

Russian Agricultural Education at the Crossroads

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Abstract

Since the mid-1980's, the number of Russian institutions of higher education has declined 33%. In 1996, federal funding for agricultural research stopped. Provincial governments are now responsible for funding agricultural research and instruction. Universities have introduced indirect fees, tuition charges, rented facilities, and cut faculty to meet expenses. This paper discusses the impact of the economic crisis on agricultural education at Chelyabinsk State Agricultural Engineering University as a case study of the global situation in Russian higher education.

Introduction

Financial support for Russian agricultural education - - both research and instruction - - has been declining. During the last seven years (1991-1998), state financing for Russian agricultural universities has declined despite the Law on Education under which the federal government is committed to covering the educational costs for at least 170 students per 10,000 inhabitants, or approximately 20% of the respective age group - about 2.5 million students nationwide (Tomusk, 1998).

In the mid-1980s, the Russian Federation supported approximately 840 institutions of higher education

but by the mid-1990s, only 566 remained, a decrease of 33% (Tomusk, 1998).

The federal budget for agricultural research declined from 2.7 billion rubles (\$1.225 million) in 1994 to zero in 1997, 1998, and 1999 (Figure 1). Moreover, the share of agricultural research funding from federal sources versus provincial sources declined from 32.2% in 1994 to 7.9% in 1996, the last year of federal funding for agricultural research (Rozovenko, 1999). Now, the primary source of agricultural research funding is contract funding provided by provincial and regional governments (Table 1). However, these resources are inadequate to maintain a viable agricultural research program (Josephson, 1997).

Methods

This article is based on a literature review of Russian higher education, a search of Internet sites on Russian educational and financial statistics, personal communications with department heads and university officials at Chelyabinsk State Agricultural Engineering University, and the senior author's personal observations of changes in higher education in the Ural region of Russia.

Results and Discussion

A number of innovative developments have been introduced to supplement dwindling state funding for agricultural education. Private universities have been founded within public ones, which may explain the recent growth in new independent institutions. Goskomvuz, the Russian State Committee for Higher Education, has recently licensed 250 "independent" institutions. Universities have also introduced indirect fees and tuition charges, rented

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Table 1. Recent Trends in Financing Scientific Research at Russian Agricultural Universities, 1994-1999

Years	1994	1995	1996	1997	1998	1999*
-----Billion rubles -----						
Federal Budget Allocations for Research	2,700.0	2,000.0	2,200.0	0	0	0
Contractual Research Funding	5,664.3	19,568.0	25,500.0	22,951.0	36,000.0	57,000
Total Research Funding	8,364.3	21,568.0	27,700.0	22,951.0	36,000.0	57,000
----- Million U.S. \$ -----						
Total Research Funding in U.S.\$ at Annual Average Exchange Rates	3.79	4.73	5.40	3.97	3.43	2.30
----- % -----						
Federal Allocations as a Share of Total Research Funding %	32.2	9.3	7.9	0	0	NA
-----Number -----						
Number of Researchers	2038	1858	1109	605	1076	NA

Source: M.V. Rozovenko. URL http://www.aris.ru/N/WIN_R/ONAS/DEP_ORAZ/rez.html;

*M.V. Rozovenko, Personal Communication, March 21, 2000.

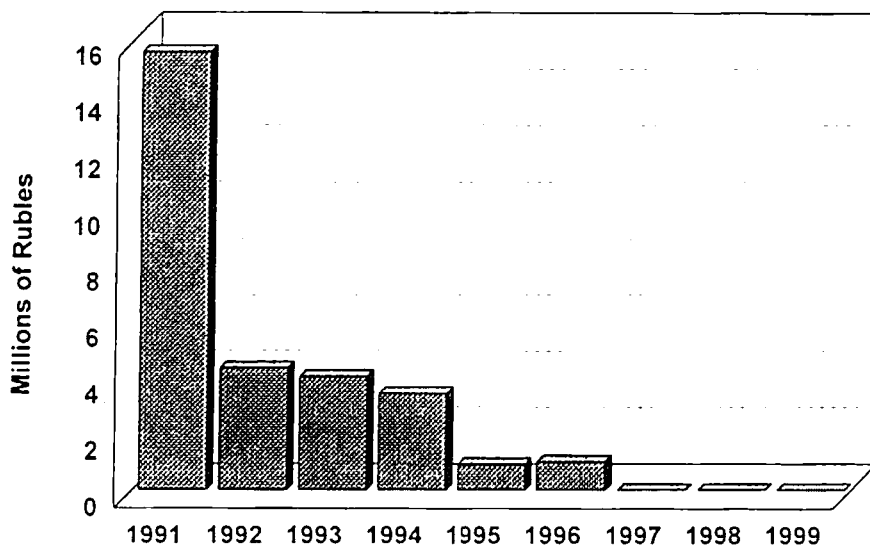


Figure 1. Federal Budget Appropriations for Research in Schools of Education Under the Ministry of Agriculture and Food (in Fixed Prices of 1991)

buildings and facilities, and offered educational services for pay to meet expenses. Other cost-saving measures include introducing four-year bachelor degrees rather than the traditional five-year specialist's curriculum, merging smaller institutions into larger universities, and, finally, reducing faculty and staff.

Changes at Chelyabinsk State Agricultural Engineering University are typical of the general situation in Russian higher education. There are currently 16 state and 18 private universities in the City of Chelyabinsk, the educational center of the South Urals. Private universities in Chelyabinsk are small; some are branches of larger universities in Moscow and St. Petersburg. All of the state universities in Chelyabinsk, and countrywide, are under the control of different ministries such as the Ministry of Higher Education, Ministry of Agriculture and Food, Ministry of Internal Affairs, and Ministry of Defense.

The Division of Higher Education in the Department of Personnel Policy and Education at the Ministry of Agriculture and Food manages all agricultural universities, colleges, academies, and institutes for professional training (Figure 2). The Ministry provides operating funds to each institution according to the number of students attending free of charge. The Law on Education sets a quota of students who can study for "free," but tuition-paying students can be admitted as long as the number does not exceed 25% of the state mandated enrollment. Entrance standards have been relaxed to accommodate more fee-paying students who have priority in admissions at some institution (MacWilliams, 1998). About 260,000 students are enrolled in the Agricultural Higher Education system, with 62% registered as full-time students. Enrollment at state agricultural universities averages about 5,000 students per institution, with 40% studying part time.

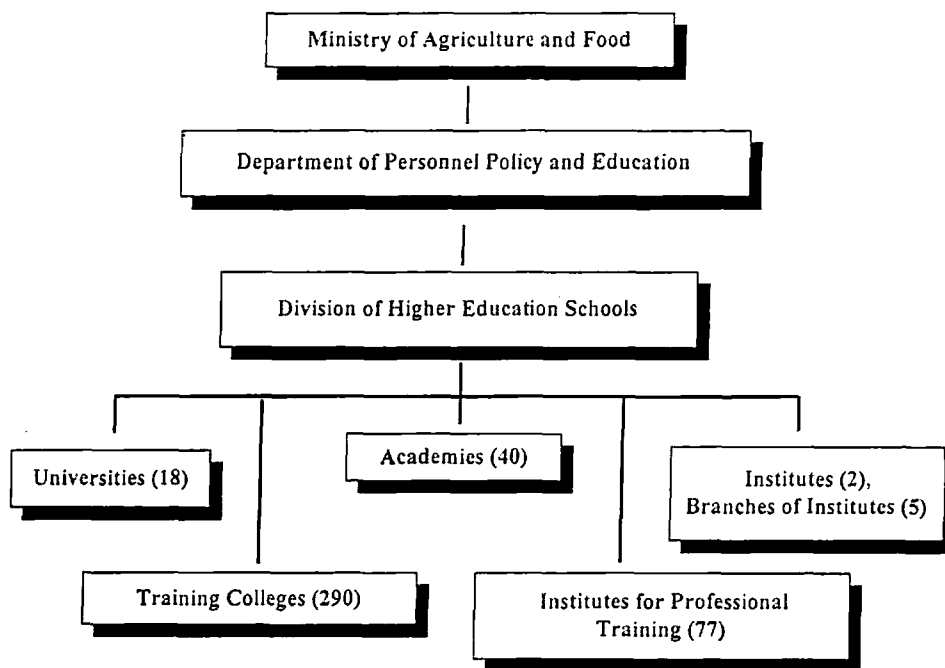


Figure 2. Structure of the Agricultural Higher Education System in Russia

Declining Support for Agricultural Education

Diminishing Federation support for agriculture means a proportional reduction in federal transfers to agricultural universities. The legal stipend per student specified by the government must equal twice the minimum wage, but the actual stipend depends on the amount of federal support to the university. In October 1998, the monthly stipend at Chelyabinsk State Agricultural Engineering University was 85 rubles, or less than \$5, half the legal stipend amount. Educational and living costs are rising, putting pressure on student resources. Students pay 30 to 50 rubles a month (\$1.50 to \$2.50) for university housing if they live on campus. They also pay a library service fee of 85 rubles (\$5) per year.

Before 1991, Russian agricultural universities were highly specialized. Chelyabinsk State Agricultural Engineering University, the oldest university in Chelyabinsk Oblast, was founded in 1930 in response to the rapidly growing tractor manufacturing industry. Industry and agriculture needed managers at large state farms (sovkhoz) and farm machinery stations. Chelyabinsk State is still highly specialized; engineers account for more than 70% of the students. But in the 1990s, students' preferences shifted toward economics and law (Figure 3). Chelyabinsk State has three to five applicants per opening available in the economics department but only about two applicants per opening in engineering.

While there were no significant changes in overall enrollment at Chelyabinsk State University during the last five years, in 1998 the number of faculty dropped from 331 to 245, a reduction of 26% due to the Russian Federal Cabinet's decree to cut all professors' salaries. This situation resulted in several key decisions. The Board of the Faculty decided to dismiss several faculty members instead of reducing overall salaries. As a result, the remaining professors now have to teach about 25% more credit hours than a year ago.

While faculty teaching loads have increased, monthly faculty salaries have not kept pace with teaching loads. In 1998, faculty salaries were only about \$76 for professors, \$51 for associate professors, and \$37 for assistant professors, the lowest level of salary support since 1993 (Figure 4). The decline in monthly faculty salaries between May and December 1995 can be explained by the fluctuation of the ruble/dollar exchange rate. The ruble depreciated 31.1% against the dollar between January and May 1995. The exchange rate then stabilized and the ruble appreciated 8.7% by the end of the year (USDA). Thus, the conversion of faculty salaries to dollars during a period of depreciating currency explains the fluctuation in Russian faculty compensation.

Faculty salaries are subject to income, retirement and "social security" taxes. The income tax is 12% if faculty income does not exceed 20,000 rubles, or \$1,000 per year. Most professors earn less than that. In addition, faculty contribute 1% of their income to a retirement fund, making the income tax rate 13% of their monthly salary.

Faculty salaries were higher during the period of central planning than in the 1990s. Prior to the end of the Soviet Union in 1991, salaries were fixed by degree of the Central Committee of the Communist Party of the USSR. Consumer prices for food, housing and transportation were also fixed under central planning. Access to foreign currency was controlled while the ruble was overvalued at a fixed exchange rate. For example, converting the ruble salaries of assistant, associate, and full professors with five years of experience into dollars for 1987 gives monthly salaries of \$333, \$417, and \$625 respectively (Central Committee 1987). Thus, faculty salaries just prior to the break up of the Soviet Union were seven to eight times higher than in the late 1990s. Once price and exchange rate controls were removed, real incomes and the standard of living for Russian faculty fell drastically as illustrated in Figure 4.

Implications for Higher Education in Russia

Russia's maintenance of a large higher educational system during the economic crisis may undermine the quality of education. The number of departments, faculties, schools, colleges and institutes has increased and new academic majors have been introduced, such as the humanities, law, and economics. New degrees have been added to the curriculum, generally without additional resources. Funds for new equipment, maintenance and repairs are lacking. Faculty are greying, preferring to remain teaching as long as possible because they consider their retirement pensions inadequate (MacWilliams, 1998). Currently, 32.1% of the faculty at Russia's agricultural universities are between 50 and 60 years old while 10% are above the retirement age of 60 years for men and 55 for women (Rozovenko, 1999).

The introduction of four-year bachelors degrees as a cost saving measure may not have much impact on education system costs. Students and their parents prefer five-year specialist's degrees, assuming an additional year of study improves their employment opportunities.

The number of post-graduate students at agricultural universities increased from 640 to 1,700 between 1991 and 1997, but the number of students completing the Candidate of Science degree remained unchanged at about 500. Only about 123 post-graduates defended their dissertations in 1997, about the same as

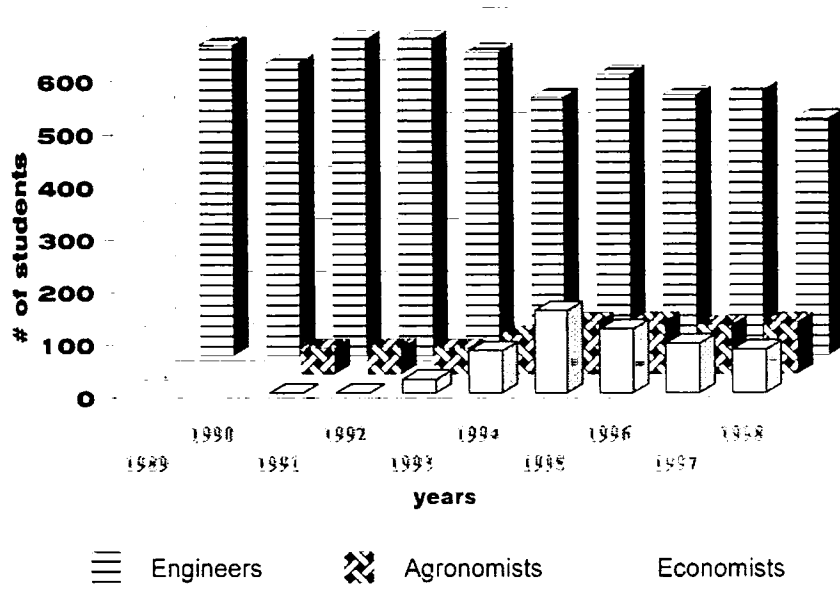
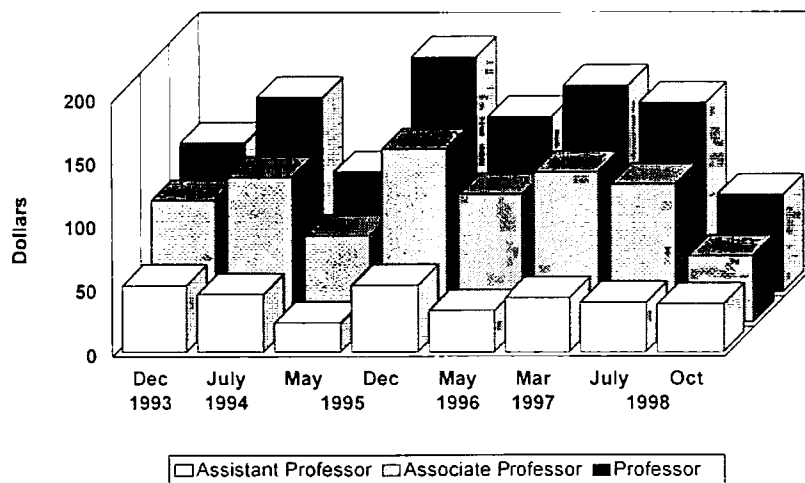


Figure 3. Undergraduate Admissions by Discipline at Chelyabinsk State Agricultural Engineering University, 1991-1998



Source: Statistical Information, Chelyabinsk State Agricultural Engineering University, 1998.

Figure 4. Monthly Salaries in U.S. Dollars at Chelyabinsk State Agricultural Engineering University 1993-1998.

Table 2. Post Graduate Enrollment at Russian Agricultural Universities, 1990-98

	1990	1991	1992	1993	1994	1995	1996	1997	1998 ²
Number of Post Graduate Students Who Applied to Candidate of Science Programs (Aspirants)	2001	2005	2064	2259	2599	3110	4000	4015	5063
Number of Post Graduates Entered into Agricultural Universities, Part and Full Time Students	634	640	712	917	1023	1298	1647	1700	1673
Full time Students	488	421	469	609	692	913	1293	1300	NA
Number of Post Graduates Who Completed Their 3-year Courses of Study for the Candidate of Science Degree	500	391	511	479	504	524	572	595	NA
Number of Post Graduates Who Defended Their Theses for the Doctor of Science Degree	83	138	219	111	115	88	115	123	NA

Source: M.V. Rozovenko, "Information and Analysis to the Report 'Science and Technologies: The Statement and Perspectives.'" URL http://www.aris.ru/N/WIN_R/ONAS/DEP-OBRAZ/b-fortov.html;

²Russian Federation, Ministry of Agriculture and Food, URL <http://www.aris.ru/MSHP/DEKADR/rez.html>.

1991 (Table 2). This situation can partially be explained by the declining financial support for post-graduate research. Another reason is that post-graduates utilize their three years of course-work to search for urban employment rather than return to the rural areas where paying jobs are scarce. Their student stipend may be their only source of income, thus encouraging them to remain in school (Rozovenko, 1999). After completing their degrees, graduates must rely on their own resources in finding employment instead of the virtual job assignment which existed during the period of central planning (Iupitov and Zotov, 1998).

Summary

Russian agricultural education is clearly at a crossroads. The quality of education may decline in this environment, due to higher student/faculty ratios, reduced Russian agricultural research funding, lack of new equipment -- computers, textbooks, and Internet access -- and a critical scarcity of qualified faculty in the new disciplines. If the national economic crisis continues, food production could decline due to the lack of adequately trained managers and agricultural scientists in Russia's bread basket. The

level of professional people in the agricultural sciences is declining at a critical time when farmers need new technology in production, processing, management, and marketing.

Curriculum reform and development are also needed in an emerging market economy. Early in the transition period, Bromley (1993) argued that societies create viable markets through the establishment of legally binding institutions which govern the exchange of goods and services. (p. 3). A pre-requisite for sustainable economic growth is a strengthening of the rules that govern the market place and the institutions that back them up (Johnson, 1993). Agricultural universities can be part of the institutional base for Russia's transition to a market economy, but without adequate funding, they cannot contribute to the new disciplines such as food and fiber marketing, environmental, and agribusiness management which are critically needed to strengthen the rules that govern the market place.

College graduates are needed in everything from land tenure legislation to accounting, agribusiness, natural resource, and farm management. Student and faculty exchanges with institutions in Western Europe and North America will help provide Russian agricultural universities

educate a new generation of specialists. If resources are available to Russian agricultural universities, they can be transformed into the basic institutions which provide the human capital base for viable food and fiber systems consistent with those of successful market economies.

Responsibility for agricultural research funding has shifted from the Federation level to the provinces, autonomous regions and republics which are also strapped

for funding. In a macroeconomic sense, revitalization of Russia's agricultural research system is critical to the recovery of the farm sector. The question remains, "Will Russia's political leaders have the foresight to fund the universities' research and instructional programs?" when they are faced with competing needs and dwindling resources.

LITERATURE CITED

- Bromley, Daniel W. 1993. Creating market economies from command economies. *Economic Issues*. No. 121. Dept. of Agricultural Economics, U. Of Wisconsin.
- Central Committee of the Communist Party of USSR, Ministers Council and the All-Union Central Council of Professional Unions. 1987. Decree #329 On salary increase to staff of higher education schools, 13 March. (Prilozhenie #1 k postanovleniyu TsK KPSS, Soveta Ministrov SSSR and VTsSPS ot 13 marta 1987 g. #329 "O povyshenii, zarabotnoj platy rabotnikov vysshih uchebnykh zavedenij").
- Chelyabinsk State Agricultural Engineering University. 1998. Unpublished statistical information, Chelyabinsk Oblast, Russia.
- Iupitov, A.V. and A.A. Zotov. 1998. A survey of the situation of college students' occupational self-determination. *Russian Education and Society*. 40(2):6-19.
- Johnson, S. R. 1993. Emerging agricultural institutions in the new independent states. *Amer. J. Agric. Econ.* 75(3):828-834.
- Josephson, P.R. 1997. Science in Russia: poverty, power struggles, and hope. 1997 Yearbook of Science and the Future. Chicago: Encyclopedia Britannica, Inc.
- MacWilliams, Bryon. 1998. Yeltsin urges reform and more money for colleges; skeptics ask if he can deliver. *Chronicle of Higher Education*. 44:A57.
- Rozovenko, Mikkail V. 1998. Information and analysis to the report 'science and technologies: the statement and perspectives.' URL http://www.aris.ru/N/WIN_R/ONAS/DEP_OBRAZ/rez.html
- Rozovenko, Mikkail V. 2000. Personal communication with A.A. Koptchenov, March 21.
- Russian Federation. Ministry of Agriculture and Food. URL <http://www.aris.ru/MSHP/DEKADR/rez.html>.
- Tomusk, V. 1998. Developments in Russian higher education: legislative and policy reform within a Central and East European context. *Minerva*. 36:125-146.
- U.S. Department of Agriculture, Economic Research Service. 1996. International agriculture and trade reports, former USSR situation and outlook series, MRS-96-1, May.