

INDUSTRIALIZATION AND ORGANIZATION IN HUNGARIAN AGRICULTURE

by

Ferenc Fekete

Dr.Econ.Sc. Ph.D., Professor of Economics
at the Karl Marx University of Economic Sciences,
Hungary, Budapest

The present paper surveys the new phenomena occurred in
course of the last one-and-a-half decades within the develop-
ment of Hungarian agriculture concerning the following aspects⁺:

1. The social and enterprise structure of agriculture;
2. Industrialization of the material forces of production
in the scientific-technical revolution of agriculture;
3. The industrialization of agricultural labour and
the human productive forces;
4. Labour division and the new types of labour organi-
zation;
5. Topical problems in the progress of production
relations.

Emphasis is put in the paper upon the analysis of problems
related with the above subjects as far as the largest sector of
Hungarian agriculture i.e. the Farmers' Cooperatives are con-
cerned.

⁺These problems are treated in details by the following publica-
tions: F.Fekete, Earl O.Heady, Bob R.Holdren: Economics of Co-
operative Farming /Stijthoff, Leyden; Akadémiai Kiadó, Budapest,
1976. pp.183/; F.Fekete, K.Sebestyén: A termelői és a termel-
őviszonyok fejlődésének új vonásai a mezőgazdasági termelő-
szövetkezetekben Magyarországon. /New features of the develop-
ment of the productive forces and of production relations in
the Farmers' Cooperatives in Hungary. / 1976. pp.39.Manuscript.

1. Social and enterprise structure of agriculture

Types and number of the producing-farming units active in Hungarian agriculture as well as concentration which took place in the last one-and-a-half decade are demonstrated by the data of the following table:

Table 1: Enterprise structure and the number of the farming units in Hungarian agriculture /at the end of the respective years/

	1960	1967	1975
State farms ¹	333	210	150
Farmers' cooperatives	4507	3033	1598
Homestead farms of the cooperative members /in thousands/	843	915	800
Cooperative associations	..	142	266
Specialized agricultural cooperatives ²	196	399	144
Cooperatives for Fishery	21	22	19
Auxiliary farms with more than 0,6 ha acreage and other small agricultural producers /in thousands/	471	95	120

¹The number of producing farms and other agricultural economic organizations.

²According to the classification in 1960 and 1967: farmers' cooperative groups and simpler cooperatives.

Source: Mezőgazdasági Statisztikai Zsebkönyv /Statistical Pocket Book of Agriculture/ 1972. 4.p.; 1945-1975. 8.p.; 1976. 14.p.

Both the organization - enterprise structure and the social - economic sectors of Hungarian agriculture are outlined in Table 1. as well. Enterprise structure is characterized by

the diverse formation, i.e. types of the farming-economic units. Some of these types of enterprises require further explanation. The simpler economic cooperations as well as the joint ventures with own legal personality and the intercooperative collective enterprises are equally classified as cooperative associations. The number and share of associations acting as independent legal persons somewhat decreased in the 1970-es. The number of the so-called simpler associations and cooperations, however, where some 1200 agricultural farming units took part in 1974, at the same time increased. A great number of farms taking part in the associations were simultaneously the members of several associations. At the beginning, the majority of the simpler associations was established for the performance of building and construction activities. At present, however, the activities of these associations are multifarious and manifold. About 58 per cent of the associations perform either agricultural production or processing and marketing directly linked with it. According to the Hungarian legal practice, also the industry-agricultural production systems with which more detailed will be dealt in the following chapter, may also be so-called simpler economic associations, more exactly economic associations non acting as legal persons. The classification of the agricultural associations and of those closely linked with agricultural activities according to the principal line of their production is demonstrated in Table 2.

The small gardens and hobby parcels of workers and employees active in the socialist state sector as well as the relative small number of individual peasant farms are ranked into the group of auxiliary farms and other small producers, including also farming units in private ownership. Totalled with the household plots of the cooperative members, this group of farming includes some 1,7-1,9 million small units.

Among the types of agricultural producer farming units also the most recent formations i.e. the combines are to be mentioned although they do not figure in Table 1. The oldest Hungarian large-scale farm, the State Farm at Babolna which was established in 1789, has been transformed in 1973 to an Agricultural Combine. The Combine consists of some concentrated activities /corn, broiler and egg production as well as pig, sheep and horse-breeding/ and also certain units performing industrial and foreign trade activities. More than 4000 people

thousand. The group of auxiliary and other small producer farms covers 13 per cent of the total cultivated acreage and delivers still at present about one-third of total agricultural production, multifariously supported of course by the large-scale socialist farms and by the state. Half of these farms are smaller than 0,6 ha and the number of small producer individual farms with an acreage larger than 3 hectares amounts only to 12-13

Source: *Nemzetgazdasági Statisztikai Zsebkönyv / Statistical Pocket Book of Agriculture/ 1976. 14.p.*

Principal line of production	Number		Per cent share of the associations in	
	1970	1975	1970	1975
Agricultural	99	72	32,9	27,1
Industrial	52	41	17,3	15,4
Building industrial	114	91	37,9	34,2
Others	36	62	11,9	23,5
Total	301	266	100,0	100,0

Table 2: The number and pattern of cooperative associations according the principal line of their production

are working in the Combine. The activities of the Combine include also the export of its own products and import of the means of its production; the value of exports amounted in 1975 to 15 686 000 \$ and to 4 337 000 Rubel and the same of the imports was 1 164 000 \$ and 210 000 Rubel.

Within the Agricultural Combine of Babolna some 50 self-accounting units are operating like egg-laying and hatching plants, horse-breeding farms, specifically industrial plants just as fodder preparing, pig breeding, egg marketing, building, etc. units. This Combine is one of the most rapidly developing farms in Hungarian agriculture. There were 15 experts of academic qualification employed in the Combine in 1960 and already 172 in 1975; the number of exports with secondary school qualification amounted to 25 in 1960 while to 314 in 1975. The number of skilled workers employed in the Farm of Babolna increased to more than tenfold i.e. from 237 to 2860 heads in course of the last one-and-a-half decade.

The Vine Combine at Tokajhegyalja was established in 1971 from several State Farms organized for the production of

grapes and wine. In fact this farm represents an Agro-Industrial Combine having the principal task to directly promote the development of the historical vine-region by means of applying the most recent scientific results and the newest technological procedures. There are 18 self-accounting production units operated on the 1500 ha acreage of the Combine. The export tasks of outstanding importance are considerably better performed by the farm organized to Combine than have been so far. In average of the years 1971-1975, the export of bottled wines increased two-and-a-half times as high as it was in 1970.

Among the state farms of the largest sale and of the most complex production, approximately half a dozen were transformed in the years 1976-1977 - on the basis of special permission - to combines.

Farm scales and mainly the indices of the average scale of state farms as well as of the farmers' cooperatives constitute the starting point for the drawing of important economic conclusions. The average state farm is significantly larger than the average farmers' cooperative. Also the share of the material means of production and of the labour force are considerably different in the two sectors of socialist agriculture. It is to be remarked here that the oversized scale of the farm is a more frequent symptom in Hungarian socialist agriculture at present than its contrary. Compared to the objective and even more the subjective conditions of up-to-date production /to the degree of supply with experts, to management capacities, to the extent at which labourers can be mobilized for performance and decisions/ the scale of a number of farms, mainly in respect with their acreage, is exaggerated. Usually the dozens of production activities as well as the fields and agricultural earners of 5-8 or even more villages are united in these farms. Under conditions like these, it is a very difficult - and not always realizable - task to adequately inform the labourers and to draw them into the diverse processes of farming.

The most characteristic data of the average state-farm and of the average farmers' cooperative are described in Table 3. In course of the last one-and-a-half decade, the average acreage of the farmers' cooperatives increased to the 5,7-fold, a typical cooperative farm cultivated 765 hectares in 1960 and already 2839 hectares in 1975. According to data of 1974, 14 per cent of the farmers' cooperatives had an acreage larger than 4000 hectares and these cooperative farms cultivated more than 51 per cent of the total cooperative acreage. At the same time, 23,6 per cent of the state farms operated on more than 8000 hectares each and they produced on more than 45,2 per cent of the total acreage of this sector.

Table 3: The average size of the state farms and farmers' cooperatives

Farmers' cooperatives	1960	1967	1975	State farms		
				1960	1967	1975
Agricultural acreage, hectares	2597	4287	5671	765	1463	2839
The value of the fixed assets, in million Ft	48	119	266	2	15	61
The number of labourers employed	518	794	968	212	239	411
Gross production value, in million Ft	27	46	114	6	11	38
The net value of production, in million Ft	10	6	29	3	4	12

Source: Mezőgazdasági Statisztikai Zsebkönyv / Statistical Pocket Book of Agriculture/ 1969/6, 220, 227 pp.; 1945-1975/16, 48, 174 pp.; 1976/147, 155 pp.

From the data of Table 4, we may draw certain conclusions in respect with the structure of Hungarian agricultural relations and of the share of the social sectors.

Table 4: The percentage structure of the acreage according to the type of property

	1968	1971	1975
State property	47,4	39,1	33,3
Cooperative property	0,1	19,0	26,9
Individual and other properties ⁺	52,5	41,9	39,8
Total	100,0	100,0	100,0

⁺Personal property of the cooperative members delivered for collective utilization as well as the landed property of the auxiliary and individual farms.

Source: Data of the K.S.H. /Central Bureau of Statistics/

Data of this Table correctly demonstrate the major tendencies of development and the continuous transformation of the small scale landed property of personal/individual/ type of the cooperative members to collective/social/ landed property of the cooperative farms.

The operation sphere of the agricultural productive forces in respect with the diverse social sectors is demonstrated in the following Table.

Table 5: The sectoral percentage distribution of agricultural earners and of the fixed assets in 1975

State Farmers', Auxiliary and Total	Farms cooperatives other farms	Farmers		The pool of fixed assets	
		15,5	74,6	22,7	66,0
100,0	9,9	11,5	100,0		

Source: Mezőgazdasági Statisztikai Zsebkönyv / Statistical Pocket Book of Agriculture/ 1976. 13, 32 and 51 pp.

Agricultural farmers' cooperatives make use of 63,8 per cent of the total acreage and the property relations of these lands are considerably sophisticated; 46,0 per cent formed the property of the cooperative as a farming unit, 49,8 per cent was owned by the members and 4,2 per cent of the acreage of the large-scale farm represented the property of the state in 1975.

2. Industrialization of the material means of production within the scientific-technical revolution of agriculture

Initially the vigorous technical progress in Hungarian agriculture was linked with the establishment of the state farms and later on - through the amalgamation of small peasant farms in large-scale cooperative enterprises - with the gradual consolidation of these socialist agricultural enterprises.

An up-to-date technical basis evolved only in certain production activities in the years from 1948 to 1956 and mainly

in the state farms which occupied about 10 per cent of the cultivated areas. In the period between 1957 and 1961, large-scale agriculture could already make use of considerably more modern machines, equipment and chemicals but the substitution of the traditional techniques with machine systems extensively

began only after 1961. The organization of the production techniques similar to the industrial ones into new, scientifically elaborated technical systems was rendered possible only since

the consolidation of the new socialist large-scale farms. This process massively started in the middle of the 1960-es and mainly after the introduction of the reform of economic management in 1968 and progressed more rapidly in the 1970-es.

Hungarian large-scale agriculture as well as the development and structural transformation of the productive forces of the cooperative farms may be characterized by the following indices:

- the quantity of production means and work subjects of industrial origin consumed in agriculture increased by 87 per cent from 1960 to 1967 and by 355 per cent to 1975;
- the number of people employed per unit agricultural acreage / 100 hectares / of course decreased: it represented 25 heads in 1960, 21 in 1967 and 16 in 1975.

The revolutionary transformation of the technology of agricultural production became manifested in the replacement of human and animal productive force elements with machines and with production means produced by the industry:

- the tractor pool of agriculture rapidly increased; traction power per 1 agricultural labourer was 0,39 HP in 1960, 0,92 HP in 1967 and 1,18 HP in 1975;
- the percentage ratio of mechanical and animal traction power - expressed in round figures - was 50:50 in 1960, 78:22 in 1967 and 99:1 in 1975.

An important characteristic of the development of the agricultural productive forces is the accelerated utilization of chemicals:

- the annual quantity of fertilizers used per 1 ha acreage/arable fieldland, gardens, orchards and vine-lands/ - expressed in active ingredients - increased from 29 kg in 1960 to 91 kg in 1967 and to 276 kg in 1975 in Hungarian agriculture /respective data in the farmers' cooperatives were: 35,1, 96 and 322 kg/;
- plant protecting chemicals were used on 0,9 million hectares in 1960, 3,3 million hectares in 1967 and 4,6 million hectares in 1975.

As the former indices show, the technical-scientific revolution penetrated only after 1961 into Hungarian agriculture when the socialist production relations became general. In certain production lines, mainly in broiler, egg and wheat production of the best large-scale farms, technical progress evolved already very rapidly in the first half of the 1960-es but the technical-scientific revolution of our age gains really dynamically ground within Hungarian agriculture in the 1970-es

through the introduction of industrial production techniques. The state farms marched in front of this development which equally extended to the technical, organizational and management spheres, but also the best farmers' cooperatives closed up relatively soon the ranks.

The changes which took place within the material production forces of the Hungarian large-scale agricultural enterprises are obviously characterized also by their extended external relations/transgressing the limits of the enterprise framework/ which form again determined systems and are very similar to the labour division existing among the industrial enterprises. Mechanization as well as the technology based upon it extend to every labour process and constitute a pre-planned or even already tested system. At present we may be the witnesses of the phenomenon that Hungarian large-scale agriculture passes over the so-called manual phase of the productive forces and of production preceding mechanized large-scale industry and in course of a technical development similar to the same in industry accepts the machine system. The extension and characteristics thereof were already described by Marx 110 years ago in the I. Volume of "The Capital". But not only mechanization is characteristic for the system-like development. It is going on in close interrelation with the development of the other elements of the material productive forces, of the expertise of labourers and of production managers and of the organization techniques of production. The traditional production techniques, solving mostly inherited from father by the child are replaced with modern techniques similar to those in industry. The changes of the productive force elements of mechanical, chemical and biological character are mutually interrelated and form a system. The evolving scientific-technical revolution does

not leave untouched even the man in work as the most important element of the productive forces and the bearer of the social-production relations neither.

5. The industrialization of agricultural labour and the human forces of production

An important condition for the industrialization of agricultural production is the further increase of the weight of large-scale industry also in the present intensive phase of development. In course of this process, the proportion of people employed in agriculture within the earning population decreases and even their number can reduce. The percentage share of agricultural earners in Hungary was 37,7 per cent in 1960, 24,8 per cent in 1967 and 20,4 per cent in 1975.

Simultaneously with the above described progress of the technical-scientific revolution - in a way similar to other branches of the national economy - also food production becomes broader and broader engaged into the processes of social labour division; it becomes a chain-link of horizontal as well as of vertical specialization and cooperation of the activities and also regionally. A recent characteristic trend is represented by the penetration of related industrial activities within the framework of the agricultural enterprises. In the practice of the large-scale agricultural enterprises therefore we can speak always less and less about agricultural activity in the traditional sense. Agricultural labour becomes gradually similar to industrial activity.

Information concerning mainly the quantitative characteristics of labour force as an element of the productive forces

or more exactly the number and age structure of the cooperative members is presented in Table 6.

Table 6: The number and age structure of members in the farmers' cooperatives

Age /years/	1960			1967			1974		
	heads	percent	share	heads	percent	share	heads	percent	share
Younger than 21 years	29 929	3,4	22 942	2,3	29 970	3,1			
21-39	211 158	24,3	188 415	18,5	201 742	21,1			
40-49	149 921	17,2	164 366	16,1	141 802	14,9			
50-59	199 226	22,9	193 658	19,0	142 199	15,0			
60-64	91 722	10,6	119 626	11,7	99 764	10,5			
Older than 65 years	187 387	21,6	331 420	32,4	336 668	35,0			
Total	869 343	100,0	1020 427	100,0	952 145	100,0			

Source: Mezgazdasági Statisztikai Zsebkönyv / Statistical Pocket Book for Agriculture/ 1976, 137 p.; 1945-1975, 175-176 pp.

The particular structure of agricultural cooperative farming renders necessary the separation of the cooperative labour capacity i.e. the quantity of human labour used /utilizable/ in the farmers' cooperative as in an economic unit according to the fact whether it is performed in the collective large-scale farm or in the small-scale household plots of the members. According to representative data collected, at present 25-30 per cent of the full worktime of the cooperative members is used for labour in the household plots.

For the time being, among the about 721 thousand people working in the farmers' cooperatives, the number of skilled workers exceeds the 140 thousand and the number of trained workers approaches to the 240 thousand. More than one third /35,4 per cent/ of the skilled workers perform explicitly industrial labour. We may add to these facts that 80 thousand non-physical labourers, managers, are working in technical and administrative jobs and almost one-third of the people of active age employed are younger than 30 years. Thus the majority of the labour force in agriculture requires already industrial labour conditions and they are virtually not at all linked with the traditions of peasant labour.

The share of skilled workers within the entire labour force in Hungarian industry was 39,6 per cent in 1960 and 44,6 per cent in 1975; the same ratio in the farmers' cooperatives was 25,8 per cent in 1975.

Of this comparison it seems obvious that a great step is yet to be made in order to render activities performed in agriculture capable to become a type of industrial skilled labour. The qualification level of skilled labour performed in the large-scale state industry and in the agricultural state sector stand nearer to each other; the ratio of skilled workers in the state farms was 15,0 per cent in 1967 and 32,4 per cent in 1975.

The scientific-technical revolution and the industrial changes of food production activities are marked also in the farmers' cooperatives through the labour of always more and more highly qualified experts. The role of professional education and high-school qualification most rapidly increased in the top management jobs and in the leading bodies of the large-scale farms.