

Ukrainian National Agricultural University Reform Activities: Integration into the World Education System

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Background

I will start with the quotation “From the world of contradictions to the world of cooperation,” which was the epigraph used by Dr. Martin Jischke in his presentation at the conference devoted to the 100th anniversary of the National Agricultural University of Ukraine (NAUU). I hope these words will serve as the keystone of both this conference and the activities of the Global Consortium of Agricultural Universities.

Great progressive social, political, and economic changes in the world have brought us together as representatives of agricultural universities from all over the world.

Our purpose is to develop global approaches to that part of the educational system that directly concerns the provision of food, rational and ecologically harmless food production (including biotechnologies), a healthy lifestyle, and the prevention of destructive impacts on the biosphere.

It is worthwhile integrating the world’s existing educational and scientific systems and informational technologies. The best achievements of each country should be applied to such a global system. In this approach, young generations get more opportunities to participate in advanced educational programs, and scientists can concentrate their efforts on solutions of global scientific problems.

Recently, these critical problems became the main topics at international scientific conferences held in France, the United States, and Russia. In this context, it is quite understandable that Iowa State University, the National Agricultural University of Ukraine and the Humboldt Universität zu Berlin organized an international scientific conference, “Globalizing Agricultural Higher Education and Science: Meeting the Needs of the 21st Century,”

held in Kyiv last year. At this conference, the decision was made to found the Global Consortium of Agricultural Universities, with Dr. Martin Jischke as president.

Dr. Jischke stated, “The main consortium objective is to reform the world system of higher agricultural education according to the most advanced achievements in fundamental and applied sciences and informational technologies, while adapting to the specific conditions of each country’s social and economic characteristics.” This raises the question: Is the goal relevant for today’s conditions and is it achievable?

I belong to those whose immediate answer is “Yes!” And, it is not pure optimism. This answer is based on the existing experience of reforming the activities of the NAUU and the whole system of agricultural education in Ukraine, especially during the last eight years. During that period, our country became a sovereign state and started building a democratic society.

Reform Steps in Ukraine

In the following section, I will present the major results of the reforms we conducted. Let me begin by describing the system of higher agricultural education in Ukraine.

As shown in *Table 1*, Ukraine has quite a powerful system of training experts for agriculture. This system includes 10 universities, 6 academies, 4 institutes, 16 colleges, and 96 technical schools. All of them, except the National Agricultural University, are part of the Agroindustrial Complex of Ukraine. Certain activities of the agricultural education institutions are under the control of the Ministry of Education and the Ministry of Economics.

Table 1.
Agricultural Higher Education System in Ukraine

Type of educational institution	The number of institutions	The number of students		
		Full time training	Training by correspondence	Total
Universities	10	32,896	21,375	54,271
Academies	6	13,850	8,152	22,002
Institutes	4	8,825	5,973	14,798
Colleges	16	12,499	4,252	16,751
Technical schools	96	55,421	19,023	74,444
Total	132	123,491	58,775	182,266

The activities of agricultural education institutions are the responsibility of one of the deputy ministers of the Agroindustrial Complex, Mr. Sergey Melnyk.

Table 2 displays the number of students at different educational stages. Taken collectively, the Ukrainian agricultural education institutions represented in this table train approximately 190,000 students.

The National Agricultural University, which currently trains about 18,000 students, is the largest educational, scientific, and production complex among the higher agricultural education institutions of Ukraine. The university trains younger specialists, bachelors, masters, and specialists in: agrobiological, agroengineering, agribusiness, forestry and fisheries, veterinary medicine, agroecology, land management, and plant protection.

Table 3 represents the structure of the university: includes 13 faculties (colleges), 2 research stations, 2 demonstration farms, 3 regional colleges and 3 technical schools, and more than 20 scientific and research laboratories and institutes. The university has 30,000 hectares of arable land

and forest. When the “Iron Curtain” fell opening access to the countries of the western world for communication and cooperation, the Scientific Council of our university developed a phased strategy for reforming the activities, status, and structure of our educational institution. The process of reform which is still going on, consists of six basic stages.

The first step

Studying the educational systems of the United States, European, and Asian countries and developing cooperative linkages with the leading universities of the world

As shown in *Table 4*, today our university has official agreements with 33 universities in the United States, Europe, Asia, and Africa. These extensive international contacts became possible thanks to financial contributions of many international organizations: The World Bank, the U.S. Information Agency, and the U.S. Agency for International Development; U.S. universities in Iowa, Pennsylvania, Indiana, Ohio, North Dakota, and Minnesota; the Humboldt University (Berlin),


Table 2.
Characteristics of Students from Agricultural Higher Educational Institutes in Ukraine, 1999

Educational stages	Universities	Academies	Institutes	Colleges	Technical schools	Total
Junior specialist	5,904	-	-	15,547	74,444	95,895
Bachelor	21,858	9,074	5,659	1,204	-	37,795
Specialists and Masters	33,386	12,928	9,139	-	-	55,453
Doctoral and postgraduate students	706	199	136	-	-	1,041
						190,184

Table 3.
Main Characteristic of the
National Agricultural
University of Ukraine

Faculties (Colleges)	13
Departments	101
Regional colleges and technical schools	6
Research stations	2
Demonstration farms	2
Scientific and research labs	20
Students including masters	18,152
Doctoral and postgraduate students	330
Specialties	21
Specializations	34

Table 4.
International Relations of the National Agricultural University of Ukraine

<p>United States</p> <ul style="list-style-type: none"> • Iowa State University • Purdue University • Louisiana State University • Pennsylvania State University • Case Western Reserve University • University of Minnesota • University of Illinois (Chicago) 	<p>Poland</p> <ul style="list-style-type: none"> • Warsaw University • Krakow Agricultural University • Shetsin Agricultural Institute • Vrotslav Agricultural Institute 	<p>Austria</p> <ul style="list-style-type: none"> • University of Agricultural Sciences (Vienna)
<p>Germany</p> <ul style="list-style-type: none"> • Humboldt University (Berlin) • Hohenheim University (Stuttgart) • Anhalt Institute (Bernburg) • Dresden Technical University • Hannover University • University of Applied Sciences, Institute of Weihenstephan 	<p>Hungary</p> <ul style="list-style-type: none"> • Debrecen Agricultural University • Godollo Agrarian University 	<p>China</p> <ul style="list-style-type: none"> • Northwestern Agricultural University (Yangling)
<p>The Netherlands</p> <ul style="list-style-type: none"> • Wageningen University and Research Center 		<p>Slovak Republic</p> <ul style="list-style-type: none"> • Slovak Agricultural University
<p>Italy</p> <ul style="list-style-type: none"> • Biophysics Institute of National University Research Center • Perugia University 		<p>Czech Republic</p> <ul style="list-style-type: none"> • Praha Agricultural University
<p>United Kingdom</p> <ul style="list-style-type: none"> • Edinburgh University • Scotland Agricultural College 		<p>South Korea</p> <ul style="list-style-type: none"> • Yonsei University
<p>Belgium</p> <ul style="list-style-type: none"> • University of Gent • Agricultural Institute, Geel 		<p>Canada</p> <ul style="list-style-type: none"> • Toronto University
		<p>Israel</p> <ul style="list-style-type: none"> • International Association "Mashav" (Tel-Aviv)

Hohenheim University, and Dresden Technical University in Germany; Gent University in Belgium; Scotland Agricultural College; Seoul University; as well as the European Project TACIS. In conjunction with Iowa State University, our university completed four projects financed by the U.S. government and a number of private individuals in the United States.

Since 1990, over 200 professors and more than 2,000 students from our university visited the above-mentioned universities and obtained practical experience with the agricultural enterprises of Western countries. In addition, we studied curricula of the world's leading universities. We are now researching the options for transforming our educational system in order to borrow the most advanced achievements of others.

It was necessary to change the entire educational system in Ukraine to train experts who were prepared to work under free market conditions. New courses were introduced, and the interpretation of outdated ideological and economic dogmas was changed. New textbooks and didactic materials were published, and new teaching staff was admitted. In total, 158 textbooks and study guides—most of them newly introduced—have been published by our university scientists during the last six years. Due to this work, new catalogs of curricula and syllabi are now available. Perhaps the most important innovation is the new model of continuing education that was developed (see **Figure 1**). This model integrates the best achievements of the American and post-Soviet systems of education. First developed at NAUU, the model is now accepted as the basic one in all 20 higher agricultural educational institutions of Ukraine.

We have been working with German and Belgian universities for years, and our experience shows that the model of continuing education is of great interest for all of us. We are also pursuing cooperation in continuing and distance education with U.S. universities such as Iowa State and Minnesota.

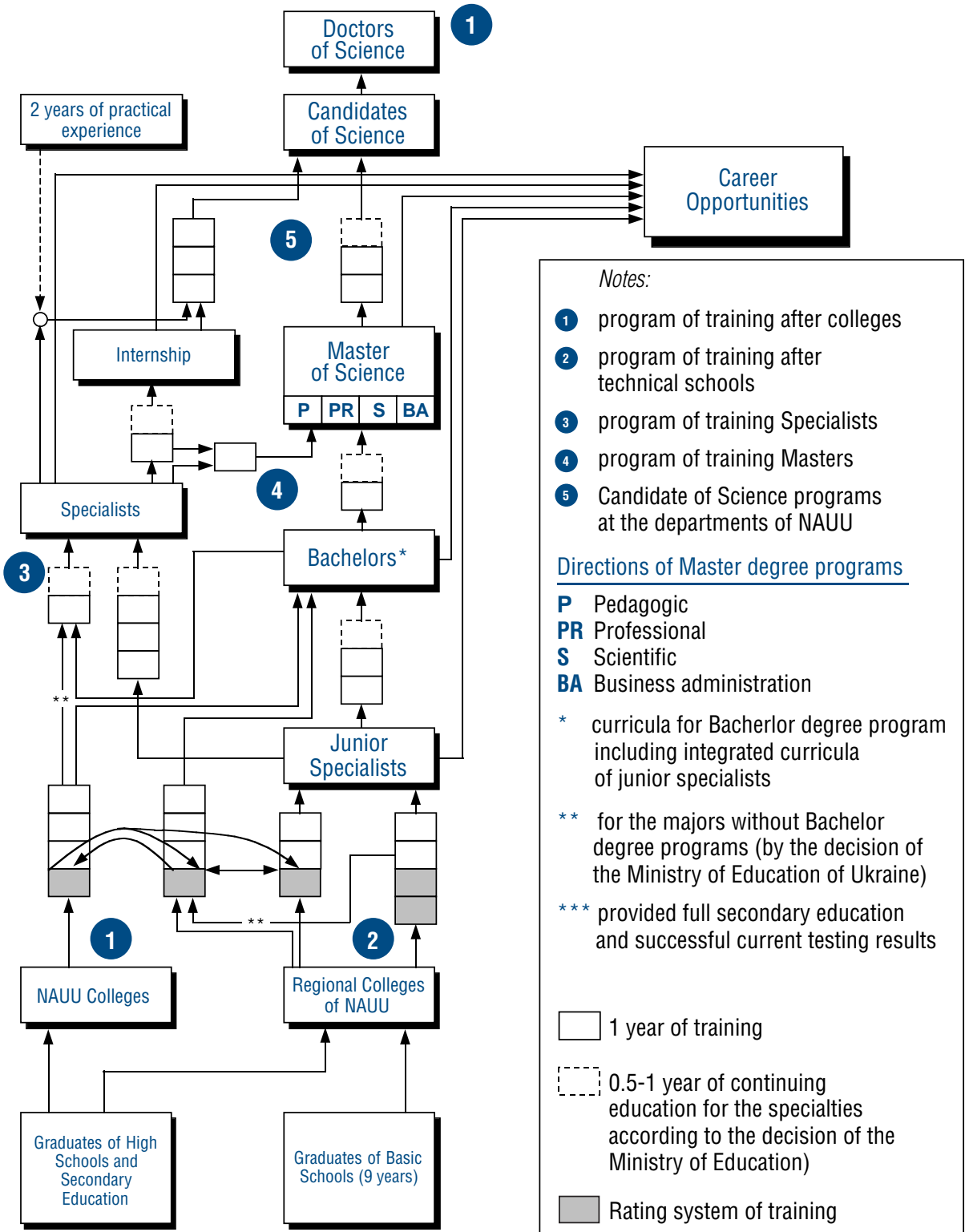
We should thank Iowa State University and the U.S. Information Agency, who sponsored our cooperation for years. These activities could hardly be successful without the assistance of ISU and NAUU administrators working closely with the Ukrainian Government and authorities. As a result, the most important reform items have been introduced into Ukrainian laws about education.

The second step

Providing maximum autonomy and democracy in the university activities regarding personnel management

In 1992, the former Ukrainian Agricultural Academy was transformed into the State University, which reported to the Ministry of Agriculture. Later, in 1994, the Ukrainian Government decided to grant our university national status, and it was included in the Cabinet of Ministers structure. This status is granted to the best universities with the highest rating, awarding such institutions both administrative independence and resources from the state's budget. Experience shows that the government's decision was progressive because it covers our university reforms and entire system as well.

Figure 1.
System of continuing education at NAUU



The third step

Exploring linkages between the university's scientific and educational activities

To reach this goal, university departments and two colleges have been established on the basis of a number of scientific and research institutions. These institutions belong to the Ukrainian Academy of Agricultural Sciences and are independent from the University (see Table 5). They help to provide students with the opportunities to participate in scientific research activities. The university is also developing its own research institutes and scientific laboratories. This is the first positive step toward the integration of education and science, and it is an especially important step for countries in transition.

Our university is establishing a Department of Extension that is intended to strengthen the relationship between university activities and the agricultural sector. This department borrows from the experiences of Iowa State University, the University of Minnesota, Louisiana State University, and Pennsylvania State University. The experiences of such world famous educational institutions in this field are outstanding and well worth studying and applying.

The fourth step

Implementing up-to-date information systems and computer technologies, including distance learning

In pursuing this goal, we have trained a number of our young scholars at universities in the United States and Western Europe. They are working on the development of the university computer network. Electronic versions of lectures and instructional materials are being developed in the University departments. For better coordination of this work, a new position, Vice-Rector for Computer Technologies, was introduced.

The fifth step

Improving university structure and administration

Colleges within one field of science are being transformed into research centers through the integration of colleges, departments, research institutes, scientific laboratories, regional colleges, technical schools, and farms.

Currently, there are eight centers: Plant Production and Agricultural Technologies, Agricultural Business, Agricultural Engineering, Forestry and Land Management, Animal Science, Liberal Arts, Pedagogics, and Advanced Training. Recently, the Institute of PostGraduate Study has been organized. It offers four types of Masters Programs: scientific, pedagogics, business, and professional skills. A presidential form of management is being introduced in which decisions are delegated. This method will enable decentralization and democratization of university administrative and financial systems.

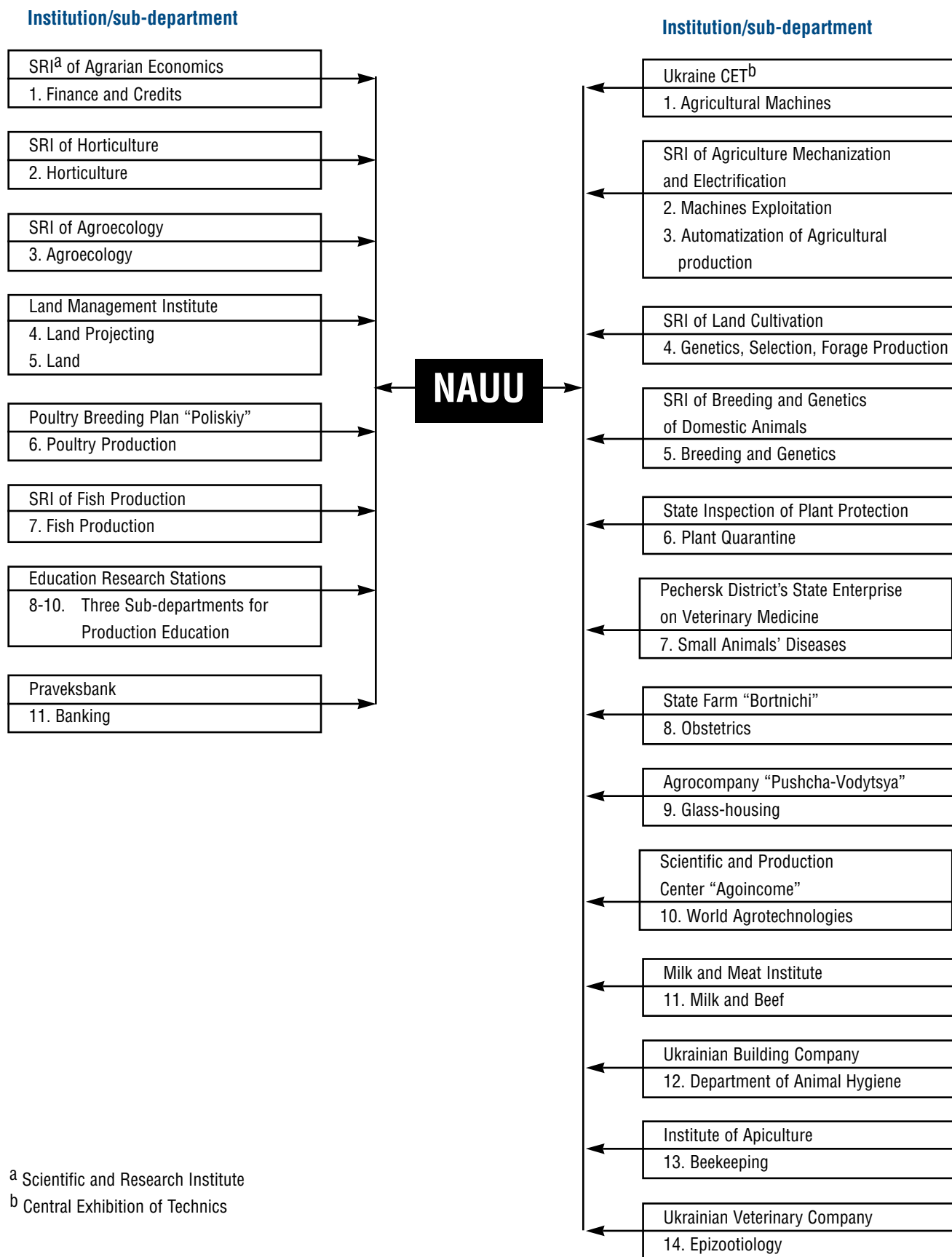
The sixth step

Reforming the system of cooperation between university administration and student organizations

Studying the progressive approaches of the world's leading universities was quite useful in making decisions on these delicate matters. Today, our university has a student organization, a women's association, a student union, a trade union, and a number of public clubs. These organizations help to make the students' leisure time more interesting and diverse, to develop their talents in arts and sports, and to prevent the abuse of drugs and alcohol. Various political organizations and parties are operating on campus according to their own principles. The university, however, is not responsible for their foundation or activities.

One more problem that is rather serious to deal with is the improvement of financial support for university activities. Such support is supposed to be improved through external sources, namely, scientific and training service in agricultural business, participation in international programs, payments for training and so on. Today, this support is over 30 percent of the budget funds.

Table 5.
Integration of NAUU's Departments with Scientific and Research Institutes of
Ukrainian Academy of Agricultural Sciences.



^a Scientific and Research Institute

^b Central Exhibition of Technics

Concluding Remarks

I would like to express once again my gratitude to my foreign colleagues for their valuable contributions in reforming the NAUU and the entire system of agricultural education in our country. I would like to extend special thanks to the President of Iowa State University, Dr. Martin Jischke, and to the Chancellor of the Agricultural Center of Louisiana State University, Dr. William Richardson, whose universities made great contributions during the reform process and in recognizing our educational system. It is hardly possible to express the real value of their support, assistance, and understanding. Our students and graduates will fully realize this value, however, because now they are being admitted for advanced training in the world's leading universities. I am certain this younger generation will further develop international cooperation and recognition.

I recommend that a topic for one of our future conferences be the development of mechanisms for global approaches to the problems of agricultural science. By this, I refer to methods of increasing global food production while dealing with the problems of agroecology, biotechnology, food quality, and so forth. I am certain that the experience of each conference participant will be useful in the development of a new type of cooperation among world agricultural universities, and I am sure that our consortium should serve this idea! I wish that international organizations such as United Nations Educational, Scientific, and Cultural Organization, Food and Agriculture Organization, the World Bank, the European Bank, the International Monetary Fund, and other foundations, organizations, and individuals would support such conference ideas and issues as well as our consortium plans.

As for ways of reaching the goals of our consortium, we should make decisions together during our conference or working group meeting discussions. While determining consortium objectives, structure, and activities, we could refer to the conference proceedings "Globalizing of Agricultural Higher Education and Science: Meeting the Needs of the 21st Century," especially pages 169-171 of that report.

It is essential that our governments as well as individuals should support our consortium activities through international integration and globalization of agricultural higher education, science, and agricultural production. This is a worthy goal for the twenty-first century.