



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

TODOR POPOV

*Scientific and Technical Collaboration between the CMEA  
Member Countries in the Sphere of Agriculture*

The contemporary scientific technical revolution is considerably changing the productive forces of society; it reorganizes the material and technical basis of production, turns science into an immediate productive force, raises to a new level the nature of labour, accelerates the social division of labour both nationally and internationally, and enriches its forms.

In the conditions of this modern general scientific and technical revolution, international trade in agricultural products relying on geographic, soil, climatic and other differences, ceases to be the only form of international relations and connections between the different countries and regions of the world in the sphere of food and agriculture. The dimensions of scientific and technical connections and relations, industrial co-operation etc. are considerable. The processes of international economic, scientific and technical integration are intensifying. The role of international scientific and technical co-operation widens and rises. This co-operation turns into an integral and irrevocable part of international economic and political relations between the different countries, and is a primary prerequisite for their further development.

This is particularly true for the economic, scientific and technical relations of the country members of interstate organizations and unions, where the development of the international scientific and technical connections is based on the functioning of a system of economic laws unified in goals and character. The CMEA is an example of that.<sup>1</sup>

In its thirty years of existence the CMEA carries out a wide range of activities for co-ordinating the efforts of the member countries for the

<sup>1</sup> The Council for Mutual Economic Assistance (CMEA), the first international organization of the socialist countries, was created in January 1949. At present members of the CMEA are: The People's Republic of Bulgaria, The People's Democratic Republic of Vietnam, The German Democratic Republic, The People's Republic of Cuba, The Socialist Republic of Romania, The People's Republic of Mongolia, The People's Republic of Poland, The People's Republic of Hungary, The Socialist Republic of Czechoslovakia and The Union of the Soviet Socialist Republics. The Socialist Republic of Yugoslavia also participates in some of the activities.

building of the developed socialist society and for a better utilization of their material and economic resources. International scientific and technical co-operation in the sphere of food and agriculture is an important part of this activity.

## 1 GOALS AND TASKS

The strategic goal of the international scientific and technical collaboration between the CMEA member countries in the field of food and agriculture is to contribute to the solution of the major economic task of the branch – a most effective utilization of the available materials, economic and labour resources and the production of a sufficient quantity and quality of products for the entire satisfaction of the constantly rising necessities of society.

At the different stages of the development of international socialist economic integration of the socialist community as a whole and also on the different levels of production in the particular branches and sub-branches, this goal is being modified in separate concretely formulated programmes and tasks. The progressive evolution in the development of the socialist system and the changes in food and agriculture of the individual CMEA member countries naturally increases the tasks and the problems connected with their solution. They demand an adequate development and improvement of the forms of organization and management of the international, scientific and technical collaboration itself.

The thirty-year history of existence of the Council for Mutual Economic Assistance clearly confirms this regularity.

Created as an alliance of sovereign members with equal rights, CMEA, during the first years of its existence, started to study and investigate the questions of general interest, connected mainly with the expansion of foreign trade relations, between the CMEA member countries under conditions of full respect of national interests, mutual benefit and aid. In the very early period of CMEA's activity (1949–56) there appeared the objective necessity of *a joint organization of scientific and technical collaboration and exchange of technical experience* between the member countries for the solution of tasks of general interest (multilateral collaboration), or of interest only to a given pair of countries (bilateral collaboration).

The valuable experience gained in the organization of the international scientific and technical collaboration and especially the first results of this activity led to the creation (in 1956) of the standing commissions for economic, scientific and technical collaboration in the separate branches of the economy, including a Standing Commission for food and agriculture.

In 1971 on the basis of the considerable success achieved in the development of the productive forces, and under the condition of wide use of the achievements of the scientific and technical revolution and increased effectivity of social production, there was elaborated and sanc-

tioned a *Complex Programme for the further improvement and intensification of collaboration and development of socialist economic integration of CMEA member countries*.<sup>1</sup> This Programme specified the trends and activities, connected with the further development of the Council and defined the tasks of its authorities (bodies) in all spheres and branches, including food and agriculture.

In 1978 the XXXII<sup>nd</sup> Session of CMEA ratified *long term comprehensive programmes for further development and improvement of collaboration* in several basic spheres of material production, including the agriculture and food industry, which represents a further development of the "Complex Programme". It is essentially a new stage in the intensification and expansion of economic, scientific and technical collaboration between the member countries.

The main goal of the long term programme for collaboration in the sphere of the agriculture and food industry above all, is to contribute to the intensive development of national agricultural production, as well as to the development of the food industry in the individual countries, with a view to the entire satisfaction of their necessities and provision of the necessary quantities of food and agricultural production for participation in the international markets.

The basic ways for the achievement of this goal are:

- the increase of meat production, mainly on the basis of own fodder;
- the intensification of the international division of labour through specialization of the countries, disposing of optimal natural conditions for the corresponding crops, (special attention is paid to specialization in sugar, fruit and vegetable production);
- the creation and joint use of high-yielding varieties of plants and highly productive breeds of livestock, especially fit for cultivation and breeding and particularly applicable to industrial methods of production;
- the elaboration and use of progressive methods and technologies of production in plant-growing, animal husbandry and processing industries;
- the further intensification and wider use of specialization and co-operation of production of machines, equipment, chemical, transport and other means, necessary for agriculture;
- the elaboration and use of new and more effective forms for economic, scientific, and technical collaboration, including methods for economic stimulation necessary for the better satisfaction of public necessities, etc.

Together with the concrete production, technical, scientific and other tasks, the long term comprehensive programme for further improvement and collaboration between the CMEA member countries in the field of the agriculture and food industry, as well as other longer term programmes, has the task to contribute to equalizing and bringing closer together the level of economic development of the CMEA member countries and

especially of some backward ones and assisting the increase of their export resources.

## 2 FORMS OF ORGANIZATION

The basic forms of scientific and technical collaboration between the CMEA member countries in the field of the agriculture and food industry are those applied also in the other national economic branches or spheres of collaboration.

The beginning of the collaboration was set with the mutual exchange of documentation, projects and information, training of highly qualified specialists and executives for new specialities and types of production.

Though most elementary and "old" this form has not lost its importance even nowadays. A basic source of documentation and production experience is the USSR.

In the years of the last five-year period (1971–75) the USSR gave to the CMEA member countries 244 sets of technical documentation in the sphere of agricultural machine building, 172 patterns of new tractors and agricultural machines for testing in the conditions of every country. During the same period the USSR received from the CMEA member countries 160 sets of technical documentation and 122 patterns of machines for testing.<sup>2</sup>

During the same period the CMEA member countries organized the production of 15 designs of machines on the basis of Soviet technical documentation. Since 1975 work has been done on the production distribution of about 30 designs of machines on the basis of Soviet documentation.

During the period 1967–75 the State All-Union Scientific Research and Technological Institute for repair and exploitation of the machine-tractor equipment (USSR) gave documentation for 224 designs along the line of scientific and technical collaboration and received documentation for 205 designs.<sup>3</sup>

In the recent years the co-ordination of the themes of scientific research on the most important, perspective and interesting scientific and technical problems plays an essential role.

Since 1965 in the CMEA Standing Commissions on Agriculture there have been worked out 5-year plans for collaboration in the field of scientific and technical research in agriculture and forestry.<sup>4</sup>

In the period 1966–70, 26 problems and 86 themes were included in the Plan for Joint Scientific Research on the Problems of Agriculture,<sup>5</sup> and in the years of the last five-year plan (1971–75) the scientific research on 12 problems and 39 themes was co-ordinated.<sup>6</sup>

The Plan for Scientific and Technical Collaboration in Agriculture for the current five-year plan period included 17 problems and 39 themes. The Bulgarian scientific and research organizations co-ordinate the investigation of 6 problems, the Hungarian of 4, the GDR of 7, the Polish

of 4, the Rumanian of 3, the Soviet Union of 15, the Czechoslovakian of 7.<sup>7</sup>

In the period 1976–80 in the Plan for Scientific and Technical Collaboration in the Food Industry are included 55 themes, and most of these are included in the Co-ordination Plan for multilateral integration activities. Through joint efforts much will be done on: the search of new sources for obtaining protein; raising the biological qualities of food products; improving the production technology of food products; elaboration of technological processes and equipment for the complex processing of oil seeds etc. A programme for co-ordination up to 1990 has been worked out in order to improve the co-ordination of food industry machine building, scientific research, design activities and the adoption of the production of some highly productive kinds of equipment for packing food products, pouring out food liquids etc. Till 1990 the researches in all remaining sub-branches of food industry machine building will be co-ordinated.<sup>8</sup>

In the sphere of standardization a programme for collaboration was sanctioned in the period 1976–80 on the following problems:

veterinarian sanitary methods and means for diagnosis and struggle against the most dangerous diseases of livestock in the production of milk, meat, eggs and wool on an industrial basis;

methods and principles of veterinarian sanitary investigation on meat and meat products, milk and milk products, eggs and honey.<sup>9</sup>

A list of the most important problems of economic, scientific and technical collaboration co-ordinated on a multilateral basis in the years of the next five-year plan (1981–85) has been sanctioned in order to use more effectively this form in the future activity of the Council. In this list also have been included the scientific and technical problems originating from the long term comprehensive programme for collaboration in the sphere of the agriculture and food industry.

The form of joint testing of newly created varieties and machines is widely used, especially in recent years.

International variety tests in the CMEA member countries have been carried out since 1959. During the period 1961–71, 773 varieties and hybrids have been tested and in 1972–73 alone 120. As a result of the international variety tests in the CMEA member countries over 160 varieties were allocated into districts.

In 1976 alone, 47 varieties of wheat were tested in the CMEA countries and Yugoslavia. Five Bulgarian varieties of mild winter wheat took the first five prizes in this test for high productivity – Kaliakra 2, Ogosta, Kremena, Rubin and Sadovo-super.<sup>10</sup>

In 1972–74 control tests of 70 types of broilers and 78 hybrids of hen-layers were carried out in the International Control-test Station for Comparative Tests of Poultry created in Czechoslovakia.<sup>6</sup>

Since 1959 in the framework of the CMEA Commission on Agriculture have been carried out international tests of machines for mechaniza-

tion and automation of production in agriculture and forestry. The tests are carried out according to unified programmes and methods. Information from the national tests is being exchanged. International comparative tests of veterinarian preparations, manufactured in the CMEA countries have been carried out for fifteen years now.<sup>11</sup>

Joint international tests of chemical and biological means for plant protection are being organized. About 220 preparations were tested, 77 of which have been recommended for adoption in production.<sup>12</sup>

A comparatively new but quite widely used form are the Co-ordination Centres created after the approval of the "Complex Programme". Of the present existing 41 Co-ordination Centres, 7 are working on the problems of agriculture, 1 on the food industry and 1 on packing of agricultural and food products.

In the framework of the Co-ordination Centres such problems are being solved as:

- elaboration and introduction of electronic computer techniques and mathematical methods in agriculture;

- elaboration of demands for the new complex and other mineral fertilizers, methods for their effective use and study of their influence on soil fertility by their continuous application;

- working out of theoretical bases of selection and seed production and new methods for the creation of high quality varieties and hybrids of agricultural crops;

- elaboration of the basic biological problems in the field of animal husbandry;

- mechanization, electrification and automation of production processes in plant growing and animal husbandry;

- raising the nutritive value of existing food products and creation of new types of high quality ones;

- elaboration of the basic biological problems in the field of animal husbandry;

- creation of new kinds of pesticides, elaboration of biological and other methods for plant protection and complex investigation of the influence of the means for environment preservation, etc.

### 3 PRACTICAL RESULTS AND THEIR APPLICATION

The purely scientific results from the collaboration are the following:

- raising the theoretical and methodological level of the research and design activity;

- speeding up the process of investigation and projection;

- economy of means through the use of common material and technical equipment, etc.

International scientific and technical collaboration of the CMEA member countries already gives real practical results.

There has been created an international system for scientific and technical information on agriculture and forestry, "Agroinform", which is a branch subsystem of the International System for Scientific and Technical Information of the CMEA member countries.

An exchange gene fund of original forms of wheat and barley has been created in the All-Union Selection Genetic Institute. As a result of the fulfilment of the joint programme and national plans for scientific research work in the collaborating establishments there were created over 50 new varieties of wheat and barley, a part of which is already divided into districts and adopted in production, including the Bulgarian varieties of winter wheat "Sadovo" 1, "Jubileina", Kaliakra 2, Ludogorka, Krasen, Zlatoklas.<sup>13</sup>

As a result of the scientific and technical collaboration in 1971-75 in the food industry there have been constructed and adopted in production about 80 new kinds of equipment for the food industry and there has been made up a technical documentation for the production of about 500 types of new foods, including 130 for children.

Adoption of the results from the joint research work on improvement of the preservation of sugar beet permitted the decrease of sugar losses from 40-50 per cent in comparison with the preservation in the traditional way. This is equal to an annual additional production in the CMEA countries of 300 thousand tonnes of sugar.

Joint investigations have been carried out on the complex use of molasses for the production of spirits, baker's and fodder goods and others with the utilization of the various residues. As a result the production of baker's goods could be doubled and fodder goods increased by 25 per cent. The economic effect will be over 15 million roubles per year.

At the present moment Bulgaria, the German Democratic Republic, Mongolia, the Soviet Union, Poland, Rumania, Hungary and Czechoslovakia are carrying out joint investigations on techniques and technology improvement of processing residues of animal origin.<sup>14</sup>

Especially good are the results from the created joint scientific production establishments. In the international "Agromash" establishment where are made machines for vegetable production, fruit growing and viticulture four countries participated (USSR, GDR, PRB, PRH) in the period 1971-75 alone. In this establishment was elaborated and organized the serial production of 22 new machines for mechanization of work in plant growing, which allowed every participating country to decrease, by 50-70 per cent, expenditures in comparison with the necessary ones in independent working out.<sup>2</sup> Complex machines for gathering tomatoes, for gathering and additional processing of root crops are adopted in production. Till now under the management of "Agromash" there have been elaborated machines with 50 designs and some 32 are under working out and testing.<sup>3</sup> Complete solution of the problems of complex mechanization of the production processes in cultivation and gathering of the basic vegetable crops is forthcoming.

During the period 1976-80 this establishment will be carrying out



scientific investigations on 10 problems, 31 themes on the over all division of labour between the participants, 22 of these themes are connected with the construction of new machines and 9 with technological problems. Over 20 scientific research organizations are participating in this plan.<sup>15</sup>

#### 4 ORGANIZATIONAL AND ECONOMIC PROBLEMS

Organization and management of international scientific and technical collaboration among the CMEA member countries is built on a planned basis, regulated by a special legal and economic statute. Basic documents in this respect are the Organizational – Methodological, Economic and Legal Basis of Scientific and Technical Collaboration of CMEA member countries and different CMEA bodies' activities in this field.

All forms of international scientific and technical collaboration in the sphere of the agriculture and food industry depend on these conditions.

Organizational and economic conditions for international scientific and technical collaboration between the CMEA member countries regulate the rights and regulations of the countries and organizations participating in the various forms of collaboration. They clarify questions about:

- their participation in the financial maintenance of the research, development and design activity;

- the system, formation and amount of payment of the mutually consigned scientific and technical documentation and production experience;

- the rights of property, the forms, dimensions and conditions for the use of the scientific and technical results obtained;

- conditions for mutual supply and use of apparatus and the means for joint scientific and technical developments;

- the rights and obligations of the individual countries for organization in the management of the joint scientific and technical development and research work etc.

The experience piled up during the past thirty years contributed considerably to this system, to the precise nature of the common organizational, economic and law conditions for further development of scientific and technical collaboration in the sphere of agriculture.<sup>16</sup>

The continuous intensification of the general process of international social integration and the constantly expanding international socialist division of labour in the sphere of agricultural science and technique, however, set new and greater tasks along the line of further improvement of the processes of management of international scientific and technical collaboration.

## REFERENCES

- <sup>1</sup> “Kompleksna programa za po-natatushno zadulbochavane i usavarshen stvuvane na satrudnichestvoto i za razvitiето na sotsialisticheskata ikonomicheska integratsia na stranite-chlenki na SIV”, *Partizdat*, S. 1972, s. 106.
- <sup>2</sup> Sinitsin, I. “Razvitie i uglublenie mezdunarodnogo sotsialisticheskogo razdelenie truda v oblasti traktornogo i selkohoziastvennogo mashinostroenia”, *Ekonomicheskoe sotrudnichestvo stran-chlenov SEV*, kn. 5, 1976.
- <sup>3</sup> Seleznev, J. and Davidov, A. “Razvitie na satrudnichestvoto mezdru stranite-chlenki na SIV v proizvodstvoto na selkotoopanska tehnika”, *Mezdunarodno selkostonopansko spisanie*, kn. 4, 1978.
- <sup>4</sup> Ivchev, K. “Nauchno-tehnicheskoto satrudnichestvo mezdru stranite-chlenki na SIV”, *Mezdunarodno selkostonopansko spisanie*, kn. 6, 1976.
- <sup>5</sup> Hadziiska, T. “Nauchno-tehnicheskoto satrudnichestvo mezdru stranite-chlenki na SIV v oblastta na selkoto stopanstvo”, *Selkostonopanska nauka*, kn. 3, 1974.
- <sup>6</sup> Krustev, G. “Osnovnie itogi sotrudnichestva stran-chlenov SEV v oblasti proizvodstva selkohoziastvennoi produktsii za 1971–1975 g. i puti ego uglublennia”, *Ekonomicheskoe sotrudnichestvo stran-chlenov SEV*, kn. 5, 1976.
- <sup>7</sup> Aleksiev, A., Vikentiev, A., Mirosnichenko, B. “Sotsialisticheskaiа integratsia i ee preimushchestva pered kapitalisticheskoi, izd”, *Nauka*, M. 1975. s. 335.
- <sup>8</sup> Tsvetanov, J. “Sotrudnichestvo stran-chlenov SEV v tehnichestvom prevoozruzenii pishchevoi promishlenosti”, *Ekonomicheskoe sotrudnichestvo stran-chlenov SEV*, kn. 5, 1976.
- <sup>9</sup> *Mezdunarodno selkostonopansko spisanie*, kn. 5, 1976.
- <sup>10</sup> Papazov, N. “Uchastie NRB v realizatsii planov sotrudnichestva stran-chlenov SEV v oblasti nauki i tehnikii”, *Ekonomicheskoe sotrudnichestvo stran-chlenov SEV*, kn. 5, 1977.
- <sup>11</sup> Krustev, G. “20 godini plodotvorno satrudnichestvo”, *Mezdunarodno selkostonopansko spisanie*, kn. 5, 1976.
- <sup>12</sup> Shalamanov, S. “Dostizhenia i perspektivi na satrudnichestvoto i sotsialisticheskata integratsia mezdru stranite-chlenki na SIV v selkoto stopanstvo”, *Ikonomika na selkoto stopanstvo*, kn. 3, 1976.
- <sup>13</sup> Sozinov, A., Sherbakov, V. and Shvedov, G. “Nauchno-tehnicheskoto satrudnichestvo v oblastta na genetikata i selektsiata na rastiениata”, *Mezdunarodno selkostonopansko spisanie*, kn. 5, 1976.
- <sup>14</sup> Buzdin, I. “Ratsionalnoto izpolzuvane na surovinite-vasna zadacha na satrudnichestvoto mezdru stranite-chlenki na SIV v oblastta na hranitelната promishlenost”, *Mezdunarodno selkostonopansko spisanie*, kn. 4, 1978.
- <sup>15</sup> Popov, S. “Agromash”, *Sotsialisticheskaiа ikonomicheska integratsia*, kn. 5, 1978.
- <sup>16</sup> Popov, T. “The General Situation and Main Tendencies of Food & Agricultural Development in the European CMEA Member Countries (1960–1975 and up to 1980)”, Vienna, IIASA, 1978, p. 193.

## DISCUSSION OPENING – CHRISTA HAEBLER

The subject of the paper presented by Professor Popov is Scientific and Technical Collaboration. He restricted himself to the description of some experiences in the COMECON member countries and gave impressive figures concerning realized or planned research projects in the region. One must congratulate the COMECON on the given results. Nevertheless, given the fact that the international basis of COMECON makes the scientific collaboration relatively easy, I have been surprised that Professor Popov did not indicate more items especially interesting to agricul-

tural economists. In his outstanding paper on "Accomplishments and Challenges for the Future for the Agricultural Economists working in COMECON", (page 407) Professor Nazarenko gave more detailed information on this subject, especially on the economic and research problems in centrally planned economies; but I feel we are still missing the discussion of some problem areas and possible or obvious frictions in the realisation of scientific collaboration and further technical collaboration.

Professor Popov mentioned briefly some questions of an organisational nature such as the existence of the Council for Mutual Economic Assistance and the participation of the member countries in the financing and the rights and obligations of the individual countries in the management. But he did not indicate details concerning, for example, the criteria guiding the collaboration of individual countries, with, to some extent, different basic economic and social situations – he mentioned some backward countries – towards the realisation of common goals. It would be interesting to know who determines the research subjects of common interest? How are priority lists fixed? How far the distribution of research work through specialization of countries or Institutes is going? How the decision-making according to Central Plan realization is organised? Of even more interest would be a deeper discussion of problems due to the nature of economic social research work. This conference has already given examples of problems to be dealt with in international collaboration. From my own experiences in a supra-national institution which is highly dependent on and using results coming out of scientific collaboration, I know that there are always problems to be solved. They exist in all kinds of research subjects: in the simplest ones, such as providing comparable figures, or in the more complex ones concerning economic modelling and sector forecasting. They must be even more severe in centrally planned economies with a common multinational model where they become a direct influencing part of the decision-making process at all levels. As examples I would like to mention only the following.

Time is one of the most important problems we are confronted with: on the one hand it needs time to get the results, on the other hand it takes time to get the results applied in the policy decision-making process or in the economic reality of farming. In most cases it is easier to solve the first indicated problem by a good organisation and management using highly developed teamwork. To take the second type of problem it may be worthwhile completing the economic analyses by an approach taking into account the results of research in politics and by elaborating alternative solutions.

Another sphere of problems concerns the flexibility of research against changing objectives in a changing economic and/or political environment. Those problems need an inter-disciplinary teamwork of highly qualified experts familiar with different approaches. According to C'saba Csaki's paper (page 312) in centrally planned economies with long term elaborated multinational plans, not only the handling of the feedback

raises special problems but also the realistic estimates determining agricultural activity five years after the preparation period. I would be very grateful to Professor Popov if he would be so kind as to give us further information on this subject; how have the challenges been handled in the COMECON?

Without going into more detail I would nevertheless like to mention that scientific collaboration is a worldwide problem concerning both developed and developing countries. Because of another institutional framework or legal basis this type of collaboration has sometimes to solve more or other problems of organisation, financing and management challenging other problem areas. They will be different according to the degree of bilateral or multinational collaboration and to the uses of the research output. Because there is no direct link between Professor Popov's paper and those problems I prefer not to go into further details of this matter, especially since a discussion group is dealing more deeply with it.

So far as technical collaboration is concerned it is – to my understanding – above all the transfer of knowledge of all kinds to the potential users in the agricultural industry and the feedback from the farmer or the manager to the collaborating organisation. Professor Popov mentioned in his paper the international system for scientific and technical information on agriculture and forestry in the COMECON – the Agroinform. He also indicated the testing activities of seeds and other goods and the training of highly qualified specialist workers for new specialities and types of production. In other economies (even in Poland) the public and/or private extension services would play a big role not only in technical but also in socio-economic matters.

I would highly appreciate it if Professor Popov could complete his paper by more detailed co-ordinated information concerning the role of COMECON in training, consulting, financing and supporting technical assistance efforts.

#### GENERAL DISCUSSION – RAPPORTEUR: W. LAMBLE

Lack of time prevented further discussion and in response to the opener's remarks, Professor Popov replied as follows.

First of all he expressed his thanks to Mrs Haebler for her comments and for the opportunity to explain some aspects of his paper in more detail.

He drew attention to the fact that the paper had not its full title in the programme. The real title of this paper was "Scientific and Technical Collaboration between the CMEA Member Countries in the Sphere of Agriculture" and was to be an example of international collaboration in this field. His primary intention in writing this paper was only to give general information about CMEA activities and to show the first results in this field.

Bearing in mind a time scarcity he now intended to give a short answer in general terms only to those questions which are closely connected to the scientific and technical collaboration between the CMEA countries.

First, as is well known, most of the CMEA countries before World War II had less developed economies. As a result of this, even at the present time, they have a less favourable production structure *and lower* per caput GNP, GDP, net income, etc. The improvement of these indicators has been taken as a major criteria by developing the CMEA long term comprehensive programmes.

Second, the research subjects of common interest are determined by the CMEA Standing Commission for Science and Technology, and by the Standing Commission for Food and Agriculture. These commissions consist of representatives of the respective universities of the member countries.

Third, priorities in the international division of research between the various countries or institutes are fixed on the basis of several principles as follows:

- existing scientific and research potential in various countries;
- specialisation of a country's agricultural production within CMEA;
- existing natural and economical resources in a given country;
- demand for qualified specialists, etc.

Fourth, the financing of the international collaboration is solved in accordance with which subject is investigated, and with the expected benefit of the research. There are various possible solutions, for example:

- every country or organisation participating in such research pays the same share of the total expenditure;
- countries pay according to their national incomes;
- the individual country pays in accordance with the extent to which results are utilised in that country.

Fifth, international scientific and technical collaboration between the CMEA is obviously not without any difficulties. The most important problems among them in the sphere of agricultural economics are:

- the lack of a common data bank;
- the relatively slow process of selecting top level scientists and organising the common research work;
- the language gap between the scientists in the separate national research organisations;
- organisational difficulties, when, for example, 10–15 organisations are involved, etc.