AGRÁRGAZDASÁGI KUTATÓ INTÉZET
RESEARCH INSTITUTE FOR
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ABSTRACTS OF THE PUBLICATIONS ISSUED IN 1974-1975

BUDAPEST 1976

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RESEARCH INSTITUTE FOR AGRICULTURAL ECONOMICS

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INTRODUCTION

In accordance with our earlier initiation[+] the present number of our Bulletin is to give a review of the Institute's publications issued in 1974-1975. The publications included in this volume - summaries of the results of our research work - are closely related with the objectives and tasks of the 1971-1975 research period on which information was given in an earlier publication.[++]

The volume is of thematic structure, the succession of longer or shorter summaries or of mere bibliographic items within the chapters is determined by the alphabetic order of the authors' names. Owing to lack of space and for technical reasons some papers - e.g. subjects available in a language spoken in most parts of the world, or volumes of series of books published under the editorship of the Akadémiai Kiadó /Publishing House of the Hungarian Academy of Sciences/ - are represented by bibliographic data and translations of titles, respectively.

The reader is assisted by indices of authors found in the contents.

Budapest, December 1976

The Editors

[+]Abstracts of the publications issued in 1973. Budapest, 1974. /Bulletin 35/

[++]Research Institute for Agricultural Economics Organization, research tasks for 1971-1975, and bibliography of the publications issued in 1969-1971. Budapest, 1972.

I. ECONOMIC STUDIES ON FOOD ECONOMY ABROAD

1. BALOGH, A.: International division of labour in the agriculture of COMECON countries.
Budapest, 1974. 70 pp.

Report prepared for the meeting of a working group of the European Co-ordination Centre for Research and Documentation in Social Sciences in Novosibirsk /USSR/, 14-18 October 1974.

2. BALOGH, A.: Internationalization of agricultural production.
Budapest, 1975. 49 pp.

Report prepared for the meeting of the working group of the European Co-ordination Centre for Research and Documentation in Social Sciences in Pula /Yugoslavia/, 14-18 September 1975.

3. BUDAVÁRI, J.: Mezőgazdasági és agrárpolitikai irányzatok az európai fejlett tőkésországokban. /Agricultural and agrarian policy tendencies in the developed capitalist countries of Europe./
Budapest, 1975. 117 pp.

The developed capitalist countries of Europe are characterized by backward relations of production and a small-scale production in agriculture. There is a negative correlation between the economic development level on the one hand, and the contribution of agriculture to the gross domestic product, and the number of those employed in agriculture, respectively, on the other.

The inhibition of development by the obsolete land system - manifested among others in the efficiency of agricultural work remaining below the optimum offered by the given technical level - is made more and more clear by the high technical level. The interconnections and power relations of food economy are decisively determined by the differences in the relations of production of agriculture and the other production sectors /small commodity producers' and capitalist production relations, respectively/.

Under capitalist conditions the vertical integration usually is coupled with a lack of equal economic terms between the parties, and the economic results originating from the up-to-date organization form are

mostly made use of by the integrator. A considerable surplus value is not realized by the Western-European small farms based on the producer's own work, and most of them do not possess the conditions of reproduction on an increasing scale. Only those branches which are not dependent on land /poultry-, pig breeding/ are exceptions to the very small dimensions of farming. The permanent income disparity of the agricultural population is also the consequence of agricultural relations of production hindered in development. The rigid land system is an obstruction to the free flow of capital and labour force. The former is impeded by the high organic composition /and therefore lower efficiency/ of agricultural capital, while the latter by the obsolete farm structure. The lower efficiency of capital under the conditions of the small holder system prevents today the development of capitalist large-scale farms in the agriculture of Western Europe.

In the agricultural policy of the state - besides the income policy methods - increased role will be given to policies promoting the change of the land structure with the aim of accelerating the emigration of the farmer-proprietors and supporting those remaining in agriculture. The increasing difficulties of overproduction throw light upon the deficiencies of the income policy followed by the state with the aid of prices.

It is naturally within the frames of private property that the capitalist countries wish to find a way out of the income problems and difficulties of overproduction originating from the obsolete land system. Their primary aim is to avoid social tensions caused by the unfavourable income conditions of the agricultural population. At the same time, the present situation is not unfavourable for the capitalist society because it is nothing else than the exploitation of the agricultural producers most of whom regard even now the agricultural activity as a "way of life".

Another group of questions defined by the former one and related with the development of food economy in the developed capitalist countries of Europe concerns the problem of balance between production and consumption. An analysis of production and demand shows that the degree of self-sufficiency in food is continually increasing in the countries of the region. The unsolved problem of the obsolete land system and with it of overproduction is expected to strengthen this tendency in the future. On the basis of what we have seen so far it is probable that the Western European governments will refrain from any radical steps as long as with the exclusion of imports they can put off the modernization of

the land system. Parallel to the increasing importance of the structural policy the main role is still played by an income policy based on price support and subsidization. The originally declared double aim - agricultural incomes proportionate to those of industry, and agricultural production adjusted to the market demands - has not ever been attained by this policy.

As for the problems of overproduction, following an American practice, certain restrictions have been imposed on production, which clearly show the contradictions of the capitalist agriculture. The solution of the so called "self-sustaining" market suggested by some theoreticians would result in the ruination of masses of small holders just the same way as the unrestricted market forces did which the capitalist countries tried to prevent decades ago.

The capitalist countries would like to achieve a change in the production conditions with a series of reforms, and even that only at a rate absolutely necessary to ease the social tensions caused by the income situation. In this way the structural problem of agriculture together with the resulting overproduction- and income difficulties is expected to survive in the next decade. And this certainly will have an effect on countries heavily dependent on the Western European market with their food exports /first of all of products nearing market saturation/.

4. BUDAVÁRI, J.: Az élelmiszer-gazdaság fejlődésének néhány jellemzője az európai szocialista országokban. /Some characteristic features of the development of food economy in the European socialist countries./
Budapest, 1975. 124 pp.

The precise evaluation of the production results of agriculture and food economy in the European socialist countries is made difficult by their underestimation through the price system - and a simultaneous overestimation of industrial output -, which from the beginning have served the purpose of "socialist original accumulation". This form of assets withdrawal has often impaired the conditions of reproduction on an increasing scale, and even those of simple reproduction in agriculture and food industry. All this does not, however, change the general tendency, namely that as regards the national income production and employment the decrease in the share of agriculture runs parallel to the economic growth, as proved by the correlation calculations made to study

this relationship. However, this phenomenon is the consequence rather than the precondition of economic development.

When analysing the investment activity aimed at improving the food economy in the socialist countries, and the resulting productivity level attained by the early seventies we find explanation for the peculiarities of development in this sector of national economy. The rate of increase of agricultural investments usually is behind that of the industry, while the investments of food industry started from a very low level and their share in the total industrial investments has often been stagnant or declining. The mechanizational level of agricultural work is still far below that of industrial work, but a tendency of levelling up can be observed in all socialist countries. The unchanged or decreasing proportion of investments made in the so called tertiary sector has left its mark on the technical level of food trade. Of the engineering supplying branches the agricultural machine production has shown the greatest progress. Anyway, until the end of the sixties very little attention was paid to the establishment of adequate quantitative and qualitative relations, with the result of an adverse effect exercised on the processing phase of food economy which in many socialist countries represents now the bottleneck.

In most countries any increase in the agricultural production has been due exclusively to the improvement of productivity. The relative productivity of agriculture /its productivity in the national income production in comparison with the industry/ is still far behind that of the industry, but the gap narrowed considerably by the early seventies. As regards the productivity of food economy /indicator in kind for productivity per 1 person employed in agriculture and food industry/, the order of succession is: German Democratic Republic, Czechoslovakia and Hungary in the case of the most important products /meat, milk, flour, sugar/.

The European socialist countries - with the exception of the Soviet Union - have open economies, in which the sector of external economy plays an important role. In the field of exports the food economies of the Central- and Southern European socialist countries are of primary importance which, however, shows a slightly declining tendency. In the exports the proportion of finished food products is increasing. In these countries the active foreign trade balance of food economy is a positive factor in the total - not infrequently passive - foreign trade balance. In several countries the importance of the sector is increased by its key role in the capitalist exports. Owing to the saturation of the European food markets and the resulting trade policy the competition is getting

to be sharper and sharper. At present the necessary conditions of a co-ordinated foreign trade policy in the socialist countries do not exist: the selection of goods produced for export is not up-to-date, but more or less the same; on the Western markets they are each other's rivals. Considerable further possibilities lie in the development of other forms of international labour division - beyond the traditional patterns of trade.

The analysis of the inner proportions of food economy with the aid of a triple, block-system structure /a block of production means manufacturing of raw material production and of processing-trade-servicing/ gives opportunity to determine some macroeconomic criteria of the development level of food economy, part of which have a quantitative, the other a qualitative character: the homogeneous or heterogeneous character of relations of production in food economy; the nature of relations between the branches of food economy; the participation of food economy in the international division of labour beyond the conventional forms of trade; the ratio of the national income produced in food economy and the number of those employed in the sector; the share of agricultural production in the national income produced and in the structure of employment; the share of production means manufacture in the national income of food economy and number of those employed in the sector; the share of food industry, -trade and -services in the national income of food economy and number of those employed in it.

Looking at the food economies of the European socialist countries on the basis of such criteria we can establish that largely and as a whole they have attained a medium level of development. At the same time, it must be pointed out that there still are significant differences between the individual countries in the development level of food economy. This can be explained partly by the differences of general economic and industrial development, partly by national peculiarities. The analysis reveals, however, that parallel to the economic growth the differences in the development level of food economy are continually decreasing. Thus, the food economy of Hungary reduced its backwardness in many respects and caught up with the best socialist food economies, respectively, by the beginning of the seventies.

5. Mrs. CSERES, N.: Dánia, Irország és az Egyesült Királyság /a Közös Piac uj tagországai/ agrárprognózisai. /Agricultural projections for Denmark, Ireland and the United Kingdom /new members of the Common Market./
Budapest, 1974. 132 pp.

The three countries - by becoming members of the Common Market - have started a new process of economic, mainly food-economic self-adjustment. It is not indifferent for the interested countries what trends the changed economic relations within and outside of the Common Market show. The analysis of the projections of the three new member countries had the main purpose of finding those permanent features of the countries' agricultures on the basis of which some insight in the future would become possible in the case of countries without planned economies.

The projections for the supply and demand of agricultural products in Denmark have been made by order of the Economic Research Service of the Agricultural Department of the United States of America. This work reckons with long-range trends and leaves the cyclic phenomena and occasional deviations out of consideration. Its main objective is to show the prospective trends of demand, of consumption and supply, and of production, respectively.

The study on the future of agriculture in Ireland made an attempt to assess the future role of Ireland in the international food trade first of all with the help of FAO projections.

The agricultural projections of the United Kingdom /e.g. the prognosis prepared at the Agricultural Research Institute of the Oxford University, or the Cambridge model made by A.M.M. McFarquhar, S. Mitter and G.B. Aneuryn Evans/ elucidated the difficulties in supplying the insular country with food from more than one sides.

The factual data of 1970 included in the mentioned studies offer a possibility to compare reality and projections.

The degree of self-sufficiency in 1970-1971 can be seen in the following table:

	Common Market /Six/	United Kingdom	Ireland	Denmark	Common Market /Nine/
	Degree of self-sufficiency in the major agricultural products, %				
Wheat	98	45	77	100	86
Rye	94	35	-	86	93
Barley	91	89	86	94	91
Maize	66	-	-	-	56
Rice	102	-	-	-	86
Potato	101	96	105	103	100
Sugar	106	34	107	110	86
Vegetables	99	80	103	91	.
Fresh fruit	88		36	64	.
Milk	100	100	100	100	100
Cheese	102	48	483	245	99
Butter	105	14	197	281	83
Egg	101	99	100	132	101
Beaf	89	84	602	217	94
Pork	101	72	160	519	105
Poultry meat	101	99	103	324	102

Thus, the degree of self-sufficiency in the extended Common Market has decreased for most products - due in the first place to the high import demands of the United Kingdom.

In spite of the above, on the basis of the available projections it can be established that the agriculture of the "Nine" within the Common Market organization is increasingly able to satisfy the total food demands of the population, and in certain goods possesses, or may possess an export basis significant even from the point of view of world trade.

6. MARILLAI, V.: Az integráció és a verseny nézőpontjai a Német Szövetségi Köztársaság élelmiszer-gazdaságában /tanulmányuti tapasztalatok/. /The aspects of integration and competition in the food economy of the German Federal Republic. Experiences of a study-tour./
Budapest, 1975. 150 pp.

In the German Federal Republic characterized by developed production forces of food economy and a high level food supply the earlier homogeneous agricultural market has "broken up" by now. In the well es-

tablished order of labour division in food economy the uneven development tendencies of production- and economic concentration and specialization prevail in the fields of agricultural production, food industry and trade.

Under the present conditions of land structure[+] agricultural production is no longer able to exercise any substantial influence either on national economy sectors preceding it /providing the conditions of production/, or on the development tendencies, size and growth rate of the consumers' market which represents the end use. The extent of concentration exceeds by far that of the agriculture both in food production and as regards the enterprises of food trade. These latter often dominate the markets of purchase and sales with a network of organizations of provincial-, or even multinational scale. The manifold capitalist production-, and economic integration which interlaces the West-German food economy evidently follows from the above mentioned differences in development level between the individual phases of food economy.

Investigations in agricultural economics unequivocally come to the conclusion that the whole process of integration is ultimately determined by the interests of consumers. Besides this, under certain conditions, with the view of improving the market position of agricultural production and - above all - maintaining its competitiveness, it can be improved or even increased by the practical application of different forms, organization and economic conditions of the horizontal and vertical integration. Numerous ways and forms of co-operation can be found in the West-German agriculture. They can be placed in three groups: co-operation without branch separation, operative communities and common plants.

Horizontal integrations gaining ground among the agricultural producers cause a relative overproduction in several branches even if the market demand of the given product is stagnant. In another considerable proportion of the cases the co-operations of farmers tend towards verticalization by establishing enterprises of so-called producer's interest /food processing-, packaging- or marketing enterprises etc./. Very often it is nothing else than the necessary demand being stimulated by the agricultural producers themselves, who thus create their own market.

Closeness to the consumer has necessarily led to modifications in the views and activities of the trade enterprises. This means that they abandoned the tendency to specialization thought so far advantageous, and by intorducing new commercial forms - especially the self-service methods - have settled down to supply a full range of foods. This required

[+]In the German Federal Republic the number of independent agricultural enterprises is above 1 million.

considerable capital investments that the small sepcialized shops could very seldom - if at all - afford. Besides, supplying a full range of foods made it necessary to establish a well organized purchasing and collecting network. Finally, a highly intensive horizontal and vertical co-operation tendency has evolved in all phases of the trade activity - in retail-, regional wholesale- and central distribution trade.

For the enterprises of food economy demand is represented by the central distribution trade. Characteristically of the progress of concentration, in the total turnover of the market phase five trade centres had a share of some 85 per cent already in 1968. The importance of central distribution is even more conspicuous if we consider that almost all retailers - about 140 000 shops - joined in one or another purchasing organization. By determining the activities of the retailers organized this way, the wholesale trade centres have a practically unlimited opportunity to frustrate all trade policy measures taken by the mostly small- and medium food industry enterprises which oppose their interests.

The power relations of the economic competition either manifest themselves in the form of an actual economic battle, or act on the production "only" with a potential pressure. In both cases the strengthening of an economic /enterprisal-, capital-, functional- etc./ concentration seems to be the most feasible way for the industrial production, the more so because in the active phases of both preprocessing and processing of food those branches show the fastest rate of economic growth in which production is even now concentrated in a small number of big enterprises.

In the agriculture the new type producers' associations can improve in the long run the market position of their members only if they fulfil the following requirements:

- the co-operative - marketing - chains ought to reach to the processing industry which produces the end product /closeness to the consumer, direct information and action on quality, quantity and structure, etc./;

- the tightness of the technological process should be further increased and such integrated relations established which - in a horizontal sense - are characteristic of the trade activity. It is only in this way that the consumers' demands and wishes can be turned into production instructions;

- in the final processing phase of food industry more than one vertical chains should be developed in an order of magnitude which beyond

counterbalancing the economic potential of the domestic and foreign rivals are able to carry out an independent, flexible marketing policy.

The realization of the outlined conditions encounters, however, difficulties at several points, first of all as regards the accumulation conditions characteristic of the agricultural production, and the capital requirements of a vertical "advance". The high assets demand of production development in agriculture applies to the West-German agriculture as well. It is questionable how and to what extent the incomes produced in agricultural production would enable further investments required for the phases that follow the raw material production in addition to investments necessary to improve the basic activity. There is a danger of disintegration, therefore the competitiveness of the "miniature verticals" thus produced is disputable.

Because of all this, in the present situation the renewal and enrichment of contractual integration remains to be the obvious alternative for the development of integration. In this field the establishment and modernization, respectively, of direct contractual relations between producers' associations and food industry may be a step forward. In this solution larger agricultural investments can be avoided and a comparative marketing security created. The demand - illusion - of an actual impact on the events of the market must be given up. The dependences produced this way naturally further strengthen the economic selection not only among the incompetitive small farmers but also - on a larger scale - among the producers' associations, parallel with the increase in their numbers. The progress of concentration in the agricultural production is, however, unavoidable, and the agricultural policy of the state has an important role in alleviating the "birth-throes" of concentration.

7. Integráció a mezőgazdaság és a népgazdaság más ágazatai között a KGST-tagországokban. /Integration between agriculture and other sectors of national economy in the COMECON countries./ /Ed.: MARILLAI, V./
Budapest, 1974. 140 pp.

The first part of the volume containing the material of the international scientific-methodological conference held in Kiew on 24-30 September 1973 summarizes the historical processes of the development of integration in food economy on the basis of general experiences obtained in the socialist and capitalist countries and the development peculiari-

ties of integration realized in the different COMECON countries. This part includes the evolutionary process of food economy as one creating the preconditions of economic integration in this sector of national economy.

The second part - in close connection with the former one - contains some practical experiences of the historical development of integration. Here the development trends of the different functional phases of food economy, and within it the development tendencies of various branches of agriculture and the related facts are the main points of the subject. Beside them we find concrete representations of the evolvment of some integrated organizations.

The third part of the volume discusses the basic theoretical viewpoints of the development of integration in food economy, as seen by the agricultural economists of the socialist countries. Following the improvement of the production forces, in connection with the manifold production- and economic processes of concentration and specialization, cooperation becomes suitable for the application in practice of the highest principles and methods of economic organization and for the realization of a horizontal and vertical integration after a definite quantitative growth. The presentation of the situation of these factors and the tendencies of a purposeful development in the individual socialist countries give the bulk of the chapter.

Finally, in the fourth part the terminological problems of integration research are found with the view of establishing a uniform terminology and interpretation. The studies published in this chapter of the volume represented a sort of preliminary theoretical and methodological contribution to the concrete decision-like conventions of the 1974 conference on methodology /at Székesfehérvár/.

The international research work that gave the title of the study and covers many fields of the agricultural economic investigations is coordinated by the Hungarian Research Institute for Agricultural Economics. The results of this work at half-time of the five-year co-operation are suggestively presented in the publication. With a view to a manifold utilization the volume has been published with the same content in Russian language, too.

II. ECONOMIC STUDIES ON FOOD ECONOMY IN HUNGARY

Methodological questions

8. Mrs. DOBOS, K.: A sztohasztikus kapcsolatok jellemzőinek alakulása 1962-1971 között az állami gazdaságok buza- és kukoricatermelésében. /Characteristic features of stochastic relations between 1962 and 1971 in the wheat- and maize production of state farms./
Budapest, 1974. 91 pp.

The first part of the study deals with the methodological questions of construction and calculability of production functions. The parameters of the production functions were assessed by the least square method. The paper includes parameters showing the correctness and reliability of the function by means of which the function best fitting to the mass of facts can be selected.

The second part of the study contains the analysis of wheat- and maize production in the state farms between 1962 and 1971. The effect of inputs determining the total- and average yields of wheat and maize, as well as the relationship between yields and factors influencing them are examined on the basis of data from an average of 160 state farms.

The availability of production data confined the examination to the relations of total- and average yield to sowing area, total direct costs, direct material-, non-material- and other costs, further to working hour- and wage utilization. The results of the relevant calculations can be summed up as follows:

- The relationship between total yields and inputs is substantially closer than that between average yields and inputs. Namely, the latter is supposed to be much more directly influenced by factors independent of inputs /soil quality, weather, etc./.

In the case of both total yield and average yield the correlation with total direct costs and material costs appeared to be close. The closeness of the correlation between average yield and material cost shows a considerable fluctuation in the examined period because the realization of the yield-increasing inputs /e.g. fertilization/ is in this case essentially influenced by the weather. Under different weather conditions material inputs of identical character and size result in different yields.

- The closeness of the correlation between yield on the one hand, and working hours and wages on the other, is possibly greatly decreased

by the fact that these inputs only partly influenced the yield, a considerable part of them are dependent on the yield /e.g. the working time- and wage requirements of harvesting/.

9. GYIRES, P.: A kockázat és bizonytalanság matematikai vizsgálatáról. /Mathematical analysis of risk and uncertainty./ Budapest, 1974. 35 pp.

On the basis of the theory of games factors influencing the results of agricultural activities can be divided into two groups. Factors given for the decision maker, independent of his/her influence and changing in an unpredictable way are called environmental factors, while technical factors are the ones depending on the decision maker's will. In this sense the activities - including the agricultural activities - can be regarded as games against nature.

The formulation of a problem by the theory of games means the setting up of a stochastic model. Thus a decision made on the basis of a model of the theory of games - a choice of strategy - is more careful and better founded, because it considers several alternatives. However, the question of the reliability of data remains to be solved; the comparison of calculations with reality will decide the correctness of the solutions, and justify the application of the theory of games.

A decision made with the use of the theory of games do not decrease the risk, only by considering the consequences of the possible decisions it may encourage a decision corresponding to the will of the decision maker. The risk remains to be undertaken by the decision maker.

10. PINTÉR, J.: Többperiódusu determinisztikus modell alkalmazása üzemi tervváltozatok kidolgozására. /Multiperiodic deterministic model applied to elaborating alternative operative plans./ Budapest, 1974. 96 pp.

In the course of application the model of an enterprisal development plan prepared for the "Mező Imre" Co-operative Farm, Kengyel, turned out to be well utilizable in the planning work of agricultural enterprises, and suitable for the examination of the potential operative effect of changes in certain elements of economic regulation.

The model optimizes the final state together with the system of instructions and activities representing the way leading to it in yearly details, on the basis of the optimum criterion of the whole plan period.

The results of the model elaborated for a four-year plan period of the co-operative indicate the development of such own resources on which in a later period substantial development decisions can be built.

The present price- and subsidization system connected with the cattle branch would - even in the optimum structure - only justify the utilization of the existing building capacity of the plant for the examined period.

11. Miss VIGH, J.: Szektorfüggvények számithatósági problémái a mezőgazdaságban. /Calculation problems of sector functions in agriculture./
Budapest, 1974. 78 pp.

The first part of the study gives a survey of production functions calculated on the basis of data from agriculture and food industry by using the relevant Hungarian literature in the first place, and the available literature of socialist countries.

The second part contains the economic categories applicable in calculating agricultural production functions, the dependent and independent variables, as well as an analysis of whether the categories can be determined on the basis of the present Hungarian statistical and financial reporting system.

Current problems of food economy in Hungary

12. BALOGH, K.–KOVÁCS, K.: Az étkezési burgonya ipari feldolgozásának kezdetei Magyarországon. /Initials of industrial potato processing in Hungary./
Budapest, 1975. 153 pp.

Hungary is situated near the southern border of the potato production zone, therefore in an international comparison its prospects are worse than in countries north of Hungary. Potato production in Hungary has been sharply reduced for some years, as from a technical and genetic point of view the plant fell behind the general development of agricultural production in Hungary.

The genetic and technical improvements have made the renewal of potato production possible. Owing to the recent upswing of production, the gradual improvement of the conditions of supply and the changes in the consumption habits due to the process of urbanization, today even the food industry processing of potato can be spoken of.

The processing of potato for nutrition purposes is only at the beginning in Hungary. The manifold possibility, and even more so the necessity of processing are suggested by the fact that for some years an increasing range of processed potato products have been appearing in the shops, though a high proportion of them originates from imports. However, the substantial development of domestic processing and better quantitative supply of inland consumers depend fundamentally on the stabilization of production and raw material supply. The development of the industry postulates in any case the quantitative increase and reliability of production, and with it – naturally – the steady and uniform fresh potato supply as well as an adequate quality raw material production. The technological-, organization- and co-operation problems of storage, transportation and processing should also be solved.

The processing industry raises great demands on the quality of the raw material, and these demands are fulfilled by the varieties in different measures.

The technical and technological possibilities of processing are highly diversified, they represents different technical and production levels, and their investment costs are, accordingly, also different. The would-be plants of Hungary are generally suitable to process 3-5000 tons of potato, and compared to the profitability of production have moderate assets- and investment requirements.

The elaboration of the economic precalculations of the different investment proposals so as to obtain homogeneous, unambiguous and comparable results encountered considerable difficulties.
The informative calculations are satisfactory and unanimously show that the production of the different products results in a specifially substantial enterprisal income, a quick return of investments and the efficient use of assets.

According to the calculations a vertical organization also means a high degree of security, since in the case of a fall in the price of the product the producer still stands the competition, because the potato when processed by the farm itself is sold at a much higher unit price than in fresh state.

In a vertical system - like the "model of Kisláng" - not only the losses and the costs of material handling etc. are reduced, but the costs of intermediate trade do not arise at all, and its profit margin can also be realized.

The advantages of the vertical system are - naturally - felt not only within an enterprise but also in a co-operation between the enterprises. In general, it is not even possible for an enterprise to create and operate a vertical system by itself. Under the present conditions of the agricultural enterprises this usually requires the union of the assets, expertise, etc. of several enterprises.

13. BÉLTEKY, B.: A cukorrépa termelési rendszerek első eredményeinek értékelése. /Evaluation of the first results of sugar-beet production systems./
Budapest, 1974. 66 pp.

Since 1965 the sowing area of sugar-beet has gradually decreased. A substantial reduction occurred from 1969 to 1970 when the sowing area became smaller by 22 per cent, the yield average by 16 per cent, and the sugar production by as much as 40 per cent. At the same time, owing to an increase in the world market demand the world market price of sugar dynamically rose until it reached 700-800 $/ton in 1973.

The area reduction can be traced back to two fundamental causes: low profitability due to the unfavourable producer's price, and labour shortage. The necessity of technical development and other central measures has come into prominence.

The technical development of the last several years, the specialization and concentration of plants resulting from the modernization of

production, as well as the higher level of industrial background have created the possibility of developing production systems. The reorganization of production and the establishment of production systems for sugar-beet took place in 1972, the co-operation began in 1973. The total area of the four sugar-beet production systems formed was then 15 486 ha, 16,8 per cent of the sowing area of the country.

The technological areas of the individual sugar-beet production systems are different, ranging between 120 and 230 ha. The machine systems are also different, therefore the mechanical investment cost varies at national economic- and enterprisal levels alike.

According to a comparison of costs made on the basis of specific data:

	investment cost at the level of national economy	enterprise
	Ft/ha	
Hék system I. alternative	9 330	6 020
II. alternative	12 789	7 045
Mezőhegyes system	12 798	10 778

As for the costs of national economy, but also from an enterprisal point of view the I. alternative of the Hék system is the most favourable solution. It has the lowest specific investment costs, and owing to the low customs duty the lowest demand for state subsidization. The quality of machines and the extent of the costs of maintenance should be taken into consideration from an enterprisal point of view. Further examination is required to find out whether the difference in the purchase price is not equalized by the higher cost of operation.

It is up to the given farm to decide to which system it will be the partner farm. The decision is determined mainly by the nearness of the base farm, and the financial situation of the given farm. A farm with limited of minimum development funds will join in the industrial maize production system and complete its machine park with machines required for sugar-beet production. The technical level of the systems is still far from being considered optimum.

Sugar-beet is one of the field crops produced at great expenses in Hungary. With the examined technologies the production cost ranged from 13 253 to 19 708 Ft/ha in 1973. The production cost is determined by the extent of material utilization /manure, fertilizer, chemicals, seed or seed-grain/ which makes 5455-5774 Ft/ha with the production systems. Compared to the traditional production based on manual work, the

production costs are 22-33 per cent lower in the production systems. It should be noted, however, that the farms belonging to the systems are in the initial phase of intensive mechanization when the cost-reducing effect of the application of technical means is strongly felt.

14. BIRÓ, O.: Az élelmiszer-kereskedelem fejlesztésének néhány időszerü problémája. /Some current problems of development in food trade./
Budapest, 1975. 98 pp.

15. BULLETIN 36.

Studies on the foreign economic factors affecting Hungarian agriculture. /Ed. CSEPELY-KNORR, A./
Budapest, 1975. 80 pp.

Contents:

UJHELYI, T.: Foreign trade of the food economy in the Hungarian economy and on the world market

CSEPELY-KNORR, A.—SZAKONYI, L.: Development and subvention of agriculture in the European member states of COMECON

Mrs. ZSUFFA, I.: Agricultural price ratios in Hungary and in the European capitalist countries

Mrs. CSERES, N.: Agriculture of the capitalist countries and agricultural prognoses

MÁRTON, J.: Prognosis in Hungarian food economy

16. HEGEDÜS, J.: Tanulmány az integrált nyulgazdaság kialakitására. /Study on integrated rabbit production./
Budapest, 1975. 51 pp.

The value of rabbit exports in Hungary attained 30 million dollars in 1975. This sum was produced without any national economic investment, mostly with a fraction of labour force. The co-operations of the State Farms of Bikal and Környe, the SZÖVOSZ /National Association of Co-operatives/ Model, the ÁFÉSZ's /General Consumption- and Marketing

Co-operatives/, as well as the interest- and production organization systems developed by the Special Co-operatives of Small Animal Breeding are already such forms of undertaking which after some minor refinement will be suitable to maintain the level or even improve the production of rabbit meat.

The co-operation organized by the Bikal State Farm with small producers for rabbiet meat production approaches in a sense the requirements raised by a closed production system as much as it is possible in such intersectoral relations. The breed, the hutches, the feed and the favourable purchase price are provided by the gestor farm. Accordingly, in three years the partners were given 64 000 hybrid rabbits, up-to-date hutches for 5000 each, and several thousand waggons of rabbit nutriment institutionally sold. In addition, the slaughter rabbits are bought up at as high a price as 34,- Ft.

The Környe State Farm also undertakes to supply the small breeders with breeding animals, place hutches at their disposal on favourable terms, provide the necessary feed, etc., as well as buy up the full progeny. From this farm some 20 000 breeding rabbits were given out in three years against payment by 6 months instalments, and up-to-date hutches with accommodation for a total of 33 000 on favourable financial terms.

Besides the market relations established with the two state farms, as regards certain means of production /breeding animal, hutch/ a proprietory relation has also been created with the partners.

The extension of the intersectoral co-operation proved to be particularly useful in the critical summer period. The contracted rabbits were bought up to the last by the farms /or their agents/ in order to enable the producers to fulfil their financial obligations.

The SZÖVOSZ Model and the ÁFÉSZ's - besides the examplary organization of their own activities of rabbit buying up and -trade - have made considerable efforts to improve the supply of their members with breeding animals, hutches and rabbit nutritments. However, for financial reasons, and owing to the absence of a larger technological background /feed-mixers, larger work-shops/ their possibilities were much lower compared to those of the state farms.

The Independent Special Small Animal Breeding Co-operatives of Budapest, Eger and Szekszárd belonging to the SZÖVOSZ have recently attained important results in organizing the production of rabbit meat. However, here too - like in the Model ÁFÉSZ's - there is little possibility of establishing relations with the members other than those concerning the market commodities.

The "Mecsek" Special Small Animal Breeding Co-operative of Pécs which belongs to the regional association of co-operative farms needs separate consideration. This special co-operative is at present the biggest partner of the Bikal State Farm. In 1974 more than 4000 hybrid rabbits were placed here, and the amount of rabbit nutritment consumed only in the first half of 1974 exceeded 1000 waggons.

New attempts are being made in the "Törekvés" Co-operative Farm at Várvölgy where - similarly to the ÁFÉSZ - the action is managed by the co-operative farm, but the co-operative farm itself is also fattening rabbits. The method is highly advantageous especially from the point of view of the export. According to calculations it is by this method that the exports of live- and slaughtered rabbits could be solved on a long run with a much higher efficiency than so far. The successful initiation of the co-operative farms of Várvölgy may be a noteworthy model for the development of rabbit meat production in Hungary.

17. JÓZSA, I.: Az integráció néhány ökonómiai kérdése a tejgazdaságban. /Some economic questions of integration in the dairy economy./
Budapest, 1974. 111 pp.

At the Research Institute for Agricultural Economics investigations into the commodity channels of individual /fresh and processed/ foodstuffs began in 1971. In the course of this work the consumption of milk and milk products has been found to have stagnated at a low level over several years, due partly to a decrease in milk production. The decrease of milk production was caused to a lesser extent by the lower number of cows, in most part a reduction in the specific output was the reason.

Between 1967 and 1971 the sectoral change continued in the field of milk production and led to a change in the structure of the consumers' market, too. The consumption of milk and milk products originating from own production became lower and lower, but at the same time the organized market did not expand proportionately.

The commodity channels of finished products departing from the central commodity stock tended towards the towns and industrial centres, therefore the location of the dairy industry was planned accordingly. In Hungary the dairy plants which supply the towns with a capacity dimensioned according to the number of population belonging to the respective

districts of provision generally do not make it possible to extend the marketing activity to include villages where the retail trade has a demand for changing, and mostly low quantities of finished product. The delivery of such small quantities is highly expensive, and exceeds by far the cover of the wholesale trade margin.

Under the influence of the changes having taken place in the economic management the co-operative farms were given opportunity to establish milk processing plants, each independently with a state subsidy, or several co-operative farms jointly.

The primary task for the processing units of the co-operative sector is to develop an organized supply of the so far neglected villages and sell the surplus quantities in the towns. So far 108 food shops have been supplied with milk and milk products.

The co-operative milk processing network is a dynamically developing part of the Hungarian dairy branch. Although its share in the national production and marketing is only 6-10 per cent, this percentage in itself does not show either the importance of the co-operative activity, or its actual role played in the dairy industry. The significance of the milk processing plants can be summed up as follows:

- The establishment of small- and medium plants /5-50 thousand litre a day/ provides the practice and the scientific research with an economic, production- and investment control which may be a sound basis for the evaluation of the vertical system of the branch through which the extent of development can be decided.

- The fact that the processing units are established in the immediate vicinity of /or attached to/ the milk-farms means economic advantages. In this situation the close and up-to-date interest system of the milk producers follows the whole vertical process. By this the interests of national economy, enterprise and consumers become really identical.

- The channel of products is shortened which reduces the transportation costs on the one hand, and the investments of milk handling and -cooling in the agricultural phase become unnecessary, on the other. With the elimination of cooling- and handling costs the processing costs are also reduced. With fix prices assumed, these cost savings increase the "income of processing". This is at the same time the most important factor of making a more efficient management of small- and medium capacity plants possible. The result may even be a difference of 1 Ft/litre processed milk, which is 20 per cent of the price of the finished product.

- The wide horizontal integration of the state-owned milk industry shows an earlier conception of economic development, and it seems that the relations of the horizontal integration of vertically linked activities had better be replaced by a uniformly organized economic integration covering the whole vertical chain of a branch; namely, it is through process organization and interest focussed on the finished product that - on the ground of a dynamic up-to-date enterprisal growth - the widening scope of consumer demands can be fulfilled so that the resources of internal enterprisal accumulation will become richer and richer.

18. KISS, G.: A hütőipar érdekeltsége az étkezési burgonya feldolgozásában. /Interest of refrigeration industry processing of eating potato./
Budapest, 1974. 47 pp.

The Hungarian refrigeration industry possesses a daily freezing capacity of 140 waggon, and a deep-freezing space of 6700 waggon. This storage space makes about 80 per cent of the total capacity of the country. The deep-frozen goods make 74,3 per cent of the production value of refrigeration industry /but only 21,2 per cent of its profit, most of it comes from storage/.

The domestic consumption of deep-frozen products in Hungary is far below the relatively high level of production. The main cause is that the development of the refrigeration chain of domestic trade has fallen behind the growth rate of industrial production. For this reason, and because of the economic efficiency of capitalist exports 60-70 per cent of the production are exported. The extension of domestic marketing has become possible since 1971. In two years the per capita consumption grew by 65 per cent - from 1,35 to 2,23 kg /of this deep-frozen vegetables represented 0,8 and 1,0 kg, and potato products 0,08 and 0,53 kg, respectively/.

The Hungarian refrigeration industry began to produce potato and pastry meals /dumpling with plum, apricot or cottage cheese, jam pockets/ in 1968. In these products potato is only a component. As a pure potato product the potato flakes, then in 1972 the chips appeared on the market. Accordingly, the industrial utilization of potato grew from 50 waggons between 1968 and 1970 to 929 waggons by 1973.

Of the ten factories of the industry the ones at Békéscsaba and Győr produce potato-pastry meals and potato flakes, and the Miskolc factory potato chips. The raw material requirement of potato for the latter - when working at full capacity - is 1300 waggon a year.

Industrial processing raises increased demands on the variety and quality of potato. The highest demands are raised by the production of chips and -flakes. According to experiences obtained so far, this purpose is best served by the varieties Bintje, Desirée, Jaerla, Marijke and Radosa. Of Kisvárdai Rózsa and Aranyalma export quality potato prisms cannot be manufactured.

In potato chips production the demands on quality are higher as regards the technology of both basic material production and -processing.

Until 1971 the refrigeration industry had purchased the necessary potato basic material exclusively from the county MÉK's /Agriculture- and Food Centres/. The chips machine line put to operation at Miskolc /potato requirement: 1300 waggons a year/, the substantially increased demand on quality, as well as the need of a reliable basic material supply put the question of a direct relation between the industry and the agricultural producers in the centre. Therefore a large proportion of the basic material is now purchased through the AGROKONZUM /MÉK in Borsod county/. A long-term contract has been drawn on 1300 waggons potato a year /7 waggons a day delivered in containers/ at officially fixed price. An extra charge of 120 Ft/q is paid to cover the costs of storage and transportation.

The interest of the industry in the potato products is verified by the fact that these products are profitable beyond the current expenses. The distribution of the current expenses is proportionate to the value, i.e. 25-30 per cent of the direct costs. Considering that the producer's price is 1200 Ft/q for the average products, 2400 Ft/q for chips and 1440 Ft/q for the potato flakes, the industry has a special interest in the preferential development of the production of the latter products. Pastry meals, on the other hand, make the better utilization of capacities - the continuous employment of labour force - possible in the slack season of the refrigeration industry, from January to April, contributing thereby to the realization of better economic results.

19. FELFÖLDI, J.–Mrs. SZOMOLÁNYI, J.: Az V. ötéves terv mezőgazdasági gépberuházásának ökonómiai elemzése. /Economic analysis of agricultural machine investments in the Fifth Five-Year Plan period./
Budapest, 1974. 96 pp.

The initial position of the Fifth Five-Year Plan period is fundamentally determined by the level of mechanization attained during the present plant period. We began therefore with the evaluation of machine investments between 1971 and 1975. The mechanization projections for the Fourth Five-Year Plan are expected to be overfulfilled as a whole; purchases for the tractor pool, within it, fall behind, though partly compensated by a 200 per cent fulfilment of the plan for lorry purchase.

In the Fourth Five-Year Plan period considerable machine investments are realized in agriculture, but even this is not expected to improve the composition of the machine stock to the desired extent. The investments do not provide a coverage for a substantial reduction in the over-aged stock, and a number of questions – e.g. the balance of tractors and trailers, of agricultural power machines and implements – have not been satisfactorily solved. With the mechanization objectives of the Fifth Five-Year Plan these must be reconsidered.

Of the factors determining mechanization in agriculture emphasis is laid to the objectives of production, the labour situation of agriculture and the requirement of work performed in due time. The machine investments of 1976–1980 will raise the level of mechanization, the new capacities envisaged serve first of all the performance of work in due time.

In the methodology of planning the machine requirement the computer technics can be successfully applied. The dimensions, composition and manifold relations of agricultural machine demand cannot be followed with the traditional planning methods.

The projections of machine investments in the Fifth Five-Year Plan period increase the traction power supply by some 40 per cent compared to the previous plan period. The distribution of tractor investments enables a substantial structural adjustment of the stock; the tractor power expressed in motor horse-power will increase between 1975 and 1980 from 59,4 to 88,7. The full liquidation of over-aged tractors will become possible. The tractor-horse-power capacity will increase by 23,1 per cent.

With the increasing level of mechanization we must reckon with some decrease in the possibilities of machine exploitation. Machine uti-

lization measured in working time will decrease by about 10 per cent during the Fifth Five-Year Plan period.

The combine investments are expected to show a lower rate of modernization. The average transmission capacity is increasing from 4,68 to 5,54 kg/sec. A more intensive change will take place in the capacity of motors driving combines - from 95,4 to 150,2 HP/piece -, which enables the more favourable utilization of the nominal transmission capacity.

The general introduction of self-propeledd harvesting machines /with the exception of grain combines/ begins in the Fifth Five-Year Plan period.

Considerable improvement can be expected in the harvesting work of sugar-beet, potato and roughage, with a total number of 6000 machines.

The development of the machinery of material handling is a strong point of the project. The plan includes a 23 per cent increase of the drying capacity. Within this the emphasis is laid on the redoubling of the lorry capacity.

The implement investments will improve the complexity of the machinery. Due first of all to the problems of the manufacturing background, however, the projections of implement investments remain below the development conceptions of the plan.

The tension will be maintained in the plough supply, and in the average size of the sowing machines.

The prices of agricultural machines will increase - according to the projections - specifically by about 40 per cent per unit capacity. The importance of this problem must not be underestimated, it requires co-ordinated economic measures.

With the differentiation of the subsidization system of agricultural machines maintained, the demand for extension and integration arises. Extension would be served by a basic level dotation of the lorries and work-shop equipment, and integration by the application of the average 30-35 per cent dotation rate. The preferential subsidization level of certain branches - e.g. cattle breeding, vegetable growing, etc. - must be maintained.

In the scheme as a whole a substantial increase of capacity is envisaged for the machinery of plant growing, besides solving a number of "quality" problems existing for some time.

20. MAGYARVÁRY, L.-Mrs. TÓTTH, V.: A szántóföldi növénytermelési rendszerek és hatásuk a mezőgazdasági vállalatok gazdálkodására. /Production systems of field crops and their effect on the management of agricultural enterprises./ Budapest, 1975. 201 pp.

The experiences, natural- and value data of the 38 agricultural enterprises /co-operative- and state farms/ functioning in four regional units of Hungary show for the period of 1973-1974 that the introduction of high capacity machines, new high yielding varieties and of chemization have resulted in favourable changes in the agricultural enterprises. As a consequence of the production structure specialized for a few branches, and of a concentrated, large volume commodity production new conditions have developed in most farms which encourage them to establish new type relations and production systems with their partners on the basis of mutual interests.

Participation in the production system - with the effective collaboration of the manager of the system - can yield results only in those partner farms in which

- the professional level is satisfactory,
- high yielding varieties are available,
- fertilizers, pesticides and herbicides are adapted to the place and applied at optimum rates,
- machine lines recommended by the manager of the system are available,
- the optimum size of area is developed,
- the plant-, work- and management organization is made optimum, and finally
- the optimum level of specialization is determined.

In the farms belonging to the examined system the arable area per one person employed has grown by about one hectare compared to 1974. In farms outside the system this growth is only 0,4 ha. As regards the professional staff, the per-capita arable area has decreased by 6,6 ha in the farms of the system, and by 1,9 ha in those outside the system.

The productivity of work has increased in the farms producing within the system. The number of workdays spent for the cultivation of 1 ha arable was less by 2 days in 1974 than in 1974. In farms outside the system the utilization decreased only by 0,5 workdays.

In farms belonging to the production system the utilization of fertilizer /active agent/ is positive but unbalanced in proportions, and is in relation with the increase of average yield. Beside the biological and technical background both the manager farm and the partner farms have to possess the professional knowledge that enables the optimum exploitation of the production capacity and economical increase of yield levels. This usually requires several years of practice.

In the maize branch of the farms working for three years in the system the cost increased in 1974 by 16,6 per cent, the production value by 43,2 per cent, and the crop result attained 219,4 per cent compared to 1971. In this group of farms the utilization of fertilizer /active agent/ increased by 25,3 per cent, the material cost by 3,8 per cent; the amount of labour per ha, on the other hand decreased by 2,8 workdays /57,1 per cent/. The wages and rates and taxes paid off for the production of 1 ha maize decreased accordingly /by 61,2 per cent/. All this has resulted in considerable changes in the cost structure.

Owing to the higher efficiency of production the farms are able to pay off the highly valuable machines in 1,9 years from the incomes of the maize branch, and in 4,3 years from the surplus income.

21. ZWICKL, J.: Gazdasági társulások Csongrád megyében. /Egy mikroökonómiai vizsgálódás tapasztalatai./ /Economic associations in county Csongrád. - Experiences of a microeconomic study./ Budapest, 1974. 55 pp.

III. ECONOMIC ANALYSIS OF AGRICULTURAL PRODUCTION

Economic questions of agriculture in Hungary

22. BALOGH, A.-KULCSÁR, V.: Agricultural policy and development of agriculture in Hungary /1945-1975/.
Budapest, 1975. Research Institute for Agricultural Economics - Institute of Economic Planning, Hungarian National Planning Office. 43 pp. 18 t.

23. BÉRES, F.-KOVÁCS, K.: Adalékok az agrárgazdasági tudomány fejlődésének a 2000. évig terjedő prognózisához. /A társadalmi-gazdasági alapok áttekintése./ /Projections for the development of agricultural economics up to the year 2000. - Survey of socio-economic bases./
Budapest, 1974. 72 pp.

Preparing projections for the development of the science of agricultural economics requires the evaluation of the present development level of the science and of its results attained, and the outlining of its basic tendencies. Among the latter we have to deal with the major characteristics of technical development in agricultural production, and their social and economic importance, with the prospective trends of food demand, with the further development of the social forms of agricultural production and the expected changes in the position and national economic importance of agriculture, with possible improvements in the management and planning as well as with the possibilities and prospective lines of widening the relationship between science and production.

We have to touch upon problems related with income distribution and material incentives, as well as upon a further intensification of the relationship between technological progress and socialist agriculture, and speak of the characteristic features of work, of some questions of employment and work seasonality, of future possibilities of concentration and specialization and of industry-like production, and discuss the questions of a combination of horizontal integration and production phases, and finally some major problems of improving the methods of research.

As regards the usefulness, purposefulness and possibility of a prognosis its time horizon is of fundamental importance. This should be highly differentiated according to the different special lines and economic and social phenomena; namely, by widening the time horizon we de-

crease the reliability of the projections. The distance of the time horizon and the necessity of the prognosis are determined by the time requirement of a possible interference with the examined phenomenon. This may be called the cycle of the prognosis. A shorter cycle does not make it possible to interfere in due time, while a longer one results in projections made for an unnecessarily distant future.

The prognostic work can be divided into the following phases:

- realization of the problem,
- analysis of the situation,
- determination of the task,
- preparations for solving the task,
- elaboration of the solution, and
- execution of the task.

An experimental prognosis made with the above logical pattern may certainly contain many questionable statements, but if it calls the attention of the professional circles to this new field of science contributin thereby to the development of this special field, then it has fulfilled its task.

24. BULLETIN 38. Economical and integration problems of large-scale farming in Hungary. /Studies./
/Ed.: BISZTRAY, Á., NÉMETH, J./
Budapest, 1976. 132 pp.

Contents:

MÁRTON, J.-NÉMETH,J.: Horizontal and vertical integration of the Hungarian agriculture

MAGYARVÁRY, L.: Production systems in the Hungarian agriculture

CSEPELY-KNORR, A.: Main characteristics of the economic regulation system for developing animal husbandry in Hungary

SÖVÉNY, S.: The joint commercial undertakings of the co-operative farms in Hungary

MARILLAI, V.: Management of economic associations of co-operatives in Hungary

25. KOVÁCS, Gy.: A gazdaságirányitás közgazdasági eszközeinek és információs rendszerének néhány területi kérdése a mezőgazdaságban. /Some regional problems of the economic means and information system of management in agriculture./
Budapest, 1975. 96 pp.

For several years the literature of regional questions in agriculture has considerably been extended in Hungary. A number of authors have dealt with problems related with regional planning, regional structure of agricultural production and regional distribution of production forces. The problems of economic regulation and economic information system seem to have been a somewhat neglected sphere of the regional investigations.

Since a socialist economy is necessarily a planned system with central management as an integral part of its mechanism, the efficiency of economic management is fundamentally influenced by the methods and means of transferring the central decisions to a microeconomic level, further, a region-centered consideration of any information on the individual processes of management is by all means justified in the case of agriculture.

Considering the extreme complexity of the subject, only the main aspects and major problems can be surveyed here. An important point is e.g. the role of regional planning within the system of national economic plans for agriculture in making the regional production structure of agriculture more rational, and the regional location of production means more efficient.

The suitability of the forms and extents of economic regulators from a regional point of view can only be decided if the necessary information is supplied for a preliminary study. Thus, the possibility of improving the agricultural information system on the basis of regional principles had to be considered. As a result the following order of the major groups of questions and tasks has been established:

a/ The most urgent task is to give detailed answer to the questions of a uniform agricultural information system supplying adequate information to scientific research, economic management and planning, and introduce this system in practice.

b/ On the basis of sufficient information scientific investigations should be carried out into the regional structure of economy, the factors influencing the regional location of agricultural production, the possibilities of improving the methodology of regional planning, the regional effects of economic regulators.

c/ In possession of an adequate knowledge and of the results of scientific research the concrete system of regional planning and regional economic management should be developed.

26. KUKOVICS, S.: A természeti és közgazdasági tényezők kölcsönhatása a szövetkezeti gazdálkodásban. /Interactions of natural and economic factors in the co-operative management./ Budapest, 1975. 81 pp.

If the regional differentiation of agricultural production is to be sized up many factors should be reckoned and many approaches employed. In one of the most important methods regional differences in the natural conditions of production and their effect on the management are taken into consideration.

By characterizing the management level with the non-cumulative production value per 1 cad. yoke production area the following categories can be set up:

	production value, Ft/cad. yoke
I. outstanding production level	over 6001
II. good production level[+]	5001-6000
III. medium production level	4501-5000
IV. poor production level	3501-4500
V. low production level	below 3500

I. The category of outstanding production level includes the seven Géczy districts in the northern and north-western part of Transdanubia, in the Danube-valley and in the south-western part of the Danube-Tisza Mid-region. In these districts the non-cumulative production value is an average of 6568 Ft.

Of all regions it was in the Kisalföld-Rába-valley[++] that the index of production level was the highest.

II. Of good production level are those 8 mostly large districts which occupy the central part of Transdanubia, a considerable proportion of the Danube-Tisza Mid-region, the southern part of Trans-Tisza and the loess areas of its northern half. The non-cumulative production value per 1 cad. yoke is here 5259 Ft on an average.

[+]By medium level values of about the national average are understood.

[++]Plain and river in Northwestern Hungary.

III. The national importance of the 3 medium production level districts is not much, therefore they are not discussed here.

IV. The 12 poor production level districts are mostly confined to hilly and mountainous areas in the western, south-western, northern and north-eastern parts of Hungary, to agricultural areas with more or less unfavourable natural conditions.

Mapping the above outlined categories offers good opportunity to make certain regional comparisons on the one hand, and establish what regions require further detailed investigations, on the other.

27. KUKOVICS, S.: A gazdálkodás területi differenciáltsága a gazdaság nagysága, a föld minősége és a termelés szinvonala szerint. /Differentiation of farming according to the size of the farm, quality of the land and level of production./ Budapest, 1974. 149 pp.

The co-operative farms can be placed in the following size groups: below 500, 501-1000, 1001-2000, 2001-3000, 3001-4000, 4001-5000, 5001-6000 and over 6000 cad. yoke. To be able to answer the question formulated in the title we had to examine the relationship between the size of farm and the non-cumulative production value per 1 cad. yoke in different counties, as well as the distribution of the co-operative farms by county and district among the size groups.

The non-cumulative production value per 1 cad. yoke - one of the most characteristic indices - unambiguously and gradually decreased - though at a low rate - with the increase of farm size. It is thus probable that the production structure of the larger co-operative farms is less favourable from the point of view of the production value than that of the smaller ones. We may add that this tendency is characteristic of the categories representing the majority - more than 75 per cent - of the co-operative farms /1001-2000, 2001-3000, 3001-4000, 4001-5000 cad. yoke/.

With these results obtained during the investigations we have to point out that besides the co-operative farms below 1000 cad. yoke in size no farm size categories can be found where the farming conditions are particularly favourable in general. This may be partly due to the fact that a uniformizing effect resulting from the system of production dotations and regulations eliminates the possibly occurring differences.

There are cases totally differing from the general tendency, moreover, we have encountered phenomena, when in the same farm size cat-

egory, in one district the production value was much higher than, while in another district far below the county average. These phenomena can be traced back to peculiar local conditions - special circumstances or production structures in one or more co-operative farms -, and sometimes to a bad farming practice.

If we regarded the obtained results as a general tendency we ought to draw the conclusion that the increase in the areas of farms inevitably involves the reduction of their farming results. It is not, however, so, because when the increase of the area is accompanied by the right adjustment of farm organization and production structure, the production results will also improve in almost every case. The investigations have shown the opposite as well. From all this several useful conclusions can be drawn.

1. The soil conditions of Hungary are highly varied. Therefore with the increase of the farm area the soil conditions will - in most cases - be even more diversified, and the areal increase is not - and cannot be - immediately followed by the adjustment of the production structure. It need not be explained that the development of the special line of a farm takes several years. The large area does not always mean a higher production level, though may be a precondition of it.

2. Good organization and a proper way of management are perhaps considered even more important than the production structure. It was, however, only in a very few farms that they immediately followed the areal increase. Here we refer to the example of the state farms where after a longer or shorter period of indecision centralization was followed by a rational decentralization, and the present level of farming was arrived at only later.

This is, however, so only in a very few co-operative farms even today, and the number of those where the farm organization was built on a scientific basis was still smaller in 1970 when the data were collected. Without intending to refer to the rapid development of the science of management we have to establish the fact that there are differences in the way of management between a 1000 cad. yoke and a 6000 cad. yoke or larger farm.

3. The material and technical foundation of production which in 1970 was far from being optimum cannot be left out of consideration either, although an increase in the area must by all means involve the technical foundation of production and a production technology linked with the production structure.

28. KUKOVICS, S.: A különleges helyzetü termelőszövetkezetek gazdálkodási eredményei. /Farming results of co-operative farms with special conditions./
Budapest, 1975. 49 pp.

Co-operative farms with conditions differing from the national average are those

- around Lake Balaton,
- in the neighbourhood of big towns,
- on areas with unfavourable natural conditions.

Lake Balaton and its immediate neighbourhood occupy a perfectly unique place in the economy of Hungary. The peculiarities are due to the natural conditions /the lake, the medium-height mountains on the northern shore, the micro- and mesoclimate etc./ and to the resort district character of Lake Balaton.

Co-operative farms in the neighbourhood of big towns - which have a share of about 12 per cent from the co-operative production area, and approximately 16 per cent in the non-cumulative production value - are above the national average as regards all input- and output indices.

The best result from the point of view of non-cumulative production value per 1 cad. yoke - which can be called a synthetic index -, more than twice of the national average was attained in the vicinity of Budapest. Győr and its neighbourhood are far above the national average, while Szeged and its neighbourhood as well as Pécs and its neighbourhood are hardly better than the average, as far as the non-cumulative production values of co-operative farms are concerned. Of the two regional units which were below the average Debrecen and its neighbourhood should be mentioned in the first place because of its importance among the big-town districts.

The indices of co-operative farms with unfavourable natural conditions show a more favourable picture than it really is, because - accepting the official qualification - we have reckoned with the data of some districts whose natural conditions are not unambigously unfavourable.

The characterization of the three different regions of Hungary is first of all of methodological nature, but this does not exclude the possibility of drawing some conclusions relevant both in the work of research and in the practice of planning.

There is no doubt that the trend of the farming results is - apart from the dominant natural conditions - considerably influenced by the share of activities other than the basic activity. This explains

e.g. that the co-operative farms around Budapest carry on a successful farming activity and show good results even at a national scale almost without exception. Namely, the so-called subsidiary activity, partly as independent undertaking, partly as wage-work is generally known to be highly significant here.

Of co-operative farms with unfavourable natural conditions poor results are shown first of all by those which neglected the livestock branch, or whose areas are unsuitable for animal husbandry, or have no subsidiary enterprises. Apart from a few exceptions we can accept as a general tendency that the farther off a co-operative farm lies from the town or industrial centre, the less - if at all - it has a so-called subsidiary activity.

All this can be explained by the fact that they are relatively far from the consumer market, the transport distances are long and - last but not least - they are short of capital. They are unable to produce the initial capital indispensable for any industrial activity.

From the results of our investigations we can safely drow the conclusion that the larger factories and various industrial plants are also more willing to work with co-operative farms in the neighbourhood of the town nearer to their respective sites.

We cannot thus unequivocally say that the good farming results of co-operative farms near the towns are due to the better marketing possibilities of produces and products of agricultural origin.

The size of income originating from industrial activities naturally leaves its mark on farming as a whole, because an overwhelming proportion of the money thus obtained is spent by the farms on development, and that on the development of agricultural activities.

29. FORGÁCS, Cs.-KUKOVICS, S.: A differenciálódás és gazdasági fejlődés alakulása a termelőszövetkezetekben. /Differentiation- and economic growth trends in the co-operative farms./ Budapest, 1975. 94 pp.

Owing to the fast rate of development and with a view to the utilization of still existing reserves it is imperative that beside the possibilities offered by the enterprisal activity advantages resulting from the regional location of production should not be left unexploited either. This, in turn, is only possible if parallel to the enterprisal planning greater importance is attached to a comprehensive regional

planning. This requires familiarity with the regional differentiation of production conditions and with their effect on the development of food economy.

Of the factors of production the size of land, the effect of vineyards and orchards on the structure of production, the labour force trends and the financial conditions of development in the enterprises should be taken into consideration.

It would well serve the purpose if the land were revaluated in accordance with the present conditions. This would facilitate the determination of a more realistic land tax system on the one hand, and help in disclosing the possibilities of regional specialization, on the other.

The regional planning should fully cover the region, in this way the regulation system developed with the district arrangement taken into consideration will be well founded. This helps e.g. in carrying out regional concentration and specialization with the co-ordination of national economic- and enterprisal interests kept in view.

When determining the development objectives for a district the local industries and their relations to agriculture cannot be left out of consideration. Regional plans may help in increasing the efficiency by grouping and concentrating the resources.

District arrangement demands at the same time that the system of statistical data collection should be evolved according to economic districts, because in this way a sound basis for the development plans can be created. In constructing regional plans the state-, co-operative-, council- and private sectors should be jointly taken into consideration.

There are considerable differences between the counties in the utilization of live labour. As for the index of non-cumulative production value per worker, the difference between the two extremes was more than two-fold in 1966. This calls attention to the fact that labour force as a factor of production is not uniformly appreciated in the counties. Important role is played in this by other employment possibilities arising here and there. A decrease in the differentiation can be seen, however, in the case of this index too.

With the development of production forces and the increased level of basic supply the fertility of poorer quality lands can also be improved, and we must admit, that in districts where the technical level of farming is higher, the efficiency of the use of assets is also better. This is shown by the example of Komárom county where the co-operative farms have attained good results on lands of relatively poor quality.

If we consider the increase of incomes serving as development funds we find that the increase of gross income even exceeds that of the net income. The increase - though slow in tendency - is constant.

In the most developed counties a 1,8-2,0 per cent growth of the non-cumulative production value is sufficient to increase the gross income by 1 per cent, but on somewhat "backward" areas this requires an 8-9 per cent increase of the production value. Thus, to ensure the same rate of income growth it is in those very counties where the level of agricultural production is lower that large investments should be made and production increased at a high rate, which in turn is greatly limited by the development possibilities of the enterprises.

Thus, we do not aim at developing the different regions at the same level, it would not even be reasonable, why it would mean a great burden to the very districts where the possibilities of development are limited.

30. Mrs. PÉNZES, É.: Termelői árváltozások a mezőgazdaságban 1960-1971 között. /Changes in the agricultural producers' prices between 1960 and 1971./
Budapest, 1975. 206 pp.

In the course of examining the effects of agricultural price changes, and the correlations of price-, cost- and income conditions it was found that the production level of wheat could only be raised by increased inputs. For the necessary resources, however, coverages had to be provided for in the prices too, which was duely promoted by a price regulation in 1968.

In the course of developing a production structure favourable for the grain fodder production the producers did not only keep the price-, cost- and income changes in view, but under similar conditions chose the branch involving a larger investment insofar the prospective product volume offered a possibility of widening another branch /pig, poultry/.

In the case of roughage production it was found again that the production conditions were more favourable in Hungary than the production results suggested them to be. An increase in the specific results would promote the improvement of the fodder base for the cattle-, and sheep stock, and ensure the sectoral profitability, too.

In the case of slaughter cattle and milk the cost pressure shows a decreasing tendency. The ease of pressure was promoted by a state sub-

sidy granted for stock development and investments. It was, however, but partly sufficient to equalize the existing difference, and the income conditions of the branch remained unfavourable compared to the other branches of livestock breeding.

The producers' price for slaughter pig increased by 47,5 per cent in the examined period. The increase of production results was not, however, of such an extent as to compensate for the surplus input, so the prime cost per unit product rose. Within the production branch it was the household- and auxiliary farms of all sectors that showed the highest reactivity to price movements, fodder shortage and periodical overproduction. The negative tendency caused by these factors was successfully moderated by the government through intervention purchases in 1970-1971.

The development of the poultry branch and the improvement of its results were induced by a considerable structural change. The general introduction of large-scale technologies was its main factor, which affected in the first place the broiler chicken- and egg production. In the period of investigation the earlier price-ratio shifts were equalized by the reduction of the delivery price. At the same time, the earlier favourable income position of broiler chicken production ceased.

The producers' price for egg increased by 23 per cent in the examined period. The introduction of high productivity breeds raised a higher demand on the keeping technology. The increase in the large-scale production cost was, however, compensated by the specific result of egg production and the producers' price.

As a final conclusion it can be established that in the case of examined products the producers were always the most responsive to those price movements which led the profitability of the farm in a positive direction.

31. SURY, T.: A mezőgazdasági termelés területi elhelyezkedését befolyásoló egyes tényezők és azok hatásának vizsgálata. /Factors influencing the regional location of agricultural production and their effects./ Budapest, 1975. 128 pp.

In Hungary the range of cultivable plants, their ripening time, and in general the use of land and patterns of farm organization are considerably influenced by the precipitation and temperature conditions.

Land is the most important means of production in agriculture. Thus, the volume of production greatly depends on the size of the available land, and on its original fertility. The low productivity agricultural areas and farms of Hungary generally have poor quality soils.

Of the agriculturally cultivated area of Hungary nearly 19 per cent is occupied by sandy, and 8 per cent by alkali soils. About 0,9 million ha of the total sandy area of more than 1,3 million ha gives very poor yields if any. Of the alkali areas 74 per cent is found east of the river Tisza.

Of the low productivity co-operative farms 40-45 per cent are found on hilly- and mountainous areas. The topographic conditions increase here the production costs by some 15-25 per cent. About 3 million ha of the agriculturally cultivated area of Hungary are more or less threatened by floods; water management plays therefore a decisive role here due to the extreme climatic and topographic conditions.

Owing to what have been listed above, the preservation of soil, maintenance and increase of its fertility, and a rational management of land are tasks of extreme importance in Hungary.

The technical level and assets supply of agriculture expected to be attained until 1985 offer a possibility of extending the irrigation substantially. The present 440 thousand ha irrigation area may increase to 750 thousand - 1 million ha by 1985.

While the knowledge of local natural conditions gives answer to the question of what we should grow on the area concerned, studies on the economic factors provide directives as to what types of product and structure of production should be chosen to attain the highest possible economic results.

Of the regionally different operative and economic factors differentiating the agricultural production we analysed the labour force, and the length and quality of transportation- and communication lines. Finally, we tried to make projections for 1985 concerning the major trends of changes occurring in the production structure in the different economic regions.

The investigations have revealed that the regional specialization of the agricultural production has an important precondition namely, that the economic policy should be characterized by a regional approach and practice. And from economic- and social politic points of view, of the regional problems the complex development of backward agricultural areas raises the highest demands.

32. PALLÓS, L.-SZAKONYI, L.: A támogatási rendszer hatásmechanizmusának vizsgálata a kedvezőtlen adottságu termelőszövetkezetekben. /Mode of action of the subsidization system in co-operative farms with unfavourable conditions./ Budapest, 1974. 171 pp.

The economic stabilization of co-operative farms with unfavourable site conditions has always been regarded as a manifold operative and national economic task since the completion of reorganization up to the present day. The solutions suggested for remedying the troubles have remained largely the same during about 15 years elapsed since /attempts to ensure supplementary incomes, satisfactory assets supply, increased amelioration, adaptation to the site conditions by adjusting the structure of production, etc./. As the only essential difference in the course of time, the emphasis shifted from one to another decisively important task.

The frequent change of emphasis may be explained by the fact that the attained results were not duly appreciated, and radical solutions were always expected from new elements, or we made mistakes when determining the priorities of tasks. The present system of subsidization conveys permanent orientation for the co-operative farms mostly since 1968, and decisively from 1971, so its favourable effect may come into full display. The fact that in the co-operative farms with unfavourable site conditions the level of per capita personal income was e.g. in 1972 only 21 per cent lower than the national average, and the rate of increase of personal incomes was relatively higher in these co-operative farms can be regarded as a remarkable improvement. There is no need to worry about the 22 per cent lower than average per ha accumulation of the examined co-operative farms in 1972 either. The difference in the quality of land between co-operative farms with average and unfavourable conditions, respectively, is much greater than that - about 45 per cent. In our opinion the efficiency requirement of the restricted investment resources and supplementary inputs does not even make a higher accumulation possible.

The structural adjustment was examined according to the factors causing or influencing it /changes in the extent or form of subsidy/ in small regional units, because the overall change may conceal the manyfold partial changes of the production structure. We established the capability of accomodating to the presumably permanent economic orientation, as suggested by the 9-12 per cent increase of the cattle stock

compared to the 1 per cent national average. The 8,9 per cent growth of the cow stock on the hilly areas is particularly favourable.

Similarly favourable phenomena can be observed in the branch of crop production. In some co-operative farms on hilly areas e.g. the sowing area of barley increased by 140 per cent, and that of the rape by 289 per cent. In certain flat land co-operatives the silo maize showed a favourable 158, the wheat a 356 per cent area increase. The process that has started in crop production is considerably accelerated by the association of co-operatives and introduction of production systems.

The situation has become suitable for a faster rate simplification of the production structure of co-operatives operating under unfavourable conditions. It has become clear, that the subsidization system - with its manifoldedness - is of sufficient help for these processes. In the present phase structural simplification may still be hindered by the employment requirement of the co-operative membership. That is why in 1974 the subsidization system was completed with a new element, to support the non-agricultural activites of the co-operative farms.

The co-operative farms have to realize that a low efficiency resulting from unfavourable site conditions imposes economic restrictions, too, on agricultural employment. The social demand that the personal income of co-operative members living on agricultural work should not substantially differ from the national co-operative average can only be satisfied with a further purposeful intervention.

Activities outside the basic agricultural activity have already given great help in employing within the co-operative labour force in excess owing to structural adjustment or mechanization. No doubt, however, that this possibility has been exploited so far by economically stronger co-operatives in the first place. In co-operative farms with unfavourable site conditions incomes allotted to accumulation funds have not so far and will not in the future attain such a level as to provide an economic basis necessary for such activities. The amendment of the decree on subsidization issued in 1974 creates the financial possibility of employing the labour force released from agriculture outside the basic activity.

A complex system of various means is available for the economic stabilization of co-operatives with unfavourable site conditions. These co-operatives can choose different ways - depending on the circumstances - to attain the aim that the personal incomes of their members should be gradually levelled with the average co-operative income.

33. TÓTH, T.: A mezőgazdasági termelőszövetkezetek ipari eredetü termelőeszközei többcsatornás és kooperativ beszerzésének problémái. /Multichannel- and co-operative purchase of industrial origin production means in the co-operative farms./ Budapest, 1975. 46 pp.

The co-operatives have organized their purchasing-marketing associations as a means of the security and right scheduling of their production means purchases. The associations established contact with the manufacturing and trade enterprises, and made efforts to find the partner and the best solution to satisfy the demands of their employers.

The activity of manufacturing and trade enterprises misunderstanding the point of operative independence decreased after some time the efficiency of economic management, therefore the monopole organization, the strengthening of centralization became necessary. This solution, however, restricts the competition, thus the buyers will continue to compete instead of the sellers, that is the fused enterprises by their organizational integration and profile may get into a favourable economic position, enjoy advantages, and occasionally dictate.

The associations can only reckon with the opposite attitude when the enterprises manufacturing and selling means of production have troubles of stockpiling, because in that case the refunding of expenses /about 1 per cent/ paid to the associations for disposing of the products remains below the charge on assets /5 per cent/ to be paid in the case of holding them in stock.

There is a danger of tie-up sale too, that is the associations occasionally can be persuaded to sell frozen stocks if the necessary means of production are handed over by the manufacturing or trade enterprises under this condition.

The research of sources of assets purchase is at the same time information towards the manufacturing- and trade enterprises, which on this basis are able to organize the processes of manufacturing and trade in such a way as to carry on their activities at the lowest possible stock level, that is, to adjust their supply to demand. This means, on the other hand, that even the co-operatives themselves may purchase the means of production - without refunding to their own associations the costs of settling the business -, so that the weight of the associations in the purchasing activity will decrease. Further, a reduction of purchases through the associations is caused by

- the recently growing number of production co-operations and

production systems, because they themselves provide for the purchase of industrial origin means of production required for their production activity;

- the manufacturing of certain means of production recently placed under the management of the Ministry of Agriculture and Food, whereby the demands can be better satisfied;

- the decision of the Economic Committee by which the trade enterprises of machine components have also been given manufacturing capacity;

- the processing- and trade enterprises which initiate vertical integration, arrange for the purchase of the necessary means of production or even financially support their purchase;

- the widening network of servicing enterprises which see to the purchase of industrial origin production means required for repair work, renewal, installation, fitting, etc.;

- the repair shops of the co-operatives which being already better equipped are able to produce smaller implements themselves.

However, the decreased purchase through associations of the industrial origin production means cannot be considered to be a negative phenomenon if in the meantime the tension of demand-supply lessens and the balance further improves. It is in this respect that the manufacturing- and trade enterprises should be assisted by supplying the necessary information on short- and long-range purchases. In possession of such information they can prepare their programmes, if parallel to this they assess the sound demand of the co-operatives. Inasmuch as the balance would not improve in spite of the necessary information supplied, then either the manufacturing capacity of the imports should be increased, and certain elements of the management system duly changed.

34. TÓTH, T.: A háztáji gazdaságok árukapcsolatai, termelési és piaci magatartásuk. /Commodity relations, production- and market attitudes of household farms./
Budapest, 1975. 70 pp.

In the examined period of 1968–1973 the number and production capacity of household farms decreased, but the ones left behind carried out a more intensive production activity, namely, they increased their gross production by 9 per cent /by 7 per cent in the crop production- and 11 per cent in the livestock branch/. Owing to the higher material utilization their net production only grew by 1 per cent.

As a consequence of the decreased consumption of products produced by themselves, and the less restricted commodity trade the household farms were able to increase their gross sales by 27 per cent; however, owing to the large volume of agricultural products purchased their net sales grew by 14 per cent, only. In spite of the mentioned growth their share from the total agricultural commodity sales decreased by more than 11 per cent. In the case of crop production their share from the sales decreased by 24 per cent, while with animals and animal products increased by 12 per cent. It is characteristic that the smaller volume of products given them from the collective and mainly serving feeding purposes is completed by the household farms with purchased products and used for animal keeping. On the other hand, in breeding, animal raising and -selling considerable reduction can be seen: sales of cattle, pig and sheep decreased by 59, 64 and 33 per cent, respectively.

Owing to purchases of produces, products, animals etc. required to increase their commodity production their contribution to the central commodity funds /net sales/ was 18 per cent lower than their gross sales. The lower proportion of net sales cannot be regarded as a negative phenomenon, because, on the one hand, the different capacities of household farms managed under varied conditions can be better exploited, on the other hand, the purchase of feedstuffs richer in nutrients, and of animals of higher productivity promote the modernization and increase the intensity of farming.

As a consequence of a freer commodity trade, subsistence farming is no longer a primary objective with all products, moreover in the case of certain products a definite tendency to commodity production and strengthening of market relations are shown. The household farms increased their sales first of all of such products as partly kept on record as shortage goods, partly showing favourable trends of marketability. They are: potato, bean, vegetables, fruits, wine, pig, poultry and cow's milk.

The household farms organized their market relations so that they increased their sales of plant products through the free market and the collective farm, while selling the animal products increasingly through the collective. On the average of the two main branches, the proportion of products sold on the free market was decreased by 31, that of products sold to trade- and processing enterprises by 9 per cent; at the same time, the proportion of sales through the collective was increased by 40 per cent.

The decrease in the proportion of sales on the free market and to the trade- and processing enterprises must by all means urge the

leaders of the co-operative collective farms to plan and organize the commodity production of the household farms as a part of the collective farm, and promote sales of their products. It is not reasonable to encourage the household farms to organize, establish and operate household associations aimed at promoting their production- and trade activities. The first requirement is, namely, the regular active participation in the work of the collective farm, and since the co-operative members' auxiliary character household farms are not independent farming units isolated from the collective farm, it is unnecessary to encourage them to carry out an independent activity of farm organization.

The income of the household farm cannot be considered as identical with either the value of the produced products or the returns from sales is used for production purposes and thus transformed into cost. The income of the household farms is the remainder after deducting the costs of products, materials and services used, the sums of destocking, storage loss and rates and taxes from the total sum of sales returns increased with the value of own personal consumption, that is, the gross income. Its sum was an average of 115 thousand Ft/household farm in 1973. Taking into consideration the working time used for household production, the co-operative members attained a per capita gross income of about 15 Ft/hour. Since there are no days of rest and free days in the household farms, furthermore, the gross income is also a basis for widening and modernizing the production, therefore the mentioned income level cannot be called high at all.

The household production, the products received and purchased from the collective as well as the own /personal and producer's/ consumption relieve the commercial network of a considerable - about 2,8 thousand million Ft - cost of investment and operation a year.

35. UJHEGYI, Gy.-SZÉNAY, L.: Az állami támogatás rendszerére történő termelőszövetkezeti reagálás vizsgálata. /Reactions of co-operatives to the system of state subsidies./ Budapest, 1974. 57 pp.

The quickest and most favourable responses to state subsidization were obtained from the medium productivity co-operative farms including low productivity farms with a production level closer to that of the former group. These farms were able to compensate for the decrease of investment subsidies with the 1971 results and increase of income, respectively, only partly if at all.

The costs of investments realized with the help of state subsidy exceeded the projections in almost one-third of the examined farms. The greatest differences were found between the planned and actual costs of construction of specialized cattle- and pig plants.

Among the causes of the higher actual investment costs compared to the planned ones an underestimation of costs is suggested in 16 per cent of the examined co-operative farms. This fact indicates an insufficient supervision of investment planning and investment programmes. It should be noted that while underestimation was actially suggested by few farms, it might have been mentioned among other causes in a number of cases.

Underestimation of costs became an established practice of the farms in trying to obtain state subsidy by all means.

The cost increase was explained by 20 per cent of the farms with the "protraction of the investment", while 60 per cent gave the reason of higher prices and wages. The subsidization system was not sufficiently adjusted to the economically justified price increases, and this prevented the realization in due time and introduction in the production of agricultural - first of all livestock farming - capacities so much important for the national economy. The flexibility of the subsidization system is particularly important in this field, because - beside the scarce own- and credit resources - it is on the sum of the subsidy that the development plans depend in a good many farms.

In the examined farms some two-third of the capacities created with the help of the subsidy was not profitable, and 20 per cent showed deficit. Among the low productivity farms those showing deficit were relatively more in number, the majority of the "good" farms belonged to the category of "just refunding the production costs".

Two-third /66 per cent/ of the examined co-operative farms exploited their respective capacities to the planned extent, while in the rest the exploitation was not full. Some role was played by internal enterprisal deficiencies too in the failure of establishments and branches realized with the help of state subsidies.

Farms with no own resources required to receive a state subsidy are found mainly amont the medium- and low productivity co-operatives.

The present system of investment subsidies granted by the state is considered essentially good and useful in the examined farms, and only minor changes are expected from a possible further development. The low productivity co-operatives are perfectly satisfied with the system due obviously to the advantages of preferential state subsidies granted to

farms operating under unfavourable conditions. Many of them, however, raise objections against the present form of subsidization, as it does not sufficiently provide for accumulation.

Subsidies granted for unfavourable conditions would have the task of promoting the evolvement of a desirable production structure, the rational development of branches adaptable to the local conditions, and of ensuring a reasonable level of personal income. The answer given to questions of this kind indicate a moderate success of the subsidy. Still, from the reactions of the co-operatives to the change of the subsidization system it can be seen that for some four-fifth of the examined farms the present form of subsidies is more favourable than the former one.

However, the subsidized co-operative farms did not regard the adjustment of the production structure and a possible extension of subsidiary activities as a task of primary importance, although in many cases this is the way of an economically efficient utilization of areas with unfavourable conditions.

The production subsidies exerted a remarkable effect on the farming results in 30 per cent of the farms included in the analysis. The number of those farms which only consider the management subsidies at an enterprisal level is the highest among the low productivitiy farm and lowest among the good ones.

These subsidies are aimed at promoting the development or restrict the overextension of certain branches. Thus, in co-operative farms where these subsidies are considered at an enterprisal rather than a branch level, the effect exerted on the branches is only felt indirectly.

Of the analysed co-operative farms 37 per cent would welcome a form of subsidy incorporated in the prices, 43 per cent would prefer partly the incorporation in the price of the end-product, partly the present form of subsidization. It is not for nothing that these two solutions are thought to be good mainly by the medium- and low productivity co-operative farms. It is also in connection with the fact that they consider the price to be a more stable means than the subsidy.

None of the co-operative farms operating under unfavourable conditions regard the combination of subsidy and a cheap management credit as an advantageous solution. The present credit construction is a highly limiting factor for the co-operatives irrespective of the category they belong to.

36. UJHEGYI, Gy.-SZÉNAY, L.: A mezőgazdasági és az ipari jövedelemszabályozás összehasonlitásának néhány tapasztalata. /Experiences of comparing agricultural and industrial income regulations./
Budapest, 1975. 141 pp.

In the industries included in the comparison - food-, machine-, chemical- and light industry - between 1969 and 1973, and in the agriculture especially from 1971 a high rate of increase was observed. The substantial growth of production shows that the enterprises in agriculture and industry alike have made good use of the possibilities resulting from the improved conditions of independent, enterprise-like management. Thus the regulation urged the enterprises to increase their production. In the accelerated growth of agricultural production - taking the lower initial level also into consideration - important role was supposedly played by the greater enterprisal independence and more favourable situation of self-financing.

In large-scale farms the growth rate of incomes can be considered substantial; here the sudden change occurred in 1973. This sudden change was caused /since no essential price level increase took place/ by the intensive growth of production in certain branches - e.g. wheat and maize - of plant growing which makes the bulk of the agricultural receipts. The change in the results of agricultural enterprises points to the problem raised by the difference in profitability between the main agricultural activities, and by the increased proportion and order of magnitude of permanent costs.

The adverse effect of profitability differences between the main agricultural branches on the bulk of the enterprisal receipts shows in the fact that the larger share of plant growing in the total receipts makes the total results of the enterprise more dependent on the weather. This was clearly seen in the highly unfavourable year of 1970. In such years the problem may even be aggravated by the fact that with the spreading of the industry-like production the permanent costs which are independent of the yield increase too, and in an unfavourable year when the loss of yield is considerable this may cause a critical situation in the large-scale farms. Under the established income conditions a higher extent of reserve fund formation may be required.

The producers' prices have a strong influence on the agricultural production structure. In the industrial sector this role is less mani-

fest. More than three-fourth of the agricultural products have fixed prices. In the industries included in the comparison - with the expection of food industry - it is in the other way round. In certain industries a part of the products belong to the maximum official price category at the most. Many effects of the inconsistencies of resources, costs and receipts which within the global income orientation often promote an agricultural structure other than the one desirable for the national economy originate from price ratios and their fixed nature. Regulations in agriculture should therefore be aimed in the first place at strengthening the stimulatory effect of price ratios, co-ordinating the utilization of resources with the objectives of the plan, and simplifying the whole of the regulation system.

The greatest differences - beside the price regulation - can be found in the wages regulation systems of the examined branches.

The relations of labour force - output, and wages - production, respectively, are characterized by a 29,3 per cent specific decrease of the wages cost content of net sales returns in six years, while ensuring the increase of the planned average wage-level. All this underlines that the development of agricultural production originates fully from the growth of labour productivity. As a result, the labour intensity of the total agricultural production has decreased. This development involved the more or less disadvantageous phenomenon that the growth of materialized work utilization exceeded the savings in live labour and wages costs, respectively. As a consequence, the growth of national income produced in agriculture fell behind the extension of gross production. Decrease in the joint efficiency of the two main resources was, however, but partly necessary /labour force of relatively low wages/, regulation also had a part in it. In spite of the mentioned problem it is an important fact that in the relation of labour force and production similar efficiency as shown in the agriculture is not found is any of the other examined sectors.

Replacement and development of assets in the agricultural production sphere show no close "relationship", approximately identical circumstances with any of the sectors. It is therefore obvious, that identical regulations concerning the assets utilization and income relations cannot be efficiently used in the agricultural and industrial spheres.

Under the joint influence of regulators affecting the agricultural developments - with the possibilities of farm organization, modernization and labour management also taken into consideration - some 80-90 per cent of the reasonable development requirements could be realiz-

ed in the agricultural production enterprises. The enterprises have made proper use of the increased possibilities of self-financing, and in certain branches of agriculture /wheat, maize/ production is carried out on world standards. It is no exaggeration that if the industrial development regulators had been effective in the agriculture, then development in the latter would have been 30-40 per cent less favourable compared to what have been outlined above.

37. UJHEGYI, Gy.-SZÉNAY, L.: A mezőgazdasági vállalatok jövedelemviszonyai és gazdasági növekedésük közötti kapcsolatok szabályozási vonatkozásai. /Regulation aspects of relations between income conditions and economic growth in agricultural enterprises./
Budapest, 1975. 91 pp.

The sources of a production extension to a socially necessary extent and composition are fundamentally determined by the fact that state farms and co-operative farms are enterprises with independent management based on self-financing. The possibilities of production extension are, however, determined by the development fund formed from the receipts and amortization, as well as by the limits of state subsidy and credit supply. For a simple reproduction the farms have to use an increasing proportion of the prices of produced goods. This is suggested by the increase in the production costs, and - excluding the question of labour force reproduction - even more so by the increasing tendency of the replacement fund.

An increasing proportion of the realized investments has recently replaced fixed assets. As a peculiar problem, owing to the so-called delayed amortization a part of the replacement appears as extension /financed from receipts/. In the case of an accelerated amortization, however, in the returns from sales and other receipts a still smaller income would be realized /apart from other consequences/.

According to the results of investigations into the changes of fixed- and current assets, trends of investments, rate of development and sources of investment the rate and extent of growth in the stock of assets is higher in co-operatives than in state farms. This, however, necessarily follows from the fact that co-operative farms are in the process of instrumentation and technical development on the one hand, while the capital equipment ratio of state farms was at a much higher level even in the earlier periods, on the other. It is thus understandable that

the difference between assets increment and production growth is greater /in favour of the former/ in the co-operatives than in the state farms. It is, however, a common feature of the two sectors, that the growth of the stock of assets exceeds by far the increase of the production volume /production value at unchanged prices/. Although this suggests a decrease in the assets efficiency, but the revaluation of the fixed assets and a price increase for most of the fixed- and current assets strongly distort the proportions in this case, too.

The fixed assets level of the production area has substantially improved for several years in the co-operatives. As a result of the different rate of growth the difference between the two sectors has decreased, although the fixed assets level of the state farms was even in 1972 2,1-times as high as that of the co-operative farms.

The current assets level has increased at a faster rate in state farms than in the co-operatives. On this basis the so far inadequate ratio of fixed to current assets shows improvement in the state farms and changes unfavourably in the co-operative farms. Knowing the economic relation of the order of magnitude of the two groups of assets, an improving tendency of the efficiency of assets can be expected in state farms, and the opposite in the co-operatives. With the view of preventing the latter, a right proportion of assets extension should be determined in the co-operative farms. The demand for increasing the stock of current assets postulates the growth of receipts.

The implement supply has shown a greater improvement in both sectors than the assets supply /the total value of implements per employee has increased by more than 60 per cent in co-operatives, and by nearly 50 per cent in state farms/. This indicates the process regularly appearing in agricultural development as a result of replacing labour by implements, and of changes occurring in the efficiency of labour, and leading to the improvement of the latter.

The extent of wear in fixed assets has considerably decreased for the last years, but is even now about 50 per cent in both sectors. Thus, in the following years an increased fixed assets extension and faster rate of investment must be reckoned with compared to the previous years. The higher rate of investment is justified by the structural adjustment, technical progress, and a demand for complexity.

The effect of a reduction in investments replacing and developing the stock of fixed assets /mainly in the co-operative farms/ could not be felt in the agricultural results of 1972 /in 1973 or within a few years/. Several years later, however, it may cause structural and other

production problems by producing bottlenecks in the basic conditions of production extension; such problems can be expected mainly in the assets intensive branches if the reduction of investments will not be followed by an economically justified tendency to extension.

The trend of changes occurring in the financial resources of investments is characterized by the decrease of all resources including the price support and the credit. In the state farms the credit resources have not substantially been reduced. Among the resources of the co-operative farms the proportion of own resources has substantially increased while the role of subsidies and credits has become less important.

Beside the average level of utilizable incomes the own resources originating in the income offer little possibility of assets extension in general.

A possible increase of credit resources would not impair the self-financing capacity if the use of credit does not affect the sphere of independent enterprisal decision making, and if the credit charges are not too high /this depends on the expiry and the rate of interest as well/. In the future a better harmony should be established between the profitability of the end-product of a production capacity realized by investment on the one hand, and the expiry and rate of interest on the other, with the regulatory role of the credit duly considered.

38. Mrs. ZSUFFA, I.: Az import fehérjetakarmányok áremelkedésének hatása az állattenyésztés jövedelmezőségére. /Effect of price increase in imported protein feeds on profitability in livestock farming./
Budapest, 1975. 100 pp.

For several years the utilization of industrial protein feeds has increased at a rate substantially exceeding the production output of livestock farming in Hungary. A decisive proportion of these feeds originates in capitalist imports, so the share of imports has considerably grown in the inputs of animal products in Hungary. At the same time, price increases of inflationary character occurring in the capitalist world have not left unaffected the protein feeds which has led to an increase in the Hungarian import prices. The purchase prices of the farms have but partly followed this increase, and the considerable price loss has been compensated for from the Reserve Fund of Food Industry. Thus the farm-level efficiency of livestock inputs may substantially differ from efficiency on a national economic level.

On the other hand, the producers' orientation was also made difficult by the two-level price. Those utilizing the import protein were not sufficiently interested in handling the import material more efficiently. The present prices of protein feeds have not urged the producers to use larger proportions of domestically produced feeds.

In order to promote the more efficient utilization of materials originating in imports the Council of Ministers passed a decision among others on the increase of purchase prices for protein feeds, feed supplements, and at the same time for animal products. So the increment of the purchase prices of animal products offers some extent of coverage for the cost increase originating from the higher farm-level purchase prices of protein feeds.

In the cattle branch the increase of the purchase price for slaughter cattle covers to some extent the price increase of protein feeds and premix in most farms. Cost increase as a percentage of sales returns is the lowest - 30 per cent - in co-operative farms, 50 per cent in state farms, 72 per cent in household farms, while in the auxiliary farms it is essetntially - 82 per cent - higher than the increase of sales returns.

The proportion by which the increment of sales returns exceeds the cost increase should provide coverage for cost increases originating in changes in the grain fodder- and lucerne meal prices, in the price gap of mixing as well as in the prices of fertilizers and pesticides.

In the pig branch the relation of cost increase to the increment of sales returns is the most favourable in the small farms. Here the price increase in protein feeds consumes some one-sixth of the increase of purchase price. Price increase in protein feeds makes more than a quarter of the increased sales returns in state farms, and 40 per cent in co-operative farms. If the present level of profitability is to be maintained, the large-scale pig farms of Hungary must use the remaining 217 and 184 Ft/q, respectively, in such a way as to compensate for the increase of all other costs affecting the pig branch.

The increase of feed prices causes the greatest tension in large-scale poultry farming. In the state farms the price increase of protein feeds is about 90 per cent, in the co-operative farms 62 per cent of the growth of sales returns. The 25 and 86 Ft/q live weight, respectively, left over from the sales returns do not probably cover the increase of the other cost elements. In the large-scale poultry farms of Hungary - some of which bear the increased costs of breeding in addition to the end-product output - the income level can only be maintained by a more rational organization of production and reduction of specific costs.

The fast rate increase of specific protein feed costs makes the more efficient utilization of these feeds a task of primary importance. Considering the new requirements of keeping technology it is not probable that the specific costs of industrial feeds can be reduced. However, in the costs of traditional feeds savings should emerge which could provide coverage for the increased cost of up-to-date feeding. This favourable effect appears to a lesser extent for the time being than would be reasonably expected. For the sake of a correct judgement we must add that - on the other hand - the introduction of industrial feeds on a wider scale involves the decrease of live labour costs as well.

The costs of import materials in the products of livestock farming represent a new viewpoint in the evaluation of the individual branches. It is particularly important to take into consideration the import intensiveness of goods produced for export. We should like to emphasize that this index cannot be used to measure the economic efficiency of the export, it only means a new point of view in evaluating the different products from the aspect of external economy.

The proportion of imported feeds is the lowest in the cattle branch, so latter can be decidedly regarded as a hard currancy earning branch. The amount of dollar required to produce a unit product is only 5 per cent of the returns from sales - even attained under unfavourable marketing conditions.

The import content of the price of slaughter pig is somewhat higher than in the case of slaughter cattle, but even so its ratio to the export receipts is only 14 per cent which can be considered favourable.

The relatively high level of the proportion of imports in the poultry products seems to be problematic. The dollar value of imported feeds used to produce 1 q slaughter poultry is nearly 40 per cent of the export sales returns. If we consider that the commodity fund mostly comes from the large farms - where the utilization of import feeds is substantially higher than average - the terms of trade seem to be obviously unfavourable.

Economics of major agricultural branches

39. BULLETIN 37. Economic questions of main agricultural branches. /Studies./
/Ed.: BISZTRAY, Á., KŐVÁRI, M., RÁCZ, L./
Budapest, 1975. 95 pp.

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SZEDERKÉNYI, E.: State of Hungarian potato growing and issues of large-scale potato production

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Mrs. FADGYAS, K.: The development of a dairy farm by way of modelling

ÁCS, R.: Building investment requirements of animal raising systems in large-scale enterprises

Mrs. TÓTTH, V.: Some large-scale economic experiences in the investments of the large-scale pig farms

HALÁSZ, P.: Economic efficiency of the technical-technological procedures used in large-scale pig farms

NAGY, Z.: Economic evaluation of investments, production costs and profitability level of deep bedding and battery system egg production

40. Miss GUBA, M.-PAPP, Zs.: A gépesitett szőlőbetakaritás vállalatgazdasági kérdései. /Enterprise management questions of mechanical vintage./
Budapest, 1975. 55 pp.

Optimum vintage mechanization is influenced by the labour force situation, wage-cost, machine utilization and change of machine prices. According to the data of the model farm the best way of grape harvesting can be decided by taking the following points into consideration.

- Inasmuch as the farm disposes of sufficient labour force, at the present costs of the manual- and mechanical harvesting technologies the purchase or operation of combines is not justified.

- Even in the case of a reduced labour capacity machines are only worth being purchased if vintage - irrespective of whether or not the time is optimum for harvesting - can no longer be carried out by hand.

- With an unlimited labour capacity the use of combines only begins to be competitive with man-power at a very high /42,34 Ft/hour/ cost level.

- In the case of low labour capacity even the slightest increase in wages justifies the extension of the combine park. The more the cost of live labour increases, the less the labour capacity influences the decision made by the enterprise.

- In case the combine has already been purchased, the capacity of the harvester should be fully expoited.

- Under the conditions of unlimited labour force and low wage-cost inefficient combine utilization cannot be improved to such an extent as to render the use of the machine profitable. With a low labour capacity the improved combine performance increases through the advantages of using machines, but this does not affect the necessary number of machines and the continuous utilization of machines will not be ensured.

Under the present circumstances the economic conditions of a profitable combine utilization cannot be created even with a possible further reduction in the machine price. To make mechanical vintage economically advantageous first of all the losses should be decreased.

- Later on the use of harvesters will be unavoidable because of the sharp decrease of the labour capacity. Therefore every effort must be made to explore the reserves which reduce the costs of machine utilization, and first of all the losses of harvesting. Favourable conditions will be provided for this first of all in the new plantations by the application of supporting systems better suited for mechanical harvesting, and by the change of the cultivation method. An income surplus originating from the improved efficiency of various inputs and from the increase of yield may also help in establishing or improving the economic conditions of machine utilization.

41. KUKOVICS, S.-MÓDOS, Gy.: A fontosabb termelési ágazatok területi fejlődése a mezőgazdaságban /1960-1973/. /Regional development of major agricultural production branches. 1960-1973./
Budapest, 1975. 126 pp.

Under socialist conditions of society the main purpose of regional development is to eliminate backwardness and enable a constant increase in the living standards of population in the different parts of the country. Levelling, naturally, must not impair the economic effici-

ency of production, but this can only be attained by developing an economic structure corresponding to the character of the region.

Agricultural production - like all the other branches of national economy - is regionally differentiated. The natural conditions of a region may promote, restrict or even exclude one or more branches of production, thus, in the agriculture much more factors have to be reckoned with than in other sectors.

In the present management system the profitability status of the individual branches is so much differentiated that the established proportions can but slightly be altered by the different regional effects of production. Wheat production is a good example of this. As a result of economic policy measures taken since the mid-sixties the profitability level of the wheat branch has considerably increased compared to the other branches, and its status is table in all regions.

Regional specialization is much higher in the case of branches replacing each other. Red clover is e.g. grown on large areas where /Borsod-Abauj-Zemplén, Vas-, Zala-, Somogy counties/ the possibilities of producing lucerne, a crop with some special requirements, are limited. This is the case with several other crops, too.

Several branches - e.g. tobacco and vine of the examined ones - have special demands for soil- and climatic conditions. However, the special demands which, in essentials, can be traced back to natural- and production technical factors are not differentiated by county boundaries, so there seems to be pointless to study the question according to counties. Vine- and tobacco growing are known to have established regions which sometimes cover more than one countie.

The above outlined problems indicate also the difficulties of developing more or less uniform agricultural regions. In units developed on the basis of the main crops and livestock districts branches with special requirements cannot be studied again, although most of the so-called "problematic" branches - e.g. vegetables and fruits - belong here. For this very reason, it is from the individual branches or from regional units organized for definite groups of them that one might start when surveying the regional distribution of the agricultural branches.

Regional specialization in the livestock branches does not even attain the level of the crop production branches. This applies first of all to the cattle- and pig branch. On the basis of animal density a higher degree of specialization could in all certainty be pointed out. Low level regional specialization has a great many causes and components.

The livestock branches are less dependent on natural conditions. It is, in fact, only through fodder production that they are related with natural factors. In the course of satisfying the feed requirements, however, we may choose from various kinds of feed. The green fodder- and roughage demands of cattle e.g. can be satisfied from the meadow, pasture, as well as with lucerne and red clover. These fodders can more or less substituted for one another. Here the natural conditions can be well utilized, which renders a high level regional specialization of the branches possible.

In an interesting way, in branches considered to be least dependent on local conditions - e.g. poultry farming - a higher degree of regional specialization can be observed. This applies first of all to the co-operative-, and even more so to the state sector. The income status of the poultry branch was particularly favourable between 1968 and 1971. Considerable investments were required, however, to exploit the possibilities which in regions with poor conditions were not always available.

The regional specialization of livestock farming is considerably influenced by the management system as well. In the system of breaking down the plan obligatory prescriptions forced the agricultural enterprises to keep animals, though to maintain or increase the livestock was a definite social demand even after 1968. This was the case especially in the cattle branch where later it was supported by economic sanctions.

As a matter of fact, in the livestock branches the conditions of an increased utilization of the possibilities inherent in the regional factors have but recently been provided for, and it will still be hindered for a long time by the already existing highly valuable production means and buildings.

The large farms increased first the level of those fodder producing branches which supplied the higher profitability livestock branches. On the basis of income ratios the grain fodder-consuming branches have been in an advantageous position until now. This explains the fact that the production area, and above all the yield of grain fodder crops have considerably increased, while the average yields of mass fodders have fallen back or stagnate compared to the prewar conditions.

A correlation between fodder production and the regional location of the livestock can certainly be pointed out though the proportion do not perfectly coincide.

42. Mrs. LÁSZLÓ, Gy.: A hazai pulykahustermelés fejlődésének főbb jellemzői és az árutermelés gazdaságossági vizsgálata. /Major features of the development of turkey meat production in Hungary, and analysis of the economic efficiency of commodity production./
Budapest, 1975. 70 pp.

On the basis of analysing farm data concerning the general conditions and status of large-scale turkey meat production in Hungary the following important conclusions can be drawn.

1. The increased production of turkey meat is justified first of all by the export demands. Three-quarters of the production of Hungary - some 8-9 thousand tons a year - are sold abroad. Two-third of the exports is absorbed by socialist countries /the German Democratic Republic and the Soviet Union in the first place/. Turkey meat sold to capitalist countries is estimated to be 2,0-2,5 thousand tons a year.

Export prices for both slaughter poultry and turkey were favourable in 1973-1974. Under the influence of an increasing demand and other economic factors poultry prices have shown a much greater increase on the capitalist- than on the socialist market. The question arises, however, whether the present favourable price level should be regarded as a permanent tendency or a temporary upswing. After all, this decides not only the necessity but also the extent and rate of development in the turkey meat production of Hungary.

2. One of the most important determinants of the production capacity is the breeding stock which has almost continuously decreased for several years, due partly to the reduced possibilities of traditional turkey keeping, partly to the slow development rate of the turkey stock.

3. Another important determinant of the production capacity is the production level of the stock, which cannot even be compared to the prewar level. Characteristically of the utilization of the breeding stock, production per 1 bird was 25 kg in 1938 against the present 70 kg or so.

In spite of the spectacular progress we cannot be satisfied with the production level of the branch as a whole, first of all because in small farms where nearly 50 per cent of the turkey stock is kept the level of production is low. While in these farms the stock birds produce only 24-26 kg a year, in the large-scale farms an average volume of 107 kg slaughter turkey is produced. Even these farms are inferior of the

new production systems where the theoretical yield of the turkey hybrids is 140-160 kg a year. Increased yields can thus be attained by extending the production capacities suitable for commercial production, and further improving the production systems.

4. The Fourth Five-Year Plan prescribes the intensive development of turkey meat production. Still, in the past period the meat production of the branch only increased by 2-3 instead of 10-12 thousand tons. Therefore by the end of 1975 even the output of the one-year plan - 24,2 thousand tons turkey meat - cannot be reckoned with.

43. SÁROSSY, L.-ZWICKL, J.: Az eszközátcsoportositás és a gazdasági hatékonyság a vállalkozási kötelékekben. /A kertészeti ágazat 10 vállalkozási kötelékében végzett vizsgálatok tapasztalatai./ /Reallocation of assets and economic efficiency in common undertakings. Experiences of investigations carried out in 10 common undertakings of the horticultural branch./
Budapest, 1975. 131 pp.

In the associations a harmonious flow of assets and performances adjusted to the technical processes and economic reasonableness is of vital importance between the integrated unit and the member farm.

The flow of assets may occur on a single occasion /in that case it is more correct to speak of assets transfer/ or may be temporary, periodical and continuous. In latter case it is most frequently a physical "motion" of assets, materials required in the production-economic cycle itself, too.

The motion of assets within the integrated organization is twofold: it may be directed either from the founders to the integrated common organization, or in the other way round.

As regards the character of the flowing assets we can observe the flowing of the so-called financial means, and of the natural forms of assets /e.g. transfer of firxed assets/.

The two most important momentums of the regrouping of assets are the financial contribution and the profit sharing.

Beside the integration of activities a tendency of financial integration is also strongly felt in the associations, as manifest in pooling the free development resources of the participants.

In the economic associations the sum-total of deposits is increasing from year to year showing that the financial contribution is

a process not limitable in time. The associating organizations mostly pool their resources in order to carry out some activity which either requires investments exceeding their capacities or cannot be fitted into their own economic structures. Although an investment is a process limitable in time, it is not sure that with its having been completed the flow of assets also comes to an end. Namely, the participants later pay development shares, or even compensation for loss in the case of unfavourable economic results.

The sum-total of deposits of the organizations concerned is very often highly different, and in the course of years the ratio of interests may further change. This is an essential point especially on refunding, because the pecuniary share is one of the bases of income distribution.

It is during the production-economic processes - but mainly at the end of the cycle - that the balance which is suitable to assess the integrated activity and shows the attained level of economic growth can be prepared on the part of the participants. It is a matter of returning the assets which may take place in different ways and forms.

As regards its form the returning of assets can be direct /in the form of money/ or indirect /realized in various economic advantages/.

The practical way of direct /money/ return is the distribution of the associations' profit. The size of the deposit is no exclusive basis for distribution, in the latter the extent of participation in the joint activity - to use a well-known expression - also has a part. The share determined on the basis of activity /e.g. on the basis of the amount of goods produced for trade/ may occasionally exceed that established by the deposit.

Indirect refunding may sometimes attain or replace the direct refunding. The "profit" of integrated activity can be expressed not only with the share paid out, but e.g. with the stabilized status on the market, reliable disposal of products or more favourable price conditions, too. From the point of view of developing the joining branches - in the case of vertical integration - the renewal of organization which through the integrated activity has an impact on the organization of the branches concerned is not a matter of indifference either.

44. SZILÁGYI, Zs.: A nagyüzemi gyümölcsösök növényvédelmének, gyomirtásának és öntözésének gazdasági értékelése. /Economic evaluation of plant protection, weed control and irrigation in large-scale orchards./
Budapest, 1974. 54 pp.

The pathogens and pests of plants cause considerable losses in production all over the world even with the application of various methods of plant protection. The increased application of these protection methods has become a social and economic pressure. As a result of the high volume pesticide consumption plant protection has an increasing - today an average of over 10 per cent - share from the direct costs of fruit production in Hungary. In the large-scale orchards the operations are fully mechanized, live labour input makes only 2,9 per cent of the costs on an average. The per ha cost of protection for the whole season is an average of about 3100 Ft, and for a single operation 390 Ft. The size of the protection cost is determined primarily by the cost of the material used which amounts to 77,5 per cent of the total costs of plant protection.

The up-to-date pesticides already available make it possible to use machines operating with small quantities of water. This may result in savings of about 80 per cent in water transportation, and 32-48 per cent due to the reduction of pesticides if the protective operations are carried out at a biologically optimum time. It should be added that the efficiency of plant protection operations is closely related with the attained yield averages. The yield-increasing effect of plant protection is expressed only in common with other factors.

In Hungary the chemical weed control of orchards began two decades ago and was confined to a few herbicides; due to the widening range of herbicides the size of the weed-controlled area has since grown to nearly 35 thousand ha.

A comparative evaluation of mechanical and combined /machine cultivation between ,and chemicals applied to rows/ weed killing shows that the per ha live labour input is twice and live labour cost 1,7 times more with mechanical weed killing of 1 ha area 17 per cent more machine work and machine cost was used than in the course of combined weed control.

Thus, we may say that the combined solution - while not cheaper than the mechanical one - is more successful, and its extension is thus justified.

The climate of Hungary with its tendency to dryness requires the periodical irrigation of certain fruit species necessary. In spite of this, the size of the irrigation orchard area is stagnating. Irrigation farming requires a considerable supplementary investment, therefore the farms endeavour to ensure water supply first to fodder plants of all crops because they provide the highest rate of returns. The same principle is applied within the fruit species, and the literature of irrigation itself takes a stand accordingly.

Operation costs arising in connection with irrigation water supply and -servicing amounted to some 3500 Ft/ha on an average, 9,5 per cent of the direct production cost.

In farms producing apple with both irrigation and dry cultivation irrigation resulted in an average of 91,6 q/ha relative yield increase and 34,800 Ft surplus net income, that is, the profitability of irrigation is highly favourable.

Knowing the attained net income surplus we have established that the irrigated apple orchards are able to return supplementary investments in a short time. It would be right if among the production factors in apple orchards more important role were given to irrigation. According to calculations - in the case of the other fruit species - the introduction of irrigation must be thoroughly considered even for fruit species with larger yields, because the other factors of production must also raised to a higher level for the sake of success.

45. VARGA, Gy.: Zöldségtermelésünk időszerü gazdasági kérdései. /Current economic problems of vegetable production in Hungary./
Budapest, 1975. 52 pp.

The stagnation of vegetable production in Hungary, its lower than necessary rate of development can be attributed mainly to unfavourable changes in the economic conditions and the slow rate of technical development. There is a close connection between the two main causes, because the slower than desirable rate of technical development becomes particularly problematic owing to the considerable decrease of labour capacity, while the insufficient level of profitability restricts the improvement of technological systems.

According to our calculations the development rate of vegetable production in Hungary was lower in the past decade than what we had plann-

ed for the Fifth Five-Year Plan period. The effect of government measures taken at the beginning of the seventies - which were too careful especially in the field of adjusting the producers' prices - was though positive, but did not prevent an increasing differentiation between the branches, nor induced any promising production development. In all this a considerable role is played by the fact that in many branches we have neither technical solutions nor production technologies that could be safely recommended to the farms.

In our opinion it is not enough to maintain the production regulations and incentives of the last years unchanged, they have to be strengthened and extended if an about 20 per cent production increase projected for the Fifth Five-Year Plan period is to be attained. Any measure can only be duly efficient if the manifold nature of vegetable production, the difference in technical level between the branches and the varied patterns of product utilization are taken into consideration.

Vegetable consumption in Hungary is characterized by a stagnant quantitative level and a price level increasing parallel to the growth of nominal incomes. This price increase is given partly by the improved qualitative composition of product supply, the higher degree of processing, and partly by the higher proportion of commodity trade outside the main season. The increased supply of primeur vegetables necessarily involves a rise in the price level. For social policy reasons we think it right to increase the inland trade of canned- and deep-frozen products which offer a better solution, and at the same time provide favourable conditions for preferential prices fixed by the state.

As regards encouraging producers technical development is considered to be indispensable when creating the economic conditions of profitable production. Support given to the extension of technological adjustment of production cannot replace or make superfluous a necessary settling of cost- and income problems. In many branches of vegetable production there is not even possibility of a radical change of technology and replacement of manual work by machine. Here the required volume of production can only be attained by creating preferential income conditions.

Problems of enterprise management

46. Mrs. SÖVÉNYHÁZY, E.-TÓTH, A.: Eszközigényesség és eszközösszetétel néhány állami gazdaságban. /Assets intensity and assets composition in some state farms./ Budapest, 1974. 103 pp.

In agricultural production the rate of return for permanently tied up current assets is different. In crop production the circulation speed is more favourable /3,70 on the four years average of 1969-1972/ than in the livestock branch /0,98/. The circulation speed of activities outside the basic activity, and of other activities is very high: 12,52 for the former and 13,29 for the latter.

The relations of net income to sales returns and permanently tied up current assets values unanimously indicate the characteristic fluctuations between the years. The ratio of net income and sales returns shows, however, much smaller deviations than current assets input per 1 Ft net income does.

It seems to be a tendency that the increase in the volume of permanently tied up current assets values per 1 Ft net income resulted in a modest rate income growth.

The fixed assets engagement increased by 30 per cent in crop production and by 70 per cent in the livestock branch in the examined years. Assets demand changed, however, in highly different ways in the individual branches. Consequently, in 1972 maize production tied up nearly twice, sugar-beet production almost three times as much fixed assets as wheat production on the same acreage. Fixed assets engagement increased by about 50 per cent in these three branches. Within the livestock sector it was first of all in the cattle- and pig branch that the value of tied-up fixed assets increased. The fixed assets engagement of fattening increased at a slower, that of breeding at a faster rate in both branches. The increase of fixed assets engagement was outstanding in the dairy branch.

In the phase of intensive development of fixed assets the decline of fixed assets efficiency indices - at least temporarily - seems to be regular. Return from sales per unit tied-up fixed assets decreased at enterprisal-, sectoral- and branch level alike. Livestock farming is generally behind the crop production sector as regards the efficiency of fixed assets. However, the differentiation of branches is characteristic of both sectors.

The ratio of fixed to current assets engagement is also remarkably different in the two sectors. While in crop production this ratio is about 85-15 per cent, in livestock farming it is an average of 57-43 per cent. In the total activity of farms the ratio of fixed to current assets engagement is 71:29.

The continuously increasing fixed assets demand of crop production was followed by the current assets demand with certain shifting. In livestock farming it was in the first place due to the protraction of stocking that the dynamically increasing fixed assets tying up was coupled with a slightly increasing durable current assets stock. At enterprisal level the increasing tendency of assets demand is unmistakably continuous.

47. Mrs. SÖVÉNYHÁZY, E.-TÓTH, A.: Néhány növénytermelési ágazat eszközlekötése. /Assets engagement in some branches of crop production./
Budapest, 1975. 152 pp.

The systematic extension of farms requires efficient assets management in all fields of national economy. The reasonable management of assets postulates the knowledge of the extent of assets tied up in production.

The technological progress has a strong effect on the extent of fixed assets engagement in wheat production. Beside the obviously increasing tendency its accelerating, progressive character is clearly seen. In developed technologies the composition of fixed assets tie-up in the branch also changes. Landed property loses its leading role, whilst machines and vehicles become dominant. The demand for higher harvester capacity is a decisive motive of the development of technology.

Similar tendency is expressed in the fixed assets tie-up of maize production. The sugar-beet production is highly fixed assets intensive compared to the wheat- and maize production. Its composition is characterized by a low building requirement, and its fixed assets tie-up the participation of machines and vehicles is dominant.

Of the annual average current assets use of the wheat branch 79-81 per cent is represented by costs. In more developed technologies the stagnation of the specific absolute value of material costs is definitely disadvantageous from the point of view of yield trends. The supplies make about 25 per cent of the current assets tied up. In the more developed technologies of the maize branch the decrease of specific cur-

rent assets tie-up was caused by the better organization of stock management. In the sugar-beet branch the increase of specific current assets tie-up in the more developed technologies resulted from the rising of varying costs.

The rate of change in current assets tie-up - as seen from the joint examination of wheat-, maize- and sugar-beet production - shows that the third and fourth quarters of the previous year impose great burdens on the farms. In the first quarter of the year the extent of tie-up is reduced to minimum. In the second quarter wheat remains at minimum level, but in the maize- and sugar-beet branch tie-up suddenly increases.

In the process of production the fixed- and current assets take part together and are in interaction with one another. The development of technology involves an increased tie-up of fixed assets, consequently the proportion of current assets decreases. In wheat- and maize production even the value of specific current assets tie-up will be reduced. In sugar-beet production the value of specific current assets tie-up has increased.

When studying the case of the present "developed" technologies it can be established that the value of tied up land is not negligible even in comparison with the otherwise high extent fixed- and current assets tie-up. The intensive utilization of lands is an important national economic interest owing to the high value it represents. Thus inasmuch as the exploitation of land at the disposal of agricultural enterprises, that is its most profitable cultivation involves a great increase of fixed- and current assets tie-up, the latter should by all means be ensured within the limits offered by the existing possibilities.

In the examined branches various degrees of assets tie-up are required per unit production value. The differentiation of branches in this respect is the consequence of the characteristic assets requirements of the branches on the one hand, while on the other hand it is due to the relation of yields and product prices.

In phases of moderate rate technological development in wheat- and maize production the increase of profit ran parallel with the growing assets requirements of technical development. In the intensive phases of development, however, the growth rate of profit falls behind that of the assets tie-up. A decidedly assets intensive development may also be economically efficient, namely, when it realizes a relative income surplus. On the other hand, a decline in the profitability level of assets tie-up is a warning that the realization of the rapidly increasing inputs will take an ever longer time even at a rising level of economic

efficiency. This can only be avoided by increasing the yields. As regards an output-centric cost utilization, the farms still dispose of considerable reserves. The economic efficiency of sugar-beet production by "developed" technology is relatively low /compared to the "traditional" technology/, but from the point of view of maintaining the production it is the only possible solution and as much - by its specific profit per unit area - is competitive with the other branches.

48. SZEDERKÉNYI, H.: Az 1972. évi gazdálkodás fontosabb mutatói 33 állami gazdaságban. /Major management indices of 1972 in 33 state farms./ Vol. 1-2.
Budapest, 1974. 138 + 147 pp.

49. SZEDERKÉNYI, H.: Az 1973. évi gazdálkodás fontosabb mutatói 33 állami gazdaságban. /Major management indices of 1973 in 33 state farms./ Vol. 1-2.
Budapest, 1974-1975. 118 + 125 pp.

50. SZEDERKÉNYI, H.: Vállalati alkalmazkodás a változó közgazdasági környezethez. /Enterprise adjustment to changing economic environment./
Budapest, 1974. 81 pp.

51. SZEDERKÉNYI, H.-VÁRADY, L.: A belső információ helyzete és szabályozása az állami gazdaságokban. /Status and regulation of internal information in state farms./
Budapest, 1974. 128 pp.

Farm- and work organization

52. Mrs. EGYED, K.: A termelőszövetkezeti munkaerőbázis összetételének hatása a munkaerőgazdálkodásra. /Effect of the composition of co-operative labour supply on labour management./
Budapest, 1975. 52 pp.

Studying the co-operative labour supply according to the supposed and expected degree of attachement to the co-operative farm we can distinguish a bound and a less bound group of labour force. The former includes members and employees who because of their advanced age, lower level of education and professional training, or for other reasons would not - in all probability - find work outside the co-operative. To the less bound group of labour force those members and employees belong who owing to their younger age, higher professional knowledge and qualification are able without much difficulty to find employment outside the co-operative.

In the bound group the number of those taking part in collective work has considerably decreased, therefore when shaping labour management policies in the future the possibility of finding employment within the frames of household farming for co-operative members leaving the collective work must be thoroughly considered.

The importance of women in the co-operative labour basis is increasing. It is therefore reasonable to make efforts to satisfy the employment demands of women belonging to the younger age-groups.

There are considerable differences in the degree of attachment between the counties:

- Counties east of the river Tisza are generally characterized by a relatively large labour basis of rather favourable composition.

- A separate group is formed by the co-operative farms operating in an industrial environment. Of them Borsod-Abauj-Zemplen, Nógrád and Veszprém are counties with unfavourable labour conditions.

- As to the Transdanubian counties, in Zala the composition of co-operative labour force is highly unfavourable. The tendency of ageing is unmistakable here.

The regional analysis of co-operative labour force is indispensable to take the necessary measures of labour management. The realization of a differentiated labour policy is one of the most urgent requirements for the whole labour management of the co-operatives.

53. HULÉNYI, M.: Mezőgazdasági munkaszervezés korszerü alapjainak kialakulása. /Development of up-to-date bases for agricultural work organization./
Budapest, 1975. 87 pp.

The first part of the study deals with the theoretical and practical features of agricultural work organization as well as with their applicability.

It summarizes and systemizes the peculiar features of work organization in the different phases of the history of agriculture, and separates the out-of-date negative features from those applicable at present.

The study describes how the problems of work organization were solved in the different phases, and what the results obtained or failures encountered were.

The second chapter summarizes the theoretical approaches utilizable in solving the work organization questions of today, and lays down the main lines of work ahead. Its statement can be summed up as follows.

In the course of developint an up-to-date work organization one must reckon with the change and new interpretation of the bases of organization theory. The fulfilment of the present requirements of work organization, and the solution of work organization problems related with it demands a system-centric way of management from the leaders of farms. This renders the complexity of work organization possible, and helps in analysing the organization and management of work processes and working places, respectively, from a system-centric point of view.

Of the bulk of knowledge which promotes the realization of work organization in practice, and by which it becomes a complex activity of high value, the technical- and ergonomic knowledge are significant, whose application offers great possibilities.

Work organization needs an increasing amount of information to decrease labour inputs. The methods of measuring and analysing the live and dead labour inputs should be improved, and efforts should be made to apply further procedures.

Work organization, particularly as regards the labour processes is short of the necessary information. On the basis of practical investigations it can be established that instruments to measure work can be successfully applied for most work processes and working places. They are considered to be able to supply quick and reliable information for the farm management, which can be efficiently used in the everyday activity of work organizaton as well.

Owing to the industrial nature of the modern agricultural production, and on the basis of experiences gained so far of the operation of production systems it has become necessary to adapt the successful methods and procedures of work organization to the farms. To express this demand in a different way: there is need of an "integrated" work organization in which beside the centres of research the managers of the systems would also occupy an important place. The latter - obtaining information directly from practice - would apply the most up-to-date methods of work organization and the useful material of related branches could promote this activity with a many-sided, helpful co-operation.

After summarizing the bases of up-to-date work organization and determining the activities serving the process of work organization it is a necessary task to develop such a system of these activities as serving the immediate purposes of agricultural producing activity.

54. HULÉNYI, M.-SZIJJÁRTÓ, A.: A növénytermelési csucsidőszakok munkaszervezési kérdései. /Questions of work organization in the peak periods of crop production./ Budapest, 1974. 44 pp.

In the up-to-date large farms work organization cannot end with the organization of working places. An organization activity restricted to the working place and leaving the chain of related activities out of consideration is not suitable to create conditions ensuring the efficient employment of live and materialized labour. To solve the arising new tasks a wider approach of work organization, better focused on the correlations is required.

According to our present knowledge a system-centric view seems to be the best approach to organization. In the field of work organization, however, system organization, or a system approach to the problems is much less general than in the farm- and management organization, and this is particularly the case in the agricultural practice.

The system oriented approach in work organization means that in the course of organizing the work processes

- all elements of the work process as a system /guidance, perception, measuring, indication of deviation, re-organization/, as well as
- all important external relations of the work process must be arranged.

Work organization requires thus, that within the work process as a system the phases of direction, preparation, supervision, analysis and re-organization should be properly arranged, because the efficient organization of, and undisturbed activity at the working place can be expected only in this way.

It is a general feature in farm practice that alternative patterns of work organization are not elaborated. Factors possibly influencing the performance of work are not previously assessed, neither the marginal tolerance of work performance determined, and - accordingly - preliminary organization alternatives are not prepared for such cases when the external or internal conditions differ from the usual and require new solutions of organization.

The absence of preliminary elaborated work organization alternatives prevents the executive leaders from programming their organization decisions. This imposes unnecessary burdens on them, increases their tasks, and allows wide possibilities to make subjective and improvized decisions.

Within the systems of work processes particularly many problems are encountered in the phases of administrative preparation and supervision, that is, in the course of feed-back. Under the present conditions the operative management is not given numerically founded information on the efficiency of live- and materialized labour employment in the different work processes in due time. When intervening leaders can only rely on personal observations, which - naturally - do not give sufficient information on the mentioned efficiency factors.

It can thus be established that it is by properly adapting the knowledge of system organization, the result of joint efforts made by science and practice, that the new methods and practice of up-to-date work organization can be developed, and the new conceptions introduced in education.

55. IVANICS, A.: A növénytermelés gépesitésének vezetésszervezete a termelőszövetkezetekben. /Management organization of crop production mechanization in the co-operative farms./ Budapest, 1974. 43 pp.

As a consequence of a technical progress in co-operative farms the management organization of mechanization in the crop production has changed. The most remarkable changes are:

a/ The presidents conferred the right of direct control over mechanization /machine operation and -repair/ on the chief agronomists. In a few exceptional cases, however, they reserved the right of supervision over the machine-shop.

b/ Earlier it was a general practice that the chief agronomist solved the operation and repair of machines in a single organizational unit with the same persons. Later the number of farms establishing separate units for machine operation and machine repair grew - though at a gradually decreasing rate.

c/ In these days co-operative farms show the most dynamic increase in number where independent "technical branches" are organized. The leader of the technical branch was earlier subordinated immediately to the president, lately, however, a "production vice-president" has been elected in an increasing number of collective farms, who manages the activity of production and exercises supervision over the leader of the technical branch, too.

Leaving quite small farms not characteristic of the future out of consideration, the change of organizational frames is not significantly influenced by the size of the farm and the number of workers. When developing the management organization of mechanization it is rather more the change of the production structure and technical level of production that should be taken into consideration. As long as raw material production was more characteristic of co-operative farms and technical development mainly served this purpose, the management of machine operation and -repair was charged on brigade leader-level professionals subordinated to the chief agronomist. Now every farm which has developed a specialized branch system, and in the strengthening agricultural branches increased the proportion of industrial nature activities extending simultaneously activities outside the basic activity, endeavours to organize an independent technical branch.

It can be established that the organization of a technical branch and strengthening of the technical management are urged by a markable increase in the joint value of buildings, structures, machi mechanical equipment and vehicles.

The organization of technical branches has become necessary with a view to the expert use and protection of already existing wide "technical base", and to the further technical development.

In posts considered equal to the sphere of activity of brigade leaders and almost paid accordingly the proportion of those with a higher professional education is difficult to increase, because university graduates do not willingly undertake such work.

The preparation of decisions concerning the development of the co-operative farm is carried out by the branch leaders and those in post higher than that. Mechanization leaders of equal rank with brigade leaders do not belong to this group. So in farms without mechanization experts assigned to the post of branch leader the views of those with the greatest technical knowledge are not considered in elaborating the development plans. Deficiencies of technical development noticed in certain co-operative farms would partly be avoidable if with the wide introduction of separate mechanization branches the proportion of the higher educated engineering staff - very useful in preparing decisions on technical development - increased.

A large proportion of those working in the engineering branch is made by employees. This is not desirable, because the general development of the co-operative farms would be accelerated if the workers of the technical branches were not - as employees - separated from the membership. The workers of engineering branches who usually have a higher educational and general cultural level would be of more use as members in solving both economic- and co-operative policy problems.

56. IVANICS, A.-Miss VARGA, I.: A mezőgazdasági termelőszövetkezetek munkadij-gazdálkodásáról. /Wage management in co-operative farms./
Budapest, 1975. 62 pp.

The results of farming prove that the present system of income distribution in the co-operative farms helps in carrying into effect the principle that in socialist enterprises management efficiency has to increase at a faster rate than the bulk of personal incomes.

The present profit oriented wage management of the co-operatives has to be maintained. To exploit the reserves of co-operative farms with lower technical- and engineering levels than those of the state farms a still greater emphasis should be laid on profit interests. In this way productivity can be increased even at a relatively low level of assets supply, and the personal monetary interest has a favourable effect on accumulation as well.

The utilized share fund has increased a year by 6,7 per cent with employees, and 3,2 per cent with members and dependants on the average. This difference in the rate of growth, further a change in the ratio of the two categories in favour of employees results in the increased importance of employed labour force.

Increase in the personal incomes of co-operative members is much more influenced by the profit-dependent supplementary share, while the employees lay claim to an increase in the basic wages similar to other branches of national economy.

There is need to bring personal incomes of members and dependants on the one hand, and employees on the other closer to one another. The solution must be considered in comparison with other branches and sectors of national economy as well.

The co-operative farms have attained a considerable increase of production with a smaller number of workers and higher employment level than earlier. The possibility of higher wages will be less and less with the increase of the average working time which calls attention to the fact that the improvement of the wage system with the aspects of proper labour management kept in view can be reasonably solved only in a work category system employed in the whole national economy, and by determining the performance demands.

The wages of employees are highly differentiated in co-operative farms. In counties with higher average wages the members are paid 20-30 per cent more wages for an hour than in counties characterized by low incomes. Either this difference is taken for basis or the difference between the per-hour incomes of members and employees within the same county it can be established that in extreme cases the co-operative membership earns much more or much less than justified by the "assumption of risk" involved in being a member of a co-operative. Therefore paying for work according to a uniform system and the soonest possible application of adaptable work standards are necessary in the co-operative sector, too.

Raising the personal incomes of workers in co-operatives operating under difficult conditions requires the equilibration of capital equipment ratio and number of workers. This can be attained partly by measures taken within the co-operatives, partly in the framework of regional development.

The co-operative income trends - even in the case of a subsidization system employed - are influenced to the greatest extent by the quality of land, although other factors play an increasing role in it. Low incomes can be raised to an appropriate level by increasing the uncumulative production value per worker. It would be reasonable therefore, if the size of average personal income - and the extent of increasing the personal income, respectively, - in collective farms were dependent on the trend of the per capita uncumulative production value.

57. KUNSZABÓ, F.-Miss VARGA, I.: Az Ifjusági Törvény végrehajtásának főbb tapasztalatai a mezőgazdasági nagyüzemekben. /Experiences of enforcing the Youth Law in large-scale farms./
Budapest, 1974. 50 pp.

The Youth Law and the statutory provisions made for its enforcement gave an impetus to considerations about the youth in agricultural establishments as well. The provision schemes completed in 1973 contained all essential points concerning the young people's

- choice of profession, beginning of career, adaptation to working place,
- education, professional training,
- possibilities of advancing, material and moral appreciation,
- social support,
- role in agricultural production, leading,
- participation in work competition,
- sporting, cultural progress, utilization of leisure,
- corporate life, political activity.

Experiences gained in the examined 21 farms show that the provision schemes while mentioning all essential points concerning the youth contain few concrete proposals. That is why the following subjects require more consideration:

1. It must be carried through that all young people working in co-operative and state farms finish 8 classes of general school.

2. Young people must be supported by the whole farm in starting on their careers and integrating themselves with the community.

3. The youth's possibility of advancing must be increased; professionally and politically prominent young people must be promoted better than so far.

4. Young people must be assisted in their efforts to create homes and settle down in the villages more intensively /by providing plots, credits, etc./.

5. Attempts should be made to give the youth a more important role than so far in the management and elected bodies of the farms.

6. In the socialist competitions movements specially for the young should be evolved, and the competitive spirit of the youth aroused.

7. The activity of really club-like youth clubs should be increased with a view to the education and proper leisure utilization of young people.

8. Relations between the farm centres and the villages of daily workers ought to be improved particularly in the case of state farms.

9. Further strengthening the local Communist Youth Organizations, raising the level of political education, and co-ordinating the different forms of education are important tasks.

And the main conclusion: though it is the Law of Youth its enforcement is not only the business of the young as an age-group. The standpoint of the Hungarian Socialist Workers' Party and the introduction of the Law in life form a complex social question and are, at the same time, the most direct factors of economic development.

58. Mrs. LUGOSSY, Gy.: A mezőgazdaságban dolgozó fiatalok helyzetének vizsgálata. /Analysis of the position of young people working in agriculture./
Budapest, 1975. 133 pp.

Results of a survey made with sociological methods of workers younger than thirty in six state and eighteen co-operative farms, as well as of the leaders of these farms are summed up below.

1. Among the motives playing a role in the youth's choosing of working place the tendency to find employment in the residential place should be mentioned in the first place in both sectors of agriculture. This intention is strengthened by the family's attachement to the local farm. Important source of labour replacement for the farms is represented by the local general and professional schools.

2. Young people are attracted by technics and mechanization in agriculture as well. Through their relation to the machines they feel direct and active participants of technical changes and development taking place in agriculture. It is probable that now unpopular livestock farming considered inferior to other agricultural occupations will gain the youth only with automation introduced in this branch.

3. There should not be people below thirty in agriculture either who have not completed the 8 grades of general school.

While the proportion of qualified workers to the total number of workers is higher in the state sector, in respect of those below thirty the co-operative sector begins to beat the state sector.

Studying the motives of people below thirty undertaking learning beside their work we found that 50 per cent of them continued studying in order to know more about their profession. This fact shows that in large-scale agriculture the most important conditions of educating socialist people have not only been created but are functioning, too. Wage increase as an incentive acts more intensively on acquiring a profession.

4. An evaluation of the expectations of young people concerning the conditions of their working place has revealed the positive fact that demands related with the character of work /diversity of work, activities developing the faculties, etc./ are at the head of the list of expectations. Among the factors considered by the young as negative the social and health conditions of the large-scale farms occupy the first place followed by the possibility of intervening in matters of production and organization, then by moral appreciation in the co-operative and material appreciation in the state sector.

5. According to the results of investigations the conditions of young people's participation in the management activity do exist in both sectors of agriculture. The possibility of carrying it into practice depends on the collective spirit, the management of the farm, and last but not least on young people themselves.

6. As regards wages and material interest, young people working in large-scale farms are not in a disadvantageous position either within the farm or in comparison with the young industrial workers.

Young people lay claim to household plots especially when the parents also take part in the work of household farming. So the household plot indirectly increases the income of the young.

7. The leaders of large-scale farms have mostly realized the importance of paying attention to the problems of young people below thirty. Youth policy born in the spirit of the youth law is today a reality, since it has been proved that where the management takes seriously its duties concerning the young, the result is shown in the production and economic growth of the farm.

59. RADOVICS, Gy.: Korszerü irányzatok a tudományos munkaszervezésben. /New tendencies of scientific work organization./
Budapest, 1974. 137 pp.

In recognizing the most important tendencies evolved since 1972 in the scientific organization of work the narrow branch orientation is not a reasonable standpoint. Among the more than hundred and fifty liter-

ary works the experiences of general organization science and industrial work organization should also be utilized.

The internationally adopted "scientific" qualification of work organization raises two demands: work organization should be based on a regular scientific analysis of the actual processes on the one hand, and has to apply the fullest possible range of knowledge concerning work, on the other. While for ten years emphasis has been laid on the questions of labour management, today the organization of work processes, the rationalization of working places and methods are in the centre of interest in agriculture, too, with the economic aim of increasing the efficiency, improving the productivity of live labour retained unchanged. Together with this another task of work organization is increasingly stressed: to create the most favourable labour conditions for working people with the view of maintaining their working capacity at a high level, enabling the creative development of their personalities, increasing their satisfaction and improving the attraction of work. Socialism provides the best conditions for the realization of these human goals. The activity of work organization, besides the specialization of its inner content, gets closer to the functions of technological planning, production organization and technical development.

In the methodology of scientific work organization central place has been occupied by the work-study, in a broader sense of the word, coupled with measuring, which should be applied in as a complex way as possible. The model-like interpretation of the work-study system, besides making its content clearer, marks out its place better among the enterprise activities and in the enterprise organization. Prominent role is played by the elaboration of normative time schedules the methods of which show considerable improvement. By the introduction of computer technics work organization can increasingly rely on electronic data banks in the work of mass registration, processing and calculation /e.g. time scheduling by functions, calculations with live labour costs/.

The transformation of the character and environment of agricultural work increases the role of ergonomic examinations in work organization. These examinations are focussed at present on tractors and self-propelled machines /noise, vibration damages, sight conditions, driver's seat, etc./ as well as on dairy work /milking in the first place/. Regarding mechanization, perception of the signals of machines and modified environment as well as regarding the control of modern technology an examination of mental burden in addition to physical load becomes particularly important.

Collaboration of teams representing a complex knowledge is an increasingly used method of work organization. The general condition of the working collectives, the atmosphere of the working place and the right motivation of the workers are essential social psychological factors of the working capacity. Enrichment and change of the sphere of activity, flexible working time and shifts are more and more frequently applied organizational solutions. The efficiency of organization is increased by the mass participation and activation of interested workers /e.g. work competition, innovation movement, etc./.

The realization of a scientific work organization concerns ultimately the individual enterprises as well, but more than one tendency of development indicate that there are many tasks soluble only with a central effort.

Forecasting makes it necessary to elaborate a comprehensive method suitable to determine the level of work organization, and to carry out the economic evaluation of results attained with work organization.

60. SZIJJÁRTÓ, A.: Az eredményes szervező tevékenység fontosabb emberi tényezői és feltételei. /Major human factors and conditions of successful organizing activity./
Budapest, 1975. 98 pp.

Major experiences of surveys made in 1974 of a total of 225 persons, mostly professionals of leading posts, in 4 co-operative farms, 4 state farms and 4 food plants /control/ with the purpose of disclosing the human factors of the organization work are:

1. "Human" factors influencing the success of the organization work can be placed in three basic groups.

The first category includes properties and faculties belonging to the personalities of leaders and executive workers. Such are e.g.: organizing ability, responsibility, interest in new things, professional knowledge, etc.

In the second category the organization activities of leaders and the factors related with them can be grouped. We can place here e.g.: basic conceptions of organization, information, level of persuasion, material and moral incentives coming from leaders, etc.

The third group includes the so-called "general" factors which influence the success of organization through the work of the enterprise as a whole. Factors in this group include: labour migration, invention

movement, activities of party and social organs, earlier experiences of organization, work discipline, etc.

2. The results show - in all three types of farms - that professionals working at the upper and medium levels of management generally possess those basic properties and faculties which are necessary to do an up-to-date, efficient work of organization. Of them the following can be underlined: interest in new things, professional knowledge, organizing ability, undertaking possible extra tasks involved by the work of organization.

On the other hand, at the mentioned levels of management we find the negative features of jealousy, and with medium level leaders reluctance to undertake responsibility.

Opinions of the immediate leaders of working places are unfavourable; the questionees raised objections to their professional level, foresight, reluctance to take responsibility and risk, irresoluteness.

Again, the faculties and characteristics of the executive workers generally were judged negatively by the participants of the inquiry.

3. On the basis of investigations concerning the practice of organization it can be established that in the examined farms /in all three types/ the preparatory phase of organization is usually decentralized: the leaders need, and mostly utilize suggestions of organization character, while in more important questions make collective decisions.

Problems arise, however, in attaining the objectives of organization. The information given about the conceptions of organization is deficient, and persuasion is not of adequate level and extent either. Conflicting or belated instructions are frequent, so difficulties are encountered in calling to account or checking the workers. Part of the mentioned deficiencies is found in the medium level management.

The inadequate distribution of competencies and responsibilities at the level of immediate working place leaders further increases the problems which - owing to their earlier outlined characteristics - they are hardly able to overcome. It has become general - so to say - that their superiors intervene in their work which ultimately leads to the overburdening of medium level leaders, and at the same time decreases the efficiency of their organization work.

In addition to the above mentioned circumstances a further negative feature is the absence of moral- and material incentives.

A positive result of the investigation is that human problems and private requests arising in the course of organization are solved at all levels of management.

4. While as regards group 1. and 2. of the examined human-management factors the results of the three types of farm are similar, considerable differences are found in judging the "general" factors. This can be traced back to differences in inner mechanism and environment between the examined farms. For example: the high labour shift in food industry enterprises has a negative influence on work organization. This problem was not encountered in farms.

Among the "general" factors attention is worth being paid to labour discipline as an inhibitory circumstance. Strengthening of labour discipline by proper regulation and better organization belongs to the most urgent tasks of these days. Similar demand has been formulated on the side of the executive workers as well. The positive experiences of investigations include the general opinion that the party- and social /corporative/ organs play an important role in encouraging and carrying out an up-to-date farm and work organization.

It would be useful if the activity of the mentioned forums in the field of social brigade movement, innovation- and competition movements further increased. The development of working place democracy is considered to be a basic precondition of raising the level of organization.

61. SZILÁGYI, P.: A termelőszövetkezetek vállalatszerü vezetésének és a szervezet müködésének egyes kérdései. /Some questions of the enterprise-like management of co-operatives and functioning of the organization./ Budapest, 1975. 67 pp.

Major results of investigations into some questions of enterprise management in 22 co-operatives are summed up below.

1. To be able to survey and evaluate the management organization, and draw conclusions of organizational character one must reach down to the actual activities and major groups of activities thereby making the approach process oriented.

2. It has become clear that in investigations of similar approach the type of management organization has to be determined in the first place - which contains the dependence and decision relations of the management organization -, then the type of functioning which differentiates the co-operatives by management practice on the basis of the functional characteristics of the management organization.

3. On the basis of the characteristics of the examined co-operative farms the following four types of management organization can be distinguished:

I. management organization based on a brigade system,
II. branch-type management organization,
III. main branch-type management organization,
IV. regional management organization.

Through the functioning of the management organization it has become clear that the most fundamental distinction is made on the basis of the centralized or decentralized character of the management activity.

- In a centralized character management organization co-ordination is carried out at a main branch level by the president, and beside the president only the production and economic deputies have a voice in carrying out co-ordination and making decisions.

- In a decentralized management the co-ordination of main branches is not the duty of the president, and beside the president and his substitutes the branch leaders also have a wider sphere of authority to make decisions.

In all types of management organization there are practices suggesting a centralized or decentralized pattern of operation. However, to find out whether within the given type of management organization the character of functioning is centralized or decentralized is only possible if beyond the type of management organization the character of functioning also forms the subject of investigation.

4. The type of management organization is greatly influenced by the size of the farm. Above a definite size of farm e.g. changing over to the regional type of management /occasionally with an emphasis on the branch character/ becomes necessary. Changes in the size of area can be pointed out in the other three types of management organization too: in the one based on a brigade system and in those of branch- and main branch character, respectively. Thus, the size and arrangement of the farm, and the changes occurring in them render it necessary to adjust the type of management organization.

5. Within the same type of management organization in farms with a higher cumulative production value and several larger branches usually a decentralized character management is the prevailing practice.

Within the same type of management organization the level of production acts on the way in which the management organization functions.

IV. PUBLICATIONS IN THE SERIES

"QUESTIONS OF LARGE-SCALE FARMING"

issued in 1974-1975
/Budapest, Akadémiai Kiadó/

62. Mrs. FADGYAS, K.: Tejtermelő tehenészeti telepek optimalizálása. /Optimization of dairy farms./
Budapest, 1974.

63. HALÁSZ, P.: A sertéshustermelés müszaki-technológiai eljárásainak gazdasági hatékonysága. /Economic efficiency of the technical-technological procedures of pork production./
Budapest, 1974.

64. KOPCSÓ, I.: Az élelmiszer piacszervezés néhány kérdése. /Some questions of food market organization./
Budapest, 1974.

65. KUNSZABÓ, F.: Elnöktipusok a termelőszövetkezetekben. /Types of co-operative presidents./
Budapest, 1974.

66. SZEDERKÉNYI, H.: Az élő munka termelékenységének mérése a mezőgazdaságban. /Labour productivity in agriculture./
Budapest, 1974.

67. TÓTH, J.-VARGA, K.: Takarmányadagok optimalizálása egyszerüen. /A simple way of optimizing feed rations./
Budapest, 1974.

Felelős szerkesztő: Dr. Balogh András
Felelős kiadó: Agrárgazdasági Kutató Intézet
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Dr. Márton János

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