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The Influence of Manager's Qualifications upon the Material and Financial Expenditure on Peasant Farms

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A basic feature of agricultural development is a change in the method of farming which has a direct bearing on the results of production.

The method of farming is taken to mean, first, the skilful utilization of many variable natural factors, and secondly, the application of scientific achievements (methods and techniques of farming developed by research) *.

To fulfil both these demands, agricultural producers (farmers) need high qualifications by which is meant an adequate level of general and agricultural education as well as practical experience. In my opinion, a decisive part is played by the educational level of the agricultural producers (farmers), since upon it depends character, range and level of practical experience acquired in the course of their work.

What are the visible signs of changes in farming methods in consequence of improvements in the qualifications of agricultural producers? Mainly, changes in the cultivation of plants, in the quality of cattle and hog breeding, and in the degree and structure of material and financial expenditure. A basic aim of the latter is to attain better results in farming, but it should be stressed that better results are attained by farmers not only by these means, but also (and to a considerable degree) by applying their expenditures more reasonably. Even if, however, the degree and structure of expenditure are measurable exactly, their purposefulness or reasonableness cannot be measured directly; it can be done only indirectly. This, however, goes beyond the scope of our present considerations. Never-

* In this connection, any changes in the method of farming occurred slowly until the end of the 18th century. In consequence agricultural production advanced at a rather negligible pace and the producers (farmers) depended almost entirely on natural and biological factors. There were no proper foundations for agricultural development. This situation began to change only in the second half of the 19th century, first of all in those countries where agriculture is now at a high level. This problem in its full importance confronts nearly all the countries of the world nowadays for well-known reasons.

theless, it seems to be necessary to make some remarks on this question. Appropriate action is based upon reasoning. The higher a farmer's qualifications, the better would be his knowledge of basic causal laws (biological, physical, chemical) governing agriculture and his skill in using them. On his knowledge of these laws and his skill in making use of them depend, in fact, his technical efficiency, his selection of appropriate farming methods and the final results of his farming. Hence, the higher the qualifications of agricultural producers (farmers), the more effective would be their expenditure.

As a basis for an analysis of the influence of managers' qualifications upon the character of the material and financial expenditure on peasant farms, the results of individual farmers' accounts for 1957-1958 were taken. The analysis embraced 1135 farms which were divided into two groups depending on the education of their users. The first contained the farmers who had been educated up to the 4th primary school grade; the second the farmers with 5 primary school grades or more. The farms in the first group numbered 388, in the second, 747. Subsequently, the second group was divided again to make a group numbering 140 in which the farmers had secondary school education.

Table 1. Material and Financial Expenditure

Total farm size, ha.	Educational level of farmers				
	expenditure in zlotys per ha. of agricultural land			index (group I = 100)	
	I	II	III	II	III
Up to 3	7737	9111	9868	117.8	127.5
3–7	5613	6158	6933	109.7	123.5
7–10	4914	5257	5916	107.0	120.4
10–14	4143	4762	5122	114.9	123.6
Over 14	4106	4542	4737	110.6	115.3
Total	4666	5138	5264	110.1	112.8

The material and financial expenditure in the farm groups investigated were as follows *:

As the farmers' qualifications increased, so also did the material and

* The material and financial expenditure on the farms keeping accounts embrace: a) plant production expenditure: seeds, both home grown and purchased, mineral fertilizers and manure purchased (own manure and straw production is not taken into consideration), plant protection and subsidiary costs; b) animal husbandry expenditure: fodder, both home grown and purchased, population, hatched eggs, purchased straw, grazing rights; c) repairs and maintenance of buildings and land amelioration arrangements as well as of agricultural machines and equipment;

financial expenditure in all the farm size groups. The increase in group III was higher than in group II for all farm sizes.

It is generally held that development of agriculture during the intensification period demands capital, first of all, for soil improvement. In this connection, the rates of increase of fixed and circulating capital, with increased intensification, would be uneven. The rate of circulating capital increases much more rapidly than that of fixed capital. Expenditure for the purchase of fertilizers, particularly of minerals, influences the level of plant production as well as the intensity and quality of labour in a decisive way.

Fodder in its turn influences the intensification of animal production and indirectly plant production also (quantity and quality of manure). The remaining expenditure of circulating capital (seeds, plant protection, power, repairs of machines and small tools) increases along with intensification by means of greater use of fertilizers and fodder.

These trends are illustrated in Table 2 *.

Table 2. Material and Financial Expenditure

Specification	Educational level of farmers				
	expenditure in zlotys per ha. of agricultural land			index (group I = 100)	
	I	II	III	II	III
Total expenditure[a]	1544	1829	2072	118.4	131.8
Total expenditure of circulating capital[a]	1083	1324	1572	122.3	145.2
including:					
mineral fertilizers	178	247	313	138.8	175.2
seed material	108	138	173	127.8	160.2
fodder purchased	423	505	629	119.4	148.7
Amortization of buildings and land ameliorat, devices	293	310	305	105.8	104.1
Amortization of machines and equipment	168	195	195	116.1	116.1

[a] Excluding home-grown fodder and seed.

It is evident from these data that on the farms investigated, along with a rise of educational level (i.e. the main qualification element) of farmers, the following took place:

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d) capital amortization in land amelioration, buildings and machines (not taking into consideration livestok amortization); e) total farm running costs, such as: fuel, light, electric power, engine fuels and lubricants, grinding, horse and machine hiring etc.

* Distribution of material and financial expenditure (excluding home grown fodder and seed) according to farm size groups in the population investigated is presented in the Appendix.

(1) An increase of total material and financial expenditure.

(2) The fixed and circulating capital increased at irregular rates. Circulating capital for mineral fertilizers, seed and purchased fodder, increased much more quickly than total expenditure.

(3) The increase of material and financial expenditure, particularly for mineral fertilizers, purchased fodder and seed (except on farms below 3 ha. in size) was higher on the larger farms, over 10 ha. in size.

Appendix. Material and Financial Expenditure Depending on Farm Size[a]

Specification	Farms with total areas of (ha.)					
	expenditures in zlotys per ha. of agricultural land					
	total	up to 3	3–7	7–10	10–14	14 or more
In the farms of:						
1st group						
Material and financial expend.	1544	3159	2027	1607	1352	1244
Total index[a]	100.0	100.0	100.0	100.0	100.0	100.0
Circulating capital[a]	1083	2142	1438	1116	984	836
Index including:	100.0	100.0	100.0	100.0	100.0	100.0
Requisites[b]	709	978	865	732	687	576
Index	100.0	100.0	100.0	100.0	100.0	100.0
Amortization of capital	461	1017	589	491	368	408
Index	100.0	100.0	100.0	100.0	100.0	100.0
2nd group						
Material and financial expend.	1829	3839	2227	1818	1719	1597
Total index[a]	118.4	121.8	109.8	113.1	127.1	128.4
Circulating capital[a]	1324	2819	1585	1260	1274	1196
Index including:	122.3	131.6	110.2	112.9	129.5	143.1
Requisites	890	1364	1002	825	899	849
Index	125.5	139.5	115.4	112.7	130.9	147.4
Amortization of capital	505	1020	642	558	445	401
Index	109.5	100.3	108.9	113.6	120.9	98.3
3rd group						
Material and finnacial expend.	2072	5298	2559	2156	2218	1862
Total index[a]	131.8	167.6	126.2	134.2	164.1	149.7
Circulating capital[a]	1572	3576	1828	1507	1714	1475
Index including:	145.2	166.9	127.1	135.0	174.2	176.4
Requisites[b]	1115	1600	1224	987	1226	1091
Index	157.3	163.6	141.5	134.8	178.5	189.4
Amortization of capital	500	1722	731	649	504	387
Index	108.5	169.3	124.1	132.2	136.9	94.9

[a] Excluding home-grown fodder and seed.

[b] I.e. mineral fertilizers, purchased fodder and seeds.