance to this, they completely eliminated the squatter-system, 3.2 million acres of land were distributed, creating 400 000 new small-estates and dwarf-estates. The structure of growers became a light-works system, which fundamentally differed from the property-relations of western countries that were based on mid-sized farming estates.

The three-wave collectivization[2] process that begun in 1948-49 parallel with the appearance of the single-party system completed in 1959-60, so by 1961 4.7 million acres of land were cultivated by co-ops. In the initial state of collectivization state farms and machine sites were created, and later machine sites were fused with the more and more developing co-ops.

During secularization every HANGYA property was confiscated with almost no compensation. Rural HANGYA stores and sites were put into the possession of farming co-ops, and later into the possession of co-op-style companies founded under the name ÁFÉSZ[3]. URL[3]

Of the forms of cooperation, concentration and specialization truly evolved with the completion of the co-op system, since there was a great need for the optimal development of industrial scale sites. This is well shown by the fact that at the beginning of the co-ops' organization the minimal average cultivation area was determined at about 100 acres, which tripled by 1956 (Table 1). In this period, of the main forms of concentration, the merging of companies was the prevailing method.

Erdei (1959) outlines the process of concentration in Hungarian agriculture as follows: At every occasion, agriculture's path of evolution was characterized by the radical transformation of production conditions, and this transformation was proceeding in different ways through the decades.

a) Agricultural production was concentrated by large squatter-farms coming to existence through the supplantion of small peasant farms.

b) The capital concentration of production came to existence by large facilities created on small territories, which supplanted family farms producing small goods.

c) The concentration of production progressed further by the co-op movements appearing as partial concentration covering farming facilities, which took shape as trade societies in capitalist countries.

It is apparent from the chart that thanks to the continuous production concentration that ran its course between 1958 and 1969, the land size and the number of employees doubled, the bulk of active and inert goods increased eightfold in average in collective farms. Concentration and cooperation didn't go through continuously on the co-op level, but – according to *Halász's (1969)* studies – we can divide them into two parts. „The first big wave of merge ran its course at the beginning of the 50s, the second took place with the completi-

[2] In Hungary it means the socialistic restructuring of agriculture, the forceful elimination of private peasant farms and the development of agricultural works (grower co-ops) on their estates. Collectivisation started after 1948, extending over the whole country. Peasants were „persuaded" to hand their land in to the co-ops by administrative, coercive tools („administrative methods"). URL[4]

[3] Általános Fogyasztási és Értékesítő Szövetkezetek (General Consumption and Marketing Co-ops)

Table 1

Size and workforce of agricultural co-ops

Year	Number of farms	Average land size (acres)	Stock (animals)	Gross agricultural production value (1000 Ft)
1958	2 755	543	70	1 530
1960	4 507	1 512	191	4 469
1962	3 720	2 167	286	6 735
1964	3 413	2 386	332	8 971
1966	3 181	2 644	361	11 201
1968	2 840	2 970	436	15 674

Source: Szeles, 1971

on of the countrywide collectivization, (...) small co-ops merged within small parishes." After the conclusion of massive merging there were some fusions particularly in 1968-69, but these didn't take place of farming-economical consideration, but rather for the sake of eliminating weakly managing co-ops.

„After the socialistic rearrangement of agriculture, a concentration process ran its course through which large extents needed for heavy works productions could be developed. The number of farms decreased by half compared to the 70s. Territorial concentration made the utilization of large capacity machines, complex production lines and modern technologies possible. Territorial concentration went hand in hand with the concentration of tools (goods) and production. (...) The number of departments within farms also decreased and at the same time their size multiplied." (*Hermán, 1983*)

The results of scientific progress and the tools of modern technology can be used efficiently in organizations possessing larger lands, that is in large economical units. These extents cannot be reached by concentrational methods but with interenterprise cooperations. In 1969 bear witness to a higher level of concentration, for example the Agrocoop Supply and Sales company, who's task is – beside conducting multichannel sales – the acquirement of necessary machines, materials, tools and breeding stocks.

In the 1970s collective cooperation was motivated – apart from profitability and technological consideration – by the fact that the necessary funds for modern technological systems could only be guaranteed collectively. On account of the ever growing home and export demands and the ever intensifying market competition on the foreign markets, the only way to stand ground was recognizing this fact in time and making the necessary steps both on farming and political levels. From an economical cooperation's point of view, farms could only increase productivity if the companies involved in production, processing and sales recognized their identical interests and utilized the proper form of mutual cooperation (contractual contact, simple economical cooperation, common co-op undertaking, common co-op company, agro-industrial coalition).

Common undertakings operated by co-ops meant the higher level of cooperation. „since 1961, part of the economically developed co-ops – using their own resources – created common enterprises in departments of production, supply and processing activities." In 1965 there were a total of 84 such companies operating. On the grounds of material production, com-

monly operated undertakings need to be specifically mentioned, porcine breederies and fattening plants – in case of poultry the high capacity brooders –, or for feed supply in bovine-raising. In connection with processing, the production of large quantity uniform quality goods became relevant, in view of company cooperation *(Doffek – Keresztes, 1967)*.

In 1966 a new segment of domestic agricultural integration began, when Komárom county's 61 co-ops founded the country's first regional collective (TESZÖV). „With this event a new form of cooperation between farmer's collectives was created, which targeted the organized enforcement of co-op interests both in case of production and merchandise linking." The goal the regional association layed out for the participating co-ops was the „harmonization" of animal husbandry and plant farming. The boosting of poultry meat production and the development of technologies applied in porcine breeding were considered its main tasks. „Official advisors" were employed for the harmonization of different assignments and for the continuous guidance of co-op experts (*Técsi, 1967*).

In Hungarian agriculture and foodstuff industry, the spreading and ground gathering of forms of *integrations*[4] became a reality after 1968 with the new economy control system took over for the plan-order system, which allowed for a larger elbowroom for the spreading of different types of cooperation based on individual initiative. In Hungary and member countries of the KGST[5] the exact definition of forms of cooperation was formulated for the first time in 1974 by integration research.

In connection to this *Marillai (1974)* reports the following: „In our days the denial of economic integration's prevail among socialist conditions is not typical anymore. (...) Socialistic (planned) production conditions create the practical possibility for economic integration (...) to be able to become the greatly effective method for the further evolution of socialistic economical societal relations." Novel definitions – for integration and cooperation – are the following: „Integration is a process-controlling principle, the collective of economical organizations guided by a unified (central) control (...) its material plot is the conscious and deepening material interest (which operates on the same plain), its results are high grade specialization and concentration." Cooperation is integration's „assisting concept", because „(...) cooperation, by carrying the method and aim of specialization's and concentration's planned realization, is a looser collaboration compared to integration." They differentiated between two variant types of both cooperation forms, horizontal and vertical.

Horizontal integration realizes homogenous activities (production systems for example). *Vertical integration* connects activities and functions that are superimposed and sequential in the product line as well as unifying functions. They usually represent these structures with their produce (agro-industrial combines).

Of different forms of horizontal integration, it's valid to emphasize *industrial production systems*, because the yield quantity produced by them was significant even on the national economical level.

In the 1970s farming went through great changes. „By the expansion of farming lands, the simplification of the sowing system and the appearance of high-performance machinery (...) the conditions

[4] The expression „integration" means unity, assimilation or annexion in general

[5] Short for Kölcsönös Gazdasági Segítség Tanácsa (Council for Mutual Economic Assistance) the economic cooperational council for Central and Eastern European socialist countries.

for industrial farming became more and more developed." (*Tarcsay – Berta, 1974*) Subsequent upon this, production systems appeared in the process of integration and cooperation, in which farming companies ventured to economically improve some of their farming or animal husbandry departments, by combining the latest results of biological, technical and organizational sciences into a unified production technology, while continuously improving them at the same time. Their goal was the realization of an above average growth on territories drawn into integration, with a production technology that is cutting edge even by international standards.

The characteristics of production systems and production concentration are the following: a) concentration gains inter-firm characteristics, b) the intellectual capital that was put into production significantly grew, c) thorough coordination, d) exceptionally strict work discipline. „Upon the effect of these, yield levels have significantly increased in production systems, thus further processing has to fulfill advanced quality requirements. (...) Further concentration will point out the necessity of vertical department organization, so coordinative relations between associate farms will turn into cooperative relations."

On the national level, the most successive system proved to be the one for corn production. That was proven by *Corn Production System* (CPS Bábolna), the *Baja Corn Production System* (Bajai Kukorica Termelési Rendszer - BKR), *Corn Socialist Cooperation* (Kukorica Szocialista Együttműködés - KSzE Szolnok) and the *Corn-Industrial Plant Production Cooperation* (Kukorica-Iparnövény Termelési Együttműködés - KITE[6] Nádudvar).

The success of production systems is well presented by the fact that at the beginning of the 80s 21 production systems were operational in the field of ploughland farming alone. The production area drawn into integration was 2.5 million acres. In the field of horticulture, 13 production systems were created by 1981. Concentration and specialization levels are a good deal lower than ploughland cultures. In animal husbandry 19 production systems are accounted for, thus the number of farms participating in the integration is above 1200. (40% of dairy cow stocks, 70% of porcine sow stocks and 45% of poultry breeding pairs produce in either of these systems.)

In the case of vertical integration the spreading of *agro-industrial coalitions* was an important milestone among the forms of integration that developed in food-economy. It is true especially because agriculture – as a raw material producing section – decisively influences the processing and sales sectors of the food industry, thus alongside horizontal cooperations, vertical (raw material production, procession, sales) integrations have to also be developing by necessity. Especially since after the recognition of identical interests, it can make a more secure and calculable production possible for both the producing and processing levels, eventually resulting in the increase of yield.

„Vertical integration is the condition – and trigger at the same time – for the creation of agricultural companies involved in a highly mechanized and specialized factory-like mass production. Horizontal firm connections (production systems) prove in practice that they are effective tools for the

[6] In 1992 the Corn-Industrial plant Production Cooperation and a few commercial and industrial companies, and also banks founded KITE Agricultural Services and Commercial Joint-stock Company with a base capital of 553 million Forints. In 2006, their name was changed to KITE ZRt. (KITE Agricultural Services and Commercial Exclusive Joint-stock Company)

industrial development of certain production sectors." (*Halmai, 1977*)

The factors listed above were available in Hungarian agriculture in the 1970s.

Agro-industrial coalitions – considered as interfirm economical systems by a looser interpretation – came into existence as novel economical associations of Hungarian agro-production in 1976-1977. At the start four coalitions (Békéscsaba és Környéke Agráripari Egyesülés; Hajdúsági Agráripari Egyesülés; Kalocsakörnyéki Agráripari Egyesülés; Szigetközi Agráripari Egyesülés) were formed. These organizations are of regional type, their members are companies involved in food industry and agriculture, the members inside the coalition keep their independence and they gradually develop a common producing-processing activity with the help of high level coordination. In the agro-industrial coalitions the state-co-op mixed ownership (a new form of production tool) takes shape. In the four coalitions there are 64 companies participating, and they farm on more than 250 thousand acres. With a contribution of a predetermined extent the participants create founding assets, which is used for company development. Their top board is the coalition council, constituted from company representatives. Annual experience shows that the start is reassuring and the coordination between members is efficient (*Major, 1978*).

Summing up it can be stated, that the socialist reorganization of Hungarian agriculture formed a solid base for the formation of various forms of cooperation, the conclusion of which was that the product chains converged completely and thus enabled up-to-date production. Co-ops and state farms, and production systems and agricultural-industrial combines working parallel to the former using the most state of the art technologies of the time age days enabled production comparable to that of the rest of the world.

SITUATION OF THE HUNGARIAN AGRARIUM AFTER THE POLITICAL SYSTEM CHANGE[7] (1989-1990)

Some thorough changes happened in the co-op sector of agriculture following the economical-social system change that started in 1989-1990.

The goal of the first post-communist government was to abolish socialist industrial farms and support the creation of viable „farming-economy-type" family agro-enterprises in their place (*Romány – Varga, 2004*).

The most important thing – and the base of its revolutionary nature at the same time – is the general change of property-relations in agriculture. This way landowners could withdraw their land from co-op and state use. The 3 acres restriction of land kept in private property was raised, the new law determined the limit at 300 acres instead. Most of state owned agricultural plants and also most state owned agro-industrial companies were privatized[8], the rest – beside state shares – were reorganized as joint-stock companies (Table 2). Co-ops that held the decisive share of agricultural production and sales in their hands, were based on new legal foundations.

The cooperative, as a farming organization has undergone considerable changes in the past decades and became a form of

[7] A transformation process in Hungary that took several years, where multi-party democracy took over for single-party dictatorship and market economy based deciively on private propery took over for planned economy based on state and collectively owned property, while the country regained its independence URL[6]

[8] State property is handed to the private sector

work division adapting to the needs of the market economy. As for changes, adapting to local potentials is characteristic. Within the agricultural cooperative sector both traditional holding-like forms based on economic organization and cooperatives operating as economic organizations are present (*Tóth, 2000*).

Table 2

Changes in the amount of ploughland used in farm types (thousand acres)

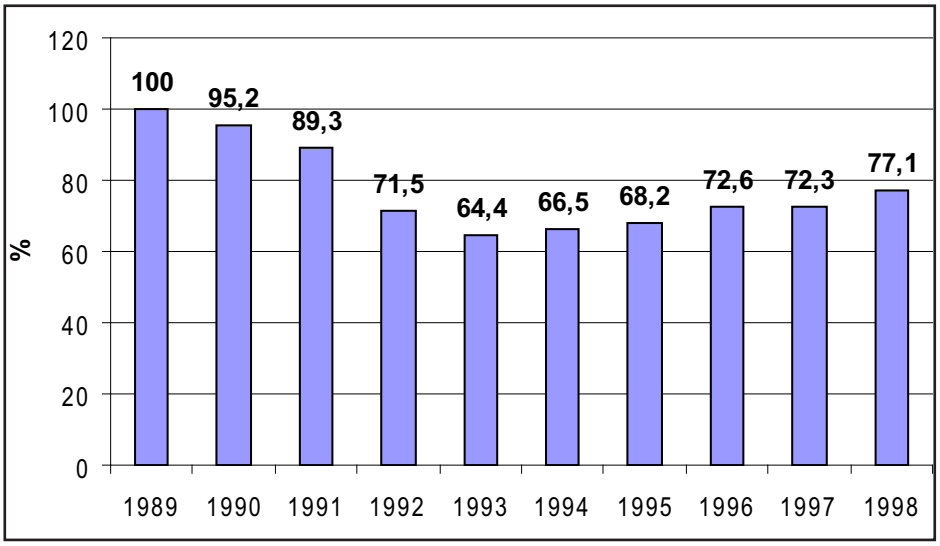
	1990	1993	1996	1999
Farming organizations	4116.4	3531.8	2318.9	2048.4
Individual farms	596.4	1178	2393.8	2659.6
Other	-	2.7	-	-
Total	4712.8	4712.5	4712.7	4708.8

Source: KSH (Central Statistics Institute), 2000

The compensation and co-op law gave 3.3 million acres of land to the private ownership of over 2 million people. In this way a very fragmented structure of landowning came to existence. Generalization of private land ownership obviously didn't couple with either increased numbers of agro-population, or a more mindful and fruitful agro-production (*Romány, 2001*). Furthermore, the economic environment of the agro-sector worked unfavorably too. The decline between 1989-1998 is shown summarized by the gross agricultural production value. (The gross production value of Hungarian agriculture is not near the level of 1989, see Fig. 1.)

Figure 1

Gross production value of agriculture (1989=100%)



Source: KSH, 2000

Private farming (now insular and fragmented) motivated also by the government, gathered more and more ground with the passing of time, so the organization of acquisition and sales, the unified market presence of producers and the reduction of producer defenselessness became a more and more pressing matter (Table 3). Post-system-change governments were aware of all this, but their initiatives (organization of new model co-ops, product way co-ops for example) had only moderate success. So on the eve of joining the European Union (EU), the specialist portfolios prepared the EU-supported legal regulation (and thus the recognition) of producers' groups and already applied them before joining the EU.

Table 3

Distribution of private farms' number and surface, according to the size categories of crop land

Crop land grouped by size, acres	Distribution of individual farms	
	Number	Area
	percentage	
not used	8.74	-
0.1-0.5	58.17	2.72
0.51-5	22.49	10.92
5.1-50	9.08	36.86
50-100	0.87	17.03
100-300	0.61	27.49
300 <	0.04	4.98

Source: KSH, 2007

Secondary producers' organizations operated in Hungary:

– Economic organizations engaged in the acquisition and sale of different goods, services (BÉSZ).

– Dairy co-ops.

– Machinery associations.

– Vegetable and fruit producermarketing organizations (TÉSZ).

– Producer - marketing.

Economic organizations engaged in the acquisition and sale of different goods, services (BÉSZ): Organizations handling acquisition, storage and sale of agricultural products, acquisition of materials needed for agricultural production and providing services necessary for agricultural production. Their goal is to ensure the best possible quality of acquision of raw materials needed for agricultural production for their members by buying in bulk, to assist the sale of goods produced by their members, and provide services connected to production for their members.

Vegetable and fruit producer-marketing organizations (TÉSZ): „Producer organization's are any artificial persons that were created by the initiative of producers of vegetable, fruit, products meant for the procession of the above, citrus, husky fruit, mushroom, with the following goals

- to ensure the planning of production, and its regulation to demand, especially in reference to quality and quantity;
- to advance the concentration of supply and the allocation of members' produced goods to markets;
- to reduce production costs and stabilize producers' prices;
- to encourage the use of proper cultivation methods, grow technologies and

environmentally friendly waste-handling methods.

Dairy co-ops: economic association or co-op pooling dairy producing members, created by pending domestic laws .

Machinery associations: agricultural machinery associations founded by at least ten agricultural producers, considered as economic organizations.

Producers' group: cooperations of producers organized around certain products or product groups, where they voluntarily enter into partnership for the enhancement of their activity that is interlocking with their individually conducted basic agricultural, forestry or fishing activity, especially for the advancement of the production process of the plant and animal goods produced by them, the reception of their produce for processing, storing, its preparation for marketable goods, and collective marketing, in order to strengthen their market positions, with the acceptance of the rules outlined in this directive (FVM).

In Hungary producers' organizations can be established due to the ministerial regulation No. 81/2004. The same regulation describes the criteria of national recognition. The criteria of national recognition of producers' organization are that the number of participants within the organization should be at least 15 persons and the yearly revenue of products produced or processed by the members should be at least 300 million HUF[9] (in some sectors, like the viticulture it is 100 million HUF).

These secondary producers' organizations can operate in a predetermined economic form, that is BÉSZs and dairy co-ops in co-op form, TÉSZs, machinery associations in any economic organization form that is operating as an artificial person, and producers' groups as co-ops or Ltds. In the past 10 years the number of agricultural co-ops has halved, and today only about 100 of them are registered. The termination and transformation of co-ops is an ongoing tendency but currently two thirds of the officially acknowledged producers' groups chose the co-op form. *Csete et al. (1996)* stresses, that "the co-ops of Hungary can play an important role in the upswing of integration (...), because the basic idea of cooperation is in reality the co-operation of smallholders/minor proprietors.

Our days on Hungary 245 pieces eventually and 9 pieces previous a producers' group works (see Table 4).

Attaining official admission provides further subsidies for these producers' groups. In the framework of the New Hungary Rural Development Programme applicants can receive flat-rate non refundable subsidies based on their 2007 revenues.

According to the estimation of AKI[10], in 2004 „presumably producers' groups will cover approximately 8-9% of agricultural production, to a higher extent in animal husbandry (11-12%), and lower in farming (6-7%)".

Based on data from 2005, the goods sold by producers' groups make up for 15-20% share in various sectors. A below average organization can be observed in the grain sector, where the share of the large number of groups is only about 5%. At the same time the market force of producers' groups in the oil-plant sector surpasses 30%, the rate in case of vegetable and fruit production is near 21%. From among the animal husbandry sectors, the poultry department excels with a share close to 18%.

After the change of political system the closed product chain of Hungarian agriculture and food industry became fragmented and the and industrialized production was replaced by farming based on small and fragmented estates, which ca-

[9] 1 EUR = app. 260 HUF

[10] Agrárgazdasági Kutató Intézet (Agro-economical Research Institute) at the present time the most significant agro-economy intellectual and research base of Hungary.

used a considerable reduction of effectivity and competitiveness of agricultural production. After the year 2000 before the EU accession (2004) formation and spreading of cooperation types such as development of Producers' groups – which are widespread and effective in Western Europe – gained more and more on importance. In our days the structure of land usage and ownership is significantly fragmented (see Table 3) According to AKI 10 (Agro-economical Research Institute) estimated number of those farms, which can be considered as potential cooperative members, is around 91 000. The motivation for cooperation can be obtained by reducing the revulsion against the co-ops, by tax cuts, and simplification of procedures according to the practices in Western Europa. This could benefit the integration of product-chains as well. The majority of active producers' groups were formed as successor organizations of terminated large concerns, and the number of newly formed producers' groups is fairly small. Furthermore there are groups present in Hungary whose main aim is not meaningful cooperation but solely gaining the subsidies. Nowadays (2008) share Producers' groups of total agricultural production is not significant.

Table 4

Previously and eventually acknowledged producers' groups in Hungary – listed by regions

	2004		2008	
Regions	**previous**	**eventual**	**previous**	**eventual**
Közép-Magyarország	7	0	0	8
Kőzép-Dunántúl	23	0	0	26
Nyugat-Dunántúl	19	0	1	28
Dél-Dunántúl	63	0	2	58
Észak-Magyarország	33	0	3	22
Észak-Alföld	56	1	1	47
Dél-Alföld	50	0	2	56
Total:	251	1	9	245

Source: AKI, FVM

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