HOLDING STRUCTURE IN HUNGARIAN AGRICULTURE*

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The productivity of the agrarian sector is a result of the quantity and quality of available production instruments (including arable land, livestock, machinery and labour force etc.), and the coordinated use of these factors. In countries at higher level of economic development, a volume growth in food production has been achieved parallel with the reduction of both the labour force employed in agriculture and the area of land used, bolstered by increasing external support. Hungary's aspiration to access the European Union has created a new situation when the country has to make a serious choice.

Throughout the twentieth century, Hungary's agricultural sector had to face various problems both in the economic and the social scene. Rural Hungary suffered the most critical damage due to the fact that within 50 years, three fundamental changes occurred in the structure of the cultivation and ownership of land.

Even after 1990, we are still waiting for a truly efficient solution. There has been a 30–40 percent drop from the earlier level of production, and this depression has not been appropriately addressed by recent agricultural policies. A concentration of ownership, similar in tendencies to what is in progress in the EU countries, has started in Hungary, resulting in the reduction of the number of small individual farms and adding up to more and more farms of optimum size. Nearly half of Hungary's arable land area is cultivated by various associated business enterprises.

KEYWORDS: Agricultural holding structure; Agrarian policy.

The agrarian sector of Hungary has undergone three dramatic restructuring processes since 1945, each of which had a major social and economic impact on a wide stratum of the population. The agrarian sector was 'overpopulated' as early as in the XIXth century. The hunger of the rural population for land was a fact up until the mid-twentieth century. These problems were not the least mitigated either when the communist agrarian perspectives were forced on the sector, or after the transition whereby Hungary is still lacking a scientifically grounded long-term agrarian policy to set the direction of progress.

In the following, we wish to outline the historical background of the present situation, and to give some indication of a feasible option for development. The work that is cur-

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rently under way in preparation for the accession to the EU has clearly set the most expedient path to take.

HISTORICAL BACKGROUND AND OBJECTIVES FOR THE FUTURE

Both the obsolete structure of the agrarian sector and the critical social situation of the rural population survived the so-called 'land reforms' and re-allotments of land of the XIXth century, as well as those following World War I, fundamentally unchanged. Land sales stagnated, apart from the few allotments of house building plots which were smaller than the smallest category of farm land, the miniature holding. The number and proportion of large holdings hardly changed until 1945, and the importance of this category remained the same even after the Treaty of Trianon which reduced the territory of Hungary dramatically (see Table 1).

Table 1

The number and area of agricultural holdings according to size categories, in percentages, 1895 and 1935

Denomination		Miniature 0 – 5	Small 5 – 100	Medium 100 – 1000	Large 1000 –	Total
		cadastral acres				
Number of holdings	1895	53.6	45.4	0.8	0.2	100.0
	1935	72.4	26.8	0.7	0.1	100.0
Total area	1895	5.8	45.5	15.4	32.3	100.0
	1935	10.1	41.8	18.2	29.9	100.0
Of which, arable land	1895	6.8	57.6	16.1	19.5	100.0
	1935	12.3	53.1	14.5	20.1	100.0

As there was hardly any capital available on loan, the sales turnover of land gradually decreased after the 1920s, and the unit price of smaller holdings was higher than that of those which were large enough to make production feasible, while there was a large portion of land properties with restricted marketability, due to entailment of other reasons. Then in the 1930s, the debt owed by rural farmers grew in value, and therefore they could not take up any more loans for land purchases. As a consequence, by the 1940s various scenarios had been developed to resolve the situation of the ailing agrarian sector by way of land reforms. The provisional government that was set up in Debrecen and took office at the end of 1944, immediately set out to draft a land reform bill which was issued as a decree on March 15, 1945. This same bill was enacted by the Parliament in September the same year.

Owing to the slow development of the industry and other sectors, the proportion in the population of those involved in agricultural production was close to 66 percent at the beginning of the XXth century, and exceeded 50 percent even after World War II. These rates are indicative of the high demand for land at the time. In the land reform, 640 thousand people were assigned holdings with an average size of 2.9 hectares (5.1 cadastral acres). These properties were given partly to those with no earlier land holdings and

partly to those who held small ones, as an addition. Those who had agricultural qualifications, could claim larger holdings.

With this land reform, the overwhelming dominance of large holdings was eliminated, and the farm structure was now characterised mainly by micro and small holdings, which meant an improvement in the social situation of the farming population but impeded the creation of an efficient production structure. In 1949, 81 percent of all holdings was smaller than 10 cadastral acres (i.e. 5.8 hectares). There were hardly any medium sized holdings left. Another hardship for the new smallholder stratum was that they did not yet have the necessary tools of production. At the same time, as a consequence of war damage, the whole sector showed a dismal picture in 1945. It should be noted that more than half of all war-related damage was suffered by the agricultural sector, and there were no livestock, machines or seeds in sufficient quantity. In total, war damage to agriculture amounted to twice of the national income from agriculture in 1938. Despite all these drawbacks, smallholders rectified the worst of damage remarkably quickly, and famine could eventually be avoided thanks to the food produced by the devoted work of these small farmers. The development of agriculture, however, was set back by the insufficiency of capital and a voluntaristic economic policy.

The agrarian policy of the 1950s was based on Stalinist principles, which curtailed the perspectives of the sector severely, and hampered production as well. The system of requisitions, following the Soviet example, caused immense damage by depriving smallholders of their last reserves, and even of their stocks reserved for continuing production, for an extremely low compensation. Often administrative and quite violent forces were used in collecting what was due to the state. Also, the forced implementation of the 'kolkhoz' (collective farm) system and the pressure to join co-operatives further aggravated the situation. The consequence was dramatic: the level of agricultural production slumped, parallel with the related income, and a quarter of a million holders left their land in just a few years. Large stretches of land were abandoned and uncultivated. Concurrently, those who were forced to join a co-operative, were unable to avail themselves of the necessary tools and assets. The mitigation of the political tension that occurred in 1953 brought no more than temporary changes. It was not until after 1956 that the agrarian sector could permanently maintain a production level that was higher than before the war.

From 1959 on, the issue of co-operatives was pressed anew, and in only three years, the remaining individual farmers were, almost without exception, organised into these larger production units. The forced pace of co-operative organisation meant a rude intrusion into rural life, which resulted in many former farmers having to take up employment in other sectors. As the tools used earlier by smallholders were no longer feasible for use in a large production unit, significant state support was handed out to supply new ones. Even if these investments were out of proportion to the economic potentials of the country, they eventually proved productive. For a couple of years, the rate of development was outstanding even in international comparison. Therefore, the agrarian sector of Hungary could make up its lag behind Western countries in a very short time. The results in cereal and meat production were especially convincing.

The sector now became polarised, comprising 1500 large production units and 1.5 million small agricultural producers (with family farming plots or land taken out on

commission). The production structure was polarised, as well. The large production units preferred those plants which were easy to cultivate with machines, and, as for livestock, they usually preferred cattle and sheep, while smallholders were mainly involved in the growing of vegetables and fruit, as well as raising pigs and poultry. Still, the large plants also increasingly integrated these latter activities.

The profitability of the agrarian sector deteriorated in the 1980s as a consequence of the global economic recession, and a number of production units became non-profitable. With the economic crisis lingering and even aggravating, the volume of production either stagnated or slumped in certain regions.

Following the transition of 1989, the sector underwent considerable transformation once again. At the beginning of this period, emphasis was placed on the compensation of those who had lost their land and other belongings. However, this effort, even though it served the best interests of social justice, could not be carried out without mistakes and unfavourable consequences. Given the fair cause it served and the masses of people it affected, compensation should have been conducted in practice with much more care and circumspection, as well as with a preliminary assessment of the expected outcome. Further, there should have been a consensus of the intended structure of agriculture, the principles of granting subsidies and providing capital, as well as of the structure of food exports and imports.

The following points sum up the most important problems arisen in the past ten years in the Hungarian agriculture:

– agricultural production dropped between 1984 and 1994 by 40 percent, and there has been no significant improvement since;

– the compensation process became extremely protracted, and as a result of uncertainties, the area of land under cultivation continuously decreased, while the area of unsown land multiplied in some years;

– there was no sufficient foresight applied to the creation of a comprehensive holding structure. While many preferred the formerly dominant small and medium holding structure as a solution, without reference to the direction of development in Europe, others insisted on the creation of so-called farming holdings without taking into account that this requires the concentration of land ownership and the significant external subsidy system implemented. The experience of Western European countries shows that a long period of development and substantial external capital supply is required for the necessary modernisation and specialisation of this type of holdings;

– the idea of integration and of co-operatives was discarded by many, although it is evident in more developed countries that the various forms of cooperation are continuously gaining ground in the agrarian sector. The cooperation of smaller holdings would be especially desirable in order to achieve benefits in the fields of production organisation, sales, necessary mechanisation etc. Obviously, both in Hungary and in other countries, this idea of cooperating is less popular among smallholders than in holdings with production plants where the advantages are much more recognised;

– land ownership and land use have separated as the result of compensation. A number of people obtained land ownership who, for either subjective or objective reasons, could not undertake involvement in direct farming. Thus, in 1994, 41 percent of the aggregate area of

private holdings (883 000 hectares) was leased out and used mostly by enterprises and co-operatives. Two third of this land was given out during compensation in the preceding years, and the remaining one third had been held by the same farmers earlier as well. There was an increasing interest in the rental and purchase of land by foreigners, too;

– unfavourable turns in the market, as well as the suppressed producer prices in agriculture, impelled producers to cut production costs. Thus, the quality of feeds and sowing seeds deteriorated as compared to the previous situation, while the volume of fertilisers used dropped to the third of the former figure;

– the retrograde symptoms in plant cultivation also impacted the development of livestock farming, where the stock of cattle and pigs dropped by nearly 50 percent, while production and price factors kept on changing unpredictably. No market intervention or official price regulation was effected. The quality of feed also deteriorated, and so did the variety distribution (which had earlier been relatively homogeneous), and overall veterinary hygiene;

– additionally, no effort was made to retain markets in order to maintain the earlier volume and quality of production.

The long list of deficiencies clearly demonstrates the necessity of a reformed agrarian policy. Agricultural production should be organised along modern principles, in line with current market conditions, both in terms of upgrading the production methods, and sales. Feasible accomplishments of the past and the 1990s should be drawn upon for selecting the most crucial elements which should then be implemented to promote development with care and circumspection. The co-existence of various production schemes should be encouraged, and reasonable conditions fostering genuine development created.

AGRARIAN TRENDS IN EUROPE

In preparation for a development scheme and future path proposed for Hungary, a brief overview follows concerning the history of the countries of the European Union.

In 1998 only 121 million hectares of arable land was brought under agricultural cultivation in Europe, a figure 5.6 percent lower than in 1970. During nearly 30 years, the population of Europe grew, even at a pace lower than earlier, by a remarkable 10 percent, totalling nearly 730 million people by 1999. The 15 present member states of the EU showed a slightly lower rate of population growth (9.2%), while the rest of the continent was characterised by an even higher value.

The increase in the number of active wage earners was in excess (at 17.4%) of the rate of population growth, becoming nearly 360 million in 1999, which equals 49.3 percent of the total population. The same indicator in 1970 was at 45.1 percent. The proportion of those employed in the agrarian sector decreased at a lower rate in the EU than in other European countries (see Table 2).

European Union member states are not homogeneous, in fact, they are characterised by significant differences. There is an economically substantiated division between the North and South, or even more realistically, between the North, the Middle and the South. In the ‘Southern countries’ (including Italy, Spain, Portugal and Greece), the proportion of earners employed in agriculture is significantly higher within the entire popu-

lation than in Northern countries (with the exception of Ireland and Finland). The peculiar feature of the countries in the central areas of Europe is a developed industry as well as relatively favourable conditions of agricultural activities. These countries have succeeded in building and maintaining an advanced food industry by the development of agricultural technology and processing industry.

Table 2

*The number and proportion of active wage earners employed in the agrarian sector in Europe, by groups of countries**

Year	Active wage earners in the agrarian sector					
	number (million)			share of total active wage earners (percent)		
	Europe	of which:		Europe	of which:	
		EU**	non-EU countries		EU**	non-EU countries
1970	40.5	18.5	22.0	19.8	12.9	36.5
1980	29.8	13.3	16.5	13.7	8.6	25.9
1990	24.3	10.4	13.9	10.4	6.2	21.4
1995	21.3	8.6	12.7	8.6	4.9	19.3
1999	18.2	7.9	10.3	7.5	4.5	15.3
1999 as a percentage of 1970	44.9	42.7	46.8	37.9	34.9	41.9

* Without the Commonwealth of Independent States – CIS.
** Data for the 15 current member states.

Northern countries are characterised by worse conditions in terms of natural and environmental factors, therefore the per unit food supply capacity of these countries is lower. Among the countries involved in accession process with the EU, the Czech Republic and Hungary are close to the average of the 15 EU countries in terms of the proportion of active wage earners employed in agriculture. In these two countries, less people are employed in the agrarian sector than in the other pre-accession countries. The share of people employed in agriculture is significantly lower in Hungary than in some of her neighbours (see Table 3).

In Europe, the area of plough-land providing for the food supply (per capita) shrunk by 14 percent between 1970 and 1995. Six percent of this decrease was due to the withdrawal of marginal soils from cultivation, while the rest to demographic reasons. This means that today the food requirement of the entire population is satisfied by using a smaller area of land; moreover, production is even temporarily suspended on a part of this land. Manual work has gradually been replaced by automated processes requiring less human labour but more expertise, while new varieties with better yields, and new chemical agents etc., have been introduced. Increased productivity has boosted yield volumes and stocks alike. All these have implied a considerable growth in costs which can only be covered by appropriate external sources. In developed countries these resources are coming mainly from a combined domestic and international agricultural support system. Important changes are now expected in this field, as the accession will require the

European Union to transform its current subsidy system. There are various indications that the subsidies granted earlier will be reduced, and 'newcomers' will receive a lower level of support than the current members. It is an open question how all these measures will affect the exports and imports of food, or food prices.

Table 3

Distribution of wage earners in the main sectors in some European countries, 1995–1996

Country	Agriculture	Industry and construction	Services
	proportion (percent)		
United Kingdom	2.0	27.5	70.6
Luxemburg	2.4	23.0	74.5
Belgium	2.7	27.6	69.6
Germany	2.9	35.3	61.8
Sweden	3.3	25.9	70.9
The Netherlands	3.8	22.9	73.3
Denmark	3.9	26.4	69.7
France	4.8	26.5	68.6
EU average	*5.1*	*29.8*	*65.1*
Czech Republic	6.5	42.0	51.5
Italy	6.7	32.2	61.1
Austria	7.4	30.3	62.3
Finland	7.9	27.1	65.0
*Hungary**	*7.9*	*33.1*	*59.0*
Spain	8.6	29.4	62.0
Slovakia	9.2	38.9	51.9
Ireland	10.9	55.1	34.0
Portugal	12.7	32.9	54.5
Greece	20.3	22.9	56.8
Poland	22.0	32.3	45.7

* The corresponding figures for 2000 are 6.1; 35.0; 59.9.

The number and proportion of those employed in agriculture is higher in the 'southern' countries, where horticulture, requiring more manual labour, is more prevalent (see Table 3). At the same time, the average size of holdings is smaller in these countries since horticulture provides a sufficient level of income even from smaller land areas. Due to the given natural conditions, in this respect no considerable change is expected to take place in the future. As far as the patterns of its agricultural production are concerned, Hungary is in many respects similar to this region. Therefore, the ratio of the agricultural population is likely to become close to the figures of the southern region rather than falling to the level of the Central and Northern European member states of the EU.

In the past 10 years, the number of farms has decreased at an almost even pace in the EU countries (at –2.3 percent annually). The persistence of this trend could suggest that the same factors affect each country's agriculture in a uniform way, and that the farm structure has changed similarly across the Union. In fact, however, this process fundamentally varies by countries, depending on their historic heritage and specific circumstances.

Between 1987 and 1995 in the 12 early member states of the EU, the number of farms decreased by 20 per cent, solely as a result of a reduction in the total number of holdings of less than 50 hectares, and a 20 to 25 percent reduction in the agricultural area cultivated by these farms. At the same time, larger farms gained dominance, as within ten years, their share in arable land grew from 50 percent to over 60 percent. Although nearly 60 percent of all farms is smaller than five hectares, they cultivate a mere 6 percent of the arable land (see Table 4).

Table 4

The number of farms in each size category of cultivated land (EU 12)

Category of holding size (hectares)	Number of holdings (thousand)		1995 (Index: 1987=100)	Distribution of farms (percent)	
	1987	1995		1987	1995
– 5	5 125	4 062	79.2	59.3	58.6
5 – 20	2 099	1 563	74.5	24.3	22.5
20 – 50	946	752	79.5	10.9	10.9
50 – 100	326	347	106.4	3.8	5.0
100 –	148	206	139.3	1.7	3.0
Total	*8 644*	*6 930*	*80.2*	*100.0*	*100.0*

The proportions of cultivated land changed even more dramatically than the number of farms (see Table 5).

Table 5

Changes in the composition of cultivated land by farm size (EU 12)

Category of holding size (hectares)	Cultivated land area (thousand hectares)		1995 (Index: 1987=100)	Distribution of cultivated land (percent)	
	1987	1995		1987	1995
– 5	8 916	7 011	78.6	7.7	5.9
5 – 20	21 353	15 776	73.9	18.5	13.2
20 – 50	29 505	23 876	80.9	25.6	19.9
50 – 100	22 101	23 987	108.3	19.1	20.0
100 –	33 526	49 057	146.3	29.1	41.0
Total	*115 401*	*119 707*	*103.7*	*100.0*	*100.0*

The concentration of land ownership is obviously continuing, while those farms which can achieve an optimum level of resource use, and increase their size, gain increasingly important role in the agrarian sector. We will have to wait and see what the ceiling of this expansion is.

The number of farms was about seven million in 1997, which is 5 percent lower than two years earlier. The average cultivated land area of these farms was 18.4 hectares as against the 17.5 hectares in 1995. The growth of the average area is closely and negatively correlated with the number of wage earners in agriculture. As we proceed to

the south, the average size of farms is decreasing. Taken together the agricultural sectors of Greece, Italy, Portugal and Spain, the average size of farms is ten hectares, while the mean of the remaining eleven countries is 36 hectares. That is, the former figure is less than half, and the latter double of the EU average. The nearly fourfold difference is a good indicator of the still unlevelled differences between individual member states, rooting in economic, geographical and historical factors. Typically, mainly the northern countries apply modern agricultural technology, which means that the problems these countries face are different from those of the southern countries where the strong concentration of farm sizes, which is a fact elsewhere, is still hindered by the rural overpopulation, insufficient land and capital supply, and the dominance of horticulture. (As compared to the 10 hectare average farm size in the southern countries, Hungary had in 2000 a 2.7 hectare average in individual holdings, a 663 hectare average in associated holdings, and a total average of 8.3 hectares. Both Italy and Greece have a lower average.)

Table 6

Number and average size of farms in the EU countries in 1997

Country	Farms	
	number (thousand)	average cultivated land area (hectares)
United Kingdom	233.2	69.3
Denmark	63.2	42.5
Luxemburg	3.0	42.3
France	679.8	41.7
Sweden	89.6	34.6
Germany	534.4	32.1
Ireland	147.8	29.3
Finland	91.4	23.8
Spain	1208.3	21.2
Belgium	67.2	20.6
The Netherlands	107.9	18.6
Austria	210.1	16.3
Portugal	416.7	9.2
Italy	2315.2	6.4
Greece	821.4	4.3
EU 15 total	*6989.2*	*18.4*

This process gained even more impetus between 1995 and 1997. The number of farms in the 15 EU countries fell by 5.2 percent. Within this, the number of holdings of less than 10 hectares decreased by 6.3 percent, of those between 10 and 50 hectares, by 4.3 percent, while there were 2.2 percent more holdings above 50 hectares than two years earlier.

Eurostat has been classifying farms since 1975 according to their economic extent, in so-called European Size Units (ESU). The yield of agricultural production is expressed as a standardised indicator which equals the gross production value less the total of expendi-

tures. This value is totalled for each farm and calculated in the relevant national currency, then converted into ecus.

This classification according to economic extent suggests an even more intensive concentration than what was seen in the land area figures. Among the first nine EU members, the ESU value grew by 227 percent between 1975 and 1997. The relevant distribution of farms in this group of countries is summarised in Table 7, according to the value per farm indicator.

The ESU indicator increased at the greatest rate in countries which have been members since 1975. This fact demonstrates the importance of the time factor, and the growth trend is still continuing. The average increase of the ESU value was 5.8 percent between 1995 and 1997.

Table 7

Classification of farms according to ESU

ESU	In 1975	In 1997
	percent	
– 4	60.0	48.0
4 – 40	38.1	37.1
40 –	1.9	14.9
Total	*100.0*	*100.0*

Between 1995 and 1997, farm sizes in the 15 current member states followed the pattern indicated previously. This suggests that only those existing farm owners have good perspectives for the future who can achieve high yields. As for Hungary, these trends indicate that if Hungary chooses a similar path of evolution in the agrarian sector, those farms are likely to become competitive which use intensive and efficient methods and have at least 20 hectares (later, 50 hectares) of land, provided that their specific productivity is at par with EU levels. At the same time, it is conceivable that even farms with a smaller area could operate with a profit, if they have a more specialised production structure (such as horticulture and special products).

The existing agricultural structure and the high level of production as well as productivity of labour in the EU countries have resulted from substantial investment, through a process of development having been experienced for decades. Due to a pressure to accommodate to a competitive market, significant assets have been accumulated in the farms that survived. The value added of production (adjusted with support and taxes) increased from 116 billion ecus in 1983 to 142 billion in 1993. Production volume grew at a higher rate in the southern countries, and it either stagnated or declined in Scandinavia. Out of the total GDP of the member states, 4.1 percent was generated in the agrarian, forestry and fishery sectors in 1983, while in 1993 the same ratio was 2.8 percent.

More information is available concerning the price and value of land, that is, the most crucial asset in agriculture, than about the value of other fixed assets. Nominal land prices (expressed in ecus) in the various member states have fluctuated within a sixfold range in the past couple of decades, and there has been little variation in the ranking of

price levels by countries. It is, however, obvious that land prices in the EU are multiples of those prevalent in Hungary.

Substantial investment of capital is required to purchase a well equipped farm of reasonable size, which impels the necessity to solicit the investment of external (i.e., non agriculture generated) capital. From the income generated and accumulated from production, farmers can cover certain developments and buy smaller additions to their land. The former is necessary to sustain competitiveness, and it also allows farmers to approximate an optimum farm size that is larger and makes better use of the available technical equipment. The majority of member states offer favourable credit facilities for the launch of new farms. It is common, even if not very widespread, practice to avail young farmers of farming land. Applicants for this scheme must have both education and sound production experience in agriculture. By creating competitive advantage for the young generation, young farmers are not forced to struggle themselves through the numerous and susceptible stages of growing from a smallholder to an optimum farm size, while the already established and consolidated farming structures are not abandoned when elderly farmers retire from work. When a new farm is set up, local residents are privileged, and foreigners may be assigned land or farms only through capital import. The conditions of obtaining land are liberal in most EU countries, apart from certain specific restraints in place in some of the member states (e.g., Denmark). The foregoing thus must be taken into account by any newly formed agricultural policy for Hungary, too.

In the past decades, characteristic changes have occurred in animal husbandry. In 1997 only every second farm raised livestock, of which 31 percent had poultry (426 heads on the average), 16 percent pigs (101 on the average), and 26 percent cattle (45 on the average). Through a longer path of evolution, livestock farming has gradually shifted from small and large sized farms, to concentrate primarily in medium sized holdings.

The specialisation of production is a process still under way, while the proportion of farms mostly or wholly involved in either plant cultivation or animal husbandry is increasing. Farms with diverse profiles applying traditional production schemes and thus being involved in more than one sector are phased out. As the security of production and sales are strengthened, a former inclination of farms to rely on multiple sectors is gradually replaced by preference for specialised production characterised by flexible adoption to the demand, and high output volumes but a small number of product types.

In 1995, 94 percent of those employed in agriculture were family members. In countries including Greece, Finland and Italy, nearly all the work was performed by families, while in Denmark, the United Kingdom and the Netherlands, family members made up approximately 75 percent of all agricultural workers.

RURAL POPULATION AND AGRARIAN POLICY IN HUNGARY

Before 1990, large agricultural production units, although they had an advantage in technological terms, employed more people than necessary. Recent economic organisations rely on a significantly smaller staff per unit of land. The earlier practice of overstaffing was in many respects the product of social policy.

As soon as the large producing organisations were dissolved or restructured, those employees who were affected by this 'internal unemployment' became redundant and actually unemployed. As in rural areas there is little chance to find a job, the unemployment rate soon became much higher in small communities than in the cities, in which situation the subsequent privatisation of land did little to help. This third fundamental rearrangement of land ownership in the same century produced profound restructuring but little progress in the agrarian sector. In the absence of a clear and consistent agricultural policy, the whole of agriculture and rural areas became characterised by permanent uncertainty. No definite management structure was developed, and only a few relatively modern farms were formed due to the lack of capital and credit. The majority of individual farmers worked their land in the traditional manner, at the smallholder's level.

By 2001, the number of people employed in agriculture has decreased to 252 thousand, from 911 thousand in 1988. Only half of this headcount is directly involved in agricultural work, the rest performs other, related tasks, just as before (see Table 8).

Table 8

The number and percentage of active wage earners in agriculture and forestry

At the beginning of year	Number of active wage earners (thousand)	Active wage earners as a percentage of total active earners in the economy		
		Agriculture	Forestry	Total
1988	911	17.8	1.0	18.8
1989	888	17.4	1.0	18.4
1990	863	17.0	1.0	18.0
1991	752	15.2	0.9	16.1
1992	589	13.0	0.9	13.9
1993	392	9.3	0.8	10.1
1994	345	8.8	0.5	9.3
1995	324	8.5	0.4	8.9
1996	304	7.7	0.6	8.3
1997	289	7.4	0.5	7.9
1998	279	7.0	0.5	7.5
1999	270	6.6	0.5	7.1
2000	252	6.1	0.4	6.5

The share of workers employed in food industry stabilised in the 1990s at around four percent. In the last ten years, the number of wage earners in agriculture fell by more than 600 thousand. Contradictorily enough, two thirds of the 1988 headcount left the sector despite the fact that more than 500 thousand people were given in total more than two million hectares of land in five years. The decrease in the number of agrarian employees was most dramatic between 1991 and 1993, but it continued into the most recent years. Some of the older co-operative members exercised their right of early retirement. Many became unemployed: in 1996, agriculture had a 13.8 percent unemployment rate as opposed to the national average of 9.1 percent.

The number of those involved in agricultural production showed an inverse proportion to the size of the settlement. In localities with less than five thousand inhabitants, the rate of unemployment was higher than 16 percent. On account of their lack of qualifica-

tion and the absence of sufficient tools for agricultural production, it is almost impossible for the poor rural population to find new job, therefore unemployment in these regions is very difficult to eliminate. The future of these people is, at the turn of the millennium, one of the most pressing problems Hungarian society must face.

The long-term decrease in the number of active wage earners in agriculture does not imply that reliance on human work has similarly diminished in the sector. A large number of people not registered as agrarian employees, are participating in agricultural production. Activities performed either part-time or as a second job, are increasingly characteristic of the agrarian sector of Hungary. Traditional agriculture related activities continue to engage the non-agricultural population to an even larger extent than in other countries. This is especially true for households which own small stretches of land. Of those who left the sector in the past fifty years, many have retained their agrarian background, continuing to live in rural areas and cultivating a certain area of land. Part-time farmers primarily come from these groups. Prevalence of part-time agricultural work was proven by the latest Általános Mezőgazdasági Összeírás (General Agricultural Census) in 2000, which found that only 13 percent of the 959 000 registered farmers worked independently, while the rest had other sources of income as well (see Table 9).

Table 9

Distribution of farmers according to main employment in 2000

Form of employment of farmer	Farmers	
	number (thousands)	percentage
Active wage earner employed in agriculture	128	13.3
Non-agrarian active earner	291	30.3
Agrarian pensioner	159	16.6
Non-agrarian pensioner	305	31.8
Agrarian, unemployed	12	1.3
Non-agrarian, unemployed	39	4.1
Other inactive, agrarian	6	0.6
Other inactive, non-agrarian	15	1.6
Dependant	4	0.4
Total	*959*	*100.0*

Nearly half of the farmers were pensioners. At the time of this census, nearly two million persons over 14 years of age lived in households with some land property. Of them, about 75 percent did agricultural work, which does not mean that they lived exclusively on their income from agriculture, as most of them had other sources of income, as well. In terms of work days completed, these two million people could be classified in 1999 as follows:

1 – 45 workdays	49.9,
46 – 90 workdays	28.1,
91 – 135 workdays	10.8,
136 – 180 workdays	5.0,
181 and more workdays	6.2 percent.

In 2000, only 5 500 permanent and around 47 000 seasonal workers were reported to be employed in private farms. On the average, permanent employees worked 160 days, and seasonal workers worked 13 days in the preceding year. In addition, farms also reported to have required an average of five days' work done by relatives and friends. The staff of economic organisations is continuously decreasing. The number of those employed full-time dropped to 115 000 in 2000, as opposed to 589 000 in 1990.

PRODUCTION STRUCTURE AND THE STATUS OF AGRICULTURAL SUPPORT

During re-privatisation, only part of the land was accompanied by the appropriate tools of production and acquired by owners with appropriate expertise. The majority of holdings were allocated to people who had grown already old or otherwise unable to obtain production tools other than what they had from traditional smallholder's activities, while others who could not undertake working on their land and did not care enough to maintain the productivity of the farm, finally leased out their land. This caused a new separation between land ownership and land use.

After 1990, agriculture-related capital investment within the whole of the economy amounted to around three percent, a rate much lower than the proportion of agricultural production in total production and exports. Investment in machinery was especially insufficient and inappropriate, and large areas remained uncultivated. The level of both fertiliser supplies and irrigation fell significantly, as well as the use of sowing seeds sold in sealed containers, and livestock. As a consequence of the combination of these factors, production rates dropped by around 40 percent in the first years of the 1990s. During these ten years, the area of land under cultivation shrank dramatically (see Table 10).

Table 10

Area of cultivated land between 1990 and 2000

Year	Arable land and gardens	Vineyard	Orchard	Agricultural
	area (thousand hectares)			
1990	5054	139	95	6473
2000	4602	106	95	5854
2000 as a percentage of the 1990 value	91.1	76.3	100.0	90.4

Such a dramatic reduction in the area of cultivated land normally reduces the level of attainable yield as well. The ratio of unsown fields to the total arable area greatly increased since the start of the decade, in spite of the nearly 10 percent reduction in the area of plough-lands. The area distribution of field plants was unfavourable, too. As far as individual plant groups are concerned, the level of cereal production continued to grow, and there was no significant change in the volume of vegetables which play an important role in healthy nutrition. Legumes and potatoes were now grown in a smaller area. The reduced production of fodder roots and brassicas was attributable to the decrease in the stock of cattle and sheep. In addition, the yield of grasslands slumped, too, while the area assigned to industrial plants fluctuated to some extent (see Table 11).

Table 11

Structure of sowing, i.e. the distribution of various field crops
(percent)

Year	Cereals	Potato and legumes	Industrial plants	Fodder roots and brassicas	Vegetables	Other plants	*Total cultivated land*	Uncultivated plough-land
1990	59.8	4.1	12.8	19.0	2.5	1.8	*100.0*	1.4
1991	60.2	3.5	14.1	12.5	2.4	7.3	*100.0*	2.1
1992	60.7	3.9	14.0	16.1	1.9	3.4	*100.0*	7.0
1993	62.9	3.6	13.2	14.8	2.2	3.6	*100.0*	8.7
1994	64.6	2.7	13.2	14.1	2.6	3.0	*100.0*	5.0
1995	60.6	2.8	16.1	13.9	2.4	3.8	*100.0*	4.1
1996	62.6	2.5	16.8	9.2	2.9	7.5	*100.0*	4.6
1997	64.5	2.6	14.5	8.4	2.9	7.1	*100.0*	4.7
1998	64.4	3.0	12.9	8.4	2.5	8.8	*100.0*	4.5
1999	57.3	2.5	19.5	8.6	2.5	9.4	*100.0*	9.0
2000	70.5	1.9	13.2	6.9	2.2	5.3	*100.0*	8.2

The unfavourable trends in crop production affected animal husbandry as well. In these ten years, the stock of all animal species shrank. Calculated in livestock unit, the stock of animals raised was 43 percent lower in 2000 than ten years earlier, with the stock of cattle especially decreasing. The density of animals per unit of agricultural land decreased by 46 percent (see Table 12).

Table 12

Livestock structure by species

Year	Cattle	Pigs	Horses	Sheep	Poultry	Number of animals per 100 hectares of agricultural land
	as a percentage of the total livestock					
1990	49.0	35.6	2.4	5.2	7.8	39.6
1991	52.5	31.6	2.8	6.0	7.1	33.5
1992	49.3	32.5	3.2	6.6	8.4	30.7
1993	48.4	34.5	3.4	5.4	8.3	26.9
1994	48.3	32.9	4.1	4.5	10.2	24.6
1995	46.8	36.2	3.6	4.4	9.0	25.7
1996	46.1	38.2	3.5	3.9	8.3	25.5
1997	45.8	37.0	3.8	4.0	9.4	24.5
1998	43.9	39.2	3.8	4.1	9.0	25.7
1999	44.4	39.4	3.9	4.3	8.0	25.0
2000	43.4	37.2	4.0	5.4	10.0	25.3

Economic development in the XXth century was markedly characterised by the increasing support given to agriculture. Industrialised European countries understood that agriculture is unable to counterbalance from its own resources the relatively slow return of capital invested, coupled with low profitability, which hindered intensive capital input. Agricultural production became dependent on external aid as its competitiveness fell compared to other sectors of the economy. Therefore, the entire production volume had to be planned in advance. Support was effected by increased subsidies and preferential

credit facilities. At the same time, it was also realised that domestic agricultural production must be continued at any price, since it being free of the influence of external markets, ensures the supply of food to the entire population, it prevents or resolves serious social problems, and counteracts the dramatic loss of population in rural regions. As for Hungary, the accession to the EU will even more accentuate these problems. The competitiveness of agriculture must be maintained or increased, in order, to form – following the accession – productive liaisons in the market, and to improve the market environment for agricultural products.

The agricultural policy of the 1990s failed to arrive at these conclusions. It is not realistic to expect that an agrarian sector with a minimum level of support, remain competitive with the products of other countries with much higher level of agricultural support. Although production and sales subsidies and support have somewhat increased in the past ten years, the level of subventions, as applied in EU countries, is still at a very far reach. Also, part of the support granted was actually used to mitigate the pressing social problems of rural Hungary (i.e. aid to small holdings).

Calculated at current prices, agriculture, forestry and food processing still received little central support during the past years, and the changes in support schemes were rather unpredictable. The following amounts were granted in agricultural support from the budget of the Földművelésügyi és Vidékfejleszéti Minisztérium (Ministry of Agriculture and Regional Development) (including regional development subsidies donated in each year):

1993	52.2	
1994	83.9	
1995	81.2	
1996	99.2	
1997	92.8	
1998	127.0	
1999	144.4	
2000	140.6	billion Hungarian forints.

By the time Hungary eventually accesses to the EU, it must be secured that the current structure and proprietorship conditions in the agrarian sector conform to both the expectations of the Community and the interests of Hungary. Neither agricultural nor food industrial undertakings may be confronted with a structure of ownership where foreign interests come to supersede local ones. The agrarian sector of Hungary has good natural conditions, and can be integrated in the EU to the benefit of both parties, and its exclusion from the western markets must be prevented. The past and recent periods of decline or stagnation must be followed at last by positive developments. This prompts the creation of a clear and straightforward new agricultural policy, to provide optimal foundations for long-term development, and at the same time to raise the present extremely low income of agricultural workers.

FORMS OF PRODUCTION

By the turn of the millennium, the agricultural production scheme has gradually changed, to arrive at a situation where about 55 percent of all products are produced by

individual farmers and 45 percent by enterprises. The distribution of arable land roughly corresponded to the same proportions (even if the data for 2000 show a somewhat different picture, as this was the first occasion when the earlier reductions of arable land, as well as the areas held by non-agricultural institutions and left uncultivated, were included in the report) (see Table 13).

EU membership will certainly bring about significant changes according to which the area of cultivated land may have to be reduced, and forests to be planted in these inactive arable lands. The changes in 2000 were in harmony with those trends.

After 1990, the compensation policies following the transition focused on the reprivatisation of land, and the elimination of a land ownership structure based on large production units. The lands of large undertakings, as well as their production tools, were mostly assigned to the new individual farmers and business associations. Nevertheless, the size of these small farms was far from the optimum size prevalent in Western Europe, and the majority could hardly attempt to achieve profitability in production due to the lack of appropriate tools. Only a very low number of 'family farm' type holdings (with 30-60 hectares of land) were established. Instead of cultivating it, many of the new land owners leased their land out, which meant that the bulk of production and the produce sold continued to come from various forms of enterprises. Apart from the newly established limited liability companies, private enterprises, shareholding companies and deposit partnerships, quite a few farmers decided to join in a renewed form of co-operative (see Table 13).

Table 13

Area used by the main forms of enterprises, 1989–2000

Year	Private farmers	Companies and economic organisations	Co-operatives	*Total*
	land of production at May 31 (thousand hectares)			
1989	979	2 148	5 113	*8 240*
1990	1 152	2 146	4 938	*8 236*
1991	1 314	2 325	4 589	*8 228*
1992	1 072	2 820	4 031	*7 923*
1993	1 747	2 481	3 733	*7 961*
1994	3 080	2 396	2 570	*8 046*
1995	3 658	2 269	2 084	*8 011*
1996	3 823	2 294	1 900	*8 017*
1997	4 212	2 094	1 730	*8 036*
1998	4 323	2 129	1 585	*8 036*
1999	4 304	2 319	1 413	*8 035*
2000	3 774	2 346	1 175	*7 706**

* Of which, 412,000 hectares were under non-agricultural use.

The upstaging of agricultural co-operatives has been continuous since 1990. The area cultivated in this form of cooperation decreased each year, and in 1994 they held less than half of their area in 1988. Between 1994 and 2000, the area of co-operatives again shrank to less than half. At the same time, the land area held by economic organisations

changed within a narrower range, as the land lost by co-operatives was primarily added to private holdings (see Table 14).

Table 14

The distribution of the number of farms and their area by land size categories

Land size category (hectares)	Farms			Arable land area		
	percent					
	1981	1994	2000	1981	1994*	2000
– 1	93.0	81.4	70.3	7.2	5.0	2.8
1.1 – 5	6.7	12.5	19.1	4.8	5.5	6.5
5.1 – 10	0.1	4.3	4.6	0.1	4.2	4.9
10.1 – 50	0.1	1.6	4.8	0.1	5.0	15.2
50.1 – 100	0.0	0.2	0.6	0.1	3.1	5.9
100.1 – 500	0.0	0.1	0.5	0.3	5.2	12.1
500.1 – 1000	0.0	0.0	0.1	0.3	4.0	6.0
1000.1 –	0.1	0.0	0.1	87.1	68.0	46.6
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

* Partly estimated figures.

In twenty years, the holding size structure of agricultural land has also undergone substantial changes. The reduction in the number of farms affected the smallest ones most (not considering those users of land whose holdings are smaller than the minimum farm size). The area held by economic organisations with more than 1000 hectares is considerably smaller than ten or twenty years ago, yet they hold nearly half of agricultural land (see Table 14).

During the past 13 years, the former holdings of socialist co-operatives were privatised, and the state now holds very few land. The main forms of production following the previously mentioned restructuring are summarised in Table 15.

Table 15

Distribution of land held by the various forms of production
(percent)

Year	Private farmers	Economic organisations	Co-operatives	*Total*
1988	11.3	26.1	62.6	*100.0*
1994	38.3	29.8	31.9	*100.0*
2000	51.7	32.2	16.1	*100.0*

The future of land ownership policy is dubious. The present agrarian administration has set out to continue the elimination of co-operatives. The farms held and operated by foreigners are looking to an uncertain future, too. Another open question concerns the functioning of the state land fund. Co-operatives are often restructured into limited liability companies, which is no more than a formal transformation. The objectives of the agricultural policy should be worked out, and optimum solutions found, as soon as it is pos-

sible (to note: the statistical reports of the EU do not differentiate between the various forms of production). According to the General Agricultural Census, the number of private farms was near 960 000 in 2000. [2]

There is a substantial variation among individual farms as concerns the objective, the value, the income, physical size, or tools, etc. of production. Farms are most easily categorised according to the European Size Units which is a composite indicator of the performance of production units. Unfortunately, the introduction of this indicator in local practice is being delayed, and therefore we have to continue to categorise farms according to size.

The number *of private farms* was 31 percent lower in 2000 than in 1991, equalling only 64 percent of the 1981 value. This reduction, equivalent to the rate of 3 percent per year, occurred over a very short period of time, and was due to the decrease in the number of agrarian employees, a pronounced process of migration towards cities, and maybe most importantly, to the reduced profitability of small holdings. The number of farms dropped especially dramatically after 1994. This process certainly indicates a devaluation of the agricultural work performed in small and micro farms.

More than 500 000 private household farms and ancillary farms were closed down. The area of private farms more than tripled since 1990. Their average area grew from 0.46 hectares to 2.75 hectares, representing a sixfold increase (see Table 16).

Table 16

The distribution of private farms according to size of holding, in 1991 and 2000

Size of arable land held (hectares)	Number of holdings			
	thousands		percent	
	1991	2000	1991	2000
0 – 1	1257	686	90.0	71.5
1 – 5	132	178	9.5	18.6
5 – 10	5	43	0.4	4.5
10 and over	2	52	0.1	5.4
Total	*1396*	*959*	*100.0*	*100.0*

It is evident from this analysis of the holding size structure that smaller farms were closed down while larger ones survived, and privatised land was added to these latter. The number of farms of more than one hectare doubled, and of those of more than five hectares multiplied. The distribution data of these two surveys accentuate changes even more, as the weight of holdings with larger areas grew to 77 percent. Farms with more than 10 hectares represented 5.4 percent, but the area they cultivated represented two-thirds of the arable lands of all private holdings (see Table 17).

The number of farms of 1 to 5 hectares increased by 35 percent between 1991 and 2000, while their share in the total land area doubled. In 1991 only 1646 private farmers

[2] In the General Agricultural Census, farm was defined as a production unit with at least 1500 square metres arable land, or 500 square metres of orchard or vineyard, or one larger animal, or 50 poultry, rabbits, other furred animals or pigeons, or five bee families, and included intensive horticultural units and agricultural service providers.

held farms of over 10 hectares, while the same figure was 51 000 in 2000. Of these latter farms, 2467 was larger than 100 hectares.

Table 17

The distribution of cultivated land area according to holding sizes, in 1991 and 2000

Size of land (hectares)	1991	2000
0 – 1	52.9	6.8
1 – 5	35.9	15.7
5 – 10	5.6	11.6
10 and over	5.6	65.9
Total	*100.0*	*100.0*

When the General Agricultural Census was taken, farmers were interviewed about the aims of their work, as well. According to the results 60 percent worked to cater for their own needs, while 31 percent sold their surplus produce, and only 8 percent had sales as their primary aim of production (around 1 percent was mainly involved in the supply of services).

The nearly 700 000 farms with less than five hectares of land aimed first of all at catering for traditional household consumption, relying on a small stretch of land, few tools and only a few animals. In this stratum, the proportion of elderly people is high (approximately 250 000 farms) who are predominantly single, lacking the necessary strength or tools to attempt modern farming, let alone the upgrading of their farms. Their economic weight therefore is limited, as much as their expected activities in the future. It deserves notice, however, that among those with small land areas there are (even if only a few) units of production which are involved in commercial production in specific sectors (such as growing grapes, vegetable, fruit or special plants, or engaged in intensive livestock farming of specific species, or the supply of agricultural services), and which generate considerable profit. The rest of these farms, especially those with more than ten hectares, are mainly involved in commercial production. These latter – including family farms and a few large production units – can become the true pioneers of competitive farming. Their total number exceeds 50 000. In view of the objectives of the EU, the future of these farms is almost certain, as they can expect development support (although its implementation may take place only gradually).

Although there was a substantial growth in the number *of economic organisations* of various forms (not including private entrepreneurs), the land cultivated by these enterprises has continuously shrunk in the past ten years. Agricultural co-operatives are gradually withdrawing to ever decreasing areas, while the other forms have increased their land area. After 1995, both the number and the land area of agricultural enterprises exceeded that of co-operatives (see Table 18).

In Hungary, the employment of paid workers has considerable consequences in terms of the related duties and contributions. The ceiling of the optimum farm size is yet to be

determined. For private farmers, this size is now around 100 hectares. As for enterprises, a size of about one thousand hectares may be justified. In the case of exceptionally well-organised or extensive farms (especially including co-operatives), this limit may even be exceeded, subject to the specific circumstances. The agrarian policy of Hungary has not yet developed a position regarding the exact limit of farm sizes. At any rate, we must not aim either at the creation of a new large holder stratum, or setting obstacles to spontaneous development.

Table 18

Number and area of agricultural enterprises between 1990 and 2000

Year	Number of organisations				Area of land (thousand hectares)			
	Business organisations	Co-operatives	Other forms of enterprises	Total	Business organisations	Co-operatives	Other form of enterprises	Total
1990	155	1 326	22	1 503	880	4 938	1 046	6 864
1991	269	1 384	32	1 685	1 113	5 200	1 062	7 375
1992	413	1 253	108	1 774	1 058	4 229	1 028	6 315
1993	503	1 412	88	2 003	1 006	3 427	1 124	5 557
1994	674	1 303	173	2 150	909	2 287	1 152	4 348
1995	877	1 232	269	2 378	2 028	1 994	175	4 197
1996	1 184	1 180	246	2 610	1 990	1 863	141	3 994
1997	1 581	1 137	252	2 970	1 979	1 710	135	3 824
1998	1 885	1 085	291	3 261	2 002	1 562	146	3 710
1999	2 159	1 010	303	3 472	2 031	1 370	133	3 534
2000	3 701	959	728	5 388	2 333	1 090	143	3 566

The average size of economic organisations continued to decline in these ten years, from 5677 to 630 hectares in the case of business organisations, and from 3724 to 1137 hectares in the case of co-operatives.

The size of farms held by associated organisations wildly varied in 2000. Half of the reporting enterprises held less than 100 hectares, while 15 percent of the organisations with arable land holdings owned 80 percent of the aggregate land area. The majority of the land held by enterprises was, thus, utilised by farms exceeding with more than one thousand hectares.

Table 19

Distribution of enterprises and cultivated land by farm size category, in 2000
(percent)

Area of land (hectares)	Distribution of enterprises		Distribution of land	
	Business organisations	Co-operatives	Business organisations	Co-operatives
– 10	14.2	2.5	0.1	0.0
10.1 – 50	29.4	5.6	1.4	0.2
50.1 – 100	12.7	3.4	1.5	0.2
100.1 – 500	27.2	24.2	10.0	5.9
500.1 – 1000	5.8	20.6	6.7	13.5
1000.1–	10.7	43.7	80.4	80.2
Total	*100.0*	*100.0*	*100.1*	*100.0*

In 2000 only 62 companies held more than 5000 hectares of land, and these utilised 36 percent of the land of all economic organisations (see Table 19).

The category of *business organisations* includes limited liability companies, shareholding companies, general partnerships and deposit partnerships. During the past ten years, the number of these enterprises has increased twenty times, while the land area held by them stagnated at around 100 000 hectares between 1990 and 1994, and has stayed close to 200 000 hectares since 1995 (see Table 20).

Table 20

The number and land area of economic organisations

Year	0-1	1-10	11-50	51-100	101-500	501-1000	1001-	Total	Area of land (thousand hectares)	Area per farm (hectares)
	hectares of land									
1990	-	8	2	4	7	7	127	155	879	5676
1991	-	13	9	8	21	22	196	269	1113	4137
1992	-	20	36	20	63	49	225	413	1058	2561
1993	-	18	38	37	104	74	232	503	1006	2000
1994	-	26	64	40	188	100	256	674	909	1348
1995	-	23	69	74	273	137	301	877	2028	2312
1996	3	41	187	153	348	157	295	1184	1990	1681
1997	10	75	355	230	443	176	292	1581	1978	1251
1998	14	115	449	282	543	186	296	1885	2002	1062
1999	20	146	566	302	645	186	294	2159	2031	941
2000	111	415	1089	468	1008	215	395	3701	2333	630

Co-operatives. From the mid-1960s, land-related legislation was primarily targeted at the concentration of land ownership and land use, as well as the consolidation of socialist ownership. At the beginning, there was an urge to enforce land ownership by the state. Later when co-operatives were organised, the land assigned to them came from two sources: more than one quarter was made up of the remnants of state-owned land, while the rest was brought in by the land owners integrated as members into the co-operatives. In the course of privatisation, most of these lands were returned to their original owners, while other members decided to continue farming jointly. The latter solution was not favoured by agrarian policy, and was diminished through various measures. The number of co-operatives slumped by 28 percent in ten years, and their land area shrank to one fifth (while the number of production units with more than 1000 hectares decreased to 25percent of the historic figure).

In 1997, the Hungarian Central Statistical Office carried out a survey among the legal successors of the co-operatives that had existed until 1988 (see Table 21). This survey covered the surviving enterprises, while private farmers working on the land previously held by co-operatives, were disregarded. The difference between the original land area of co-operatives and the area held by their successors, was deemed to have been placed under individual farming. The importance of agricultural co-operatives continuously declined from 1990, with a parallel decrease in the land area worked, and livestock held, by them. The density of cattle stocks remained at around the same level, while the density of pigs increased to some extent (see Table 22).

Table 21.

The number and land area of agricultural co-operatives

Year	0–1	1–10	11–50	51–100	101–500	501–1000	1001–	Total	Land area (thousand hectares)	Area per farm (hectares)
	hectares of land									
1990	–	–	7	1	25	26	1267	1326	4938	3724
1991	–	5	6	5	26	41	1301	1384	5200	3758
1992	–	2	8	6	38	51	1148	1253	4229	3375
1993	–	10	29	23	104	149	1097	1412	3427	2427
1994	–	9	37	38	149	234	846	1313	2287	1756
1995	–	8	17	39	171	246	751	1232	1994	1619
1996	–	7	14	36	166	254	103	1180	1863	1579
1997	1	5	31	27	173	236	664	1137	1710	1504
1998	–	7	37	27	166	237	611	1085	1562	1440
1999	–	10	42	21	190	191	556	1010	1370	1356
2000	–	24	54	33	232	197	419	959	1090	1136

Table 22

Changes in the share of co-operatives in agricultural land and production

Item	1988	1996	2000
	Share of co-operatives (percent)		
Of arable land	75.7	30.5	20.5
Of area under cultivation	61.2	23.2	15.2
Of gardens, vineyards and orchards	13.3	4.1	2.0
Of wheat production	84.1	40.9	19.1
Of the stock of cattle	61.5	43.0	26.9
Of the stock of pigs	30.3	20.8	14.0
Of the stock of poultry	19.8	13.7	8.4
Of the stock of sheep	57.2	18.1	6.6
	Per 100 hectares of cultivated land		
Number of employees	10	5	4
	Per 100 hectares of agricultural land (heads)*		
Cattle	23.0	22.4	20.6
Pigs	55.9	63.0	64.2
Sheep	28.1	9.0	7.1
Horses	0.4	0.2	0.1
Adult poultry	156.0	146.8	98.3

* On December 31, 1988; December 1, 1996; and December 1, 2000.

The statistical survey conducted in 1997, as far as land areas were concerned, almost entirely covered the enterprises that were set up on the land previously held by co-operatives. In 1997 as much as 54 percent of the land of former co-operatives was utilised by private farmers. Of the remaining land, 36 percent was cultivated by agricultural co-operatives, while ten percent by farms in the other enterprise categories. Regional variance was remarkable. The work and management of co-operatives altered fundamentally during the last ten years preceding the survey. Both in terms of economic and social factors, today co-operatives are not in any way parallels of the former agricultural co-operatives. Probably the most important instance of change was that co-operatives employed half the labour force per unit of land in 1997 than ten years earlier. This form of association was most significant in the traditional sectors, including cultivation of land crops

(especially cereals) and in cattle raising, although their stocks of pigs and poultry also remained nearly at the same level. The per unit density of livestock decreased to the third in the case of sheep only, as sheep breeding was taken over from co-operatives by private farms and full-time shepherds. Co-operatives had a somewhat higher level of traction power relative to their land area, than before.

The official agricultural policy has promoted the process of eliminating co-operatives, although the surviving co-operatives have been characterised by a higher-than-average production quality, and improved productivity of work. The former large unit sizes, as already mentioned previously, were reduced partly through individual compensation transactions, and partly by the fact that the remaining land was split up between various companies. This is also supported by the fact that on the area formerly utilised by one hundred co-operatives, an average of 174 successor organisations are operating at present. Half of the former co-operatives remained in whole in 1997, the rest either dissolved or was split up. Almost one tenth of the 1256 co-operatives existing in 1988, that is, 118 units were completely dissolved and terminated. The majority of these held smaller areas. The proportion of co-operatives that were reformed as single production units, was the highest in this category, too. Half of the former co-operatives continued to work in the same form, while the larger ones were split up to found several enterprises. There is a direct correspondence between farm sizes in 1988 and the number of organisations at present.

A PATH FOR THE FUTURE

In the coming years, the crucial task facing Hungarian agriculture is the accession to the European Union, and this is what the schedule of agricultural policy must conform to. It is obvious that the interests of Hungary and the Community are, at least for a certain duration, out of harmony. Hungary is interested in the fullest possible utilisation of its agricultural production potentials, in the soonest restoration of the previous production levels, a corresponding growth in efficiency, increased export of agricultural products, and the elimination of the disadvantage of agrarian workers in terms of income. However, the EU is most likely to restrain that increase in production by applying quota systems. Such curbing of production may cause the current level to stagnate for some time, which, coupled with the withdrawal of land from production, means further restriction that could even more exacerbate the social problems of rural Hungary.

The future role of private farms and agricultural enterprises, each category representing roughly half of the entire sector, must be clarified. It is likely that the private household farming, small garden and hobby categories of production, inherent in the life habits of the Hungarian population, will survive at the same or even increased level. The future of smaller private farms is rather hopeless in terms of production, as their efficiency is very low, thus their survival largely depends on social support. These farms are expected to become excluded from the international markets of most goods on account of their rudimentary technology and an incapability to adhere to uniform type requirements in production, and are likely to sooner or later give up production altogether, serving as a land reserve for the continued concentration of ownership.

The most viable form of private farming will probably evolve from the so-called family farms which have higher production capacities, and which are specialised in the pro-

duction for the market. The expected subsidies are also foreseen to promote the consolidation of these farm types. Yet, it can become a problem that individual farms with more than 100 hectares of land may become dependent on extra labour force (i.e. paid workers) when production already exceeds the capacity of the families.

A number of business organisations hold land areas of several hundred or even thousand hectares. The dissolution of former co-operatives has been forced by agrarian administrations hitherto, but there has no definite set of objectives or a perspective scheme been developed with respect to the rest of organised production forms. (Continued dissolution of co-operatives is of dubious merit, since that would impel the owners to look after their lands of two or three hectares each, earlier leased by the co-operatives, and these owners would use their lands with reduced efficiency or not at all).

As far as the further development in the EU is concerned, the dominance of family run farms will be gradually taken over by larger units where hired workers are employed (e.g. in the United Kingdom or Germany). The share of farms with more than 100 hectares was three percent in the EU in 1995. These farms, however, already utilised over 40 percent of the land under cultivation. As concentration progresses, the agrarian sectors of other countries are likely to take this route of development, as well. That is, in the future the number of small individual farms is expected to decrease further. The ideal solution would be to add their land areas to those of family farms by way of purchase (through a state operated land fund) or leasing out. The process of concentration is likely to speed up following EU accession when the extent of production subsidies will be determined. It is to be seen what measures will regulate the future of economic organisations and how they will be integrated into the newly shaped structure of agricultural production.

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The ideal natural conditions of Hungary are indicative of potentials for agricultural production that remain unmatched within Europe. To use those opportunities, however, Hungary must face and solve a number of economic and social problems. Only a consistent and long-term agricultural policy can ensure that these potentials will be realised completely in a EU context, integrated into the agrarian sector of the Union. The most important elements in this work include selecting a direction for the evolution of the holding structure, the establishment of an ideal subsidy system, and to increase the level of income from agricultural work.

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