

Quality assurance of agricultural university education in Russia and Europe

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Abstract

The article attempts to determine main assurance instruments of agricultural university education in the European Union and the Russian Federation. First of all authors compare significance of agriculture for economies and its productivity for last 10 years. As far as attending the sustainable agriculture is not possible without high qualified staff, agricultural universities have to provide economy with them. Russian and European approaches to the agricultural university education are different but have a lot of similarities. According to leading ratings authors chose top ten agrarian universities of Russia and Europe, analyzed their system of quality assurance. As a result there are five most popular instruments of quality assurance in agricultural university education of Russia and Europe: licensing; governmental accreditation; certification according to ISO 9001, ESG; rating among agricultural universities; public accreditation. In conclusion authors proposed to create an Agriculture Employers Union, aggregated organizations from different fields of agriculture. It can work out requirements for graduates of agricultural universities and accredit educational organizations. Level of employment assistance in agricultural universities, which would have this type of accreditation, could be the best guaranty of high quality of education.

Key words: agricultural university education, quality management system, quality assurance.

JEL Classification: A209

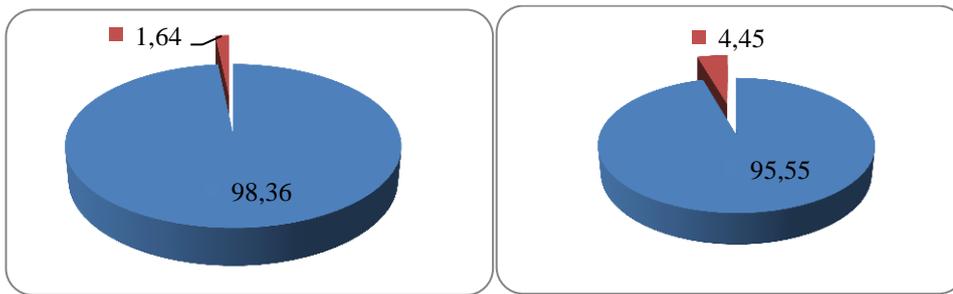
1. Introduction

Ensuring and improving quality of higher education and establishing quality assurance systems remains a high priority for many countries. (Eurydice, 2010) And the Russian Federation (RF) and the European union (EU) like two of major participants of the world economy are not exception.

Nowadays they are two biggest partners of each other. The European Union is by far Russia's biggest overall trade partner. And Russia is the European Union's third largest trade partner. (J.M. Barroso, 2013)

During last ten years agriculture did not play determined role in the economy of Russia and European countries, see figure 1. But it was and is still staying a fundamental sphere for quality of population living, food and ecological security.

Figure 1: Agriculture, value added (% of GDP) in average for a period from 2004 till 2014 in the European Union (left picture) and in the Russian Federation (right picture).



Source: the World Bank Data.

Historically, few issues have attracted the attention of economists as has the role of agriculture in economic development and poverty reduction, generating an enormous literature of both theoretical and empirical studies. Much of this literature focuses on the process of structural transformation of economies, from the least developed in which economic activity is based largely on agriculture, to high-income countries where industry and services sectors dominate. (Cervantes-Godoy, D. and J. Dewbre, 2010)

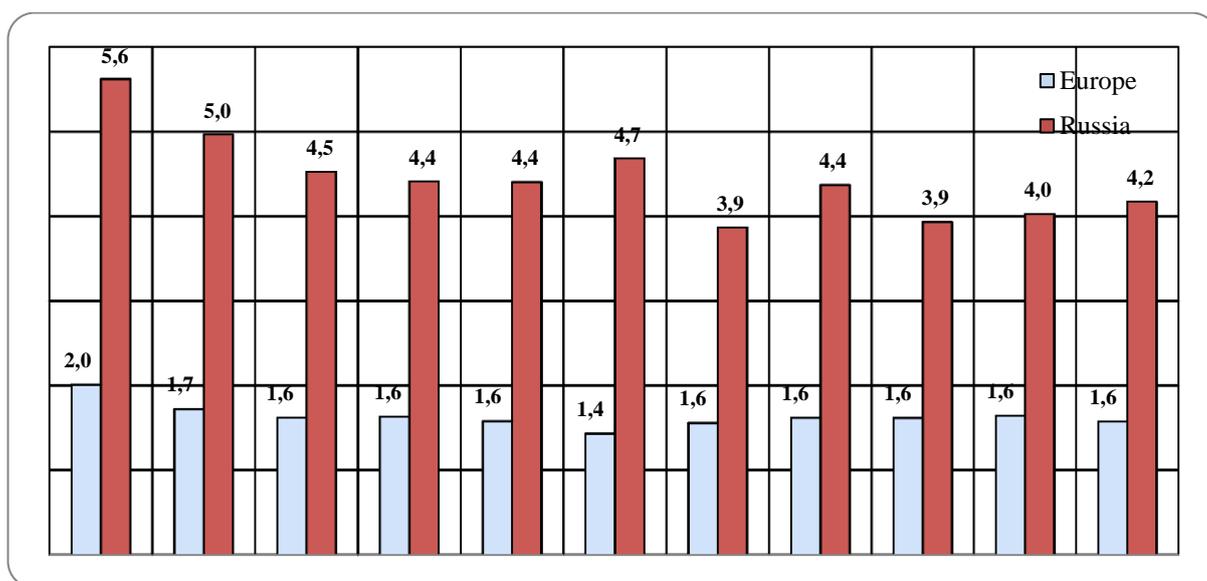
Figure 2: Agriculture value added per worker (constant 2005 US\$) in Europe (the European Union) and Russia for a period from 2004 till 2014.



Source: the World Bank Data.

Figure 2 reflects bigger productivity of agriculture (in average in 4 times) in Europe in comparing with Russia, in spite of a big difference (in average in 3 times) in % of GDP of agriculture, value added, where Russia's indicator is higher than Europe's one, see figure 3. It can be related with low efficiency of recourses using, big old machinery park and lack of high-qualified staff, which will be able to implement new managerial approaches and world best agricultural practices in Russia.

Figure 3: Agriculture, value added (% of GDP) in Europe (the European Union) and Russia for a period from 2004 till 2014.



Source: the World Bank Data

2. Agricultural university education analysis

Agricultural university education is one the most important instruments, which can provide economy with new specialists in agriculture on the one hand and renew specialists (in case of upgrade qualifications) on the other hand, who could face contemporary agricultural challenges. Let's review agricultural university education in Russia, see table 1.

Table 1: Indicators of agricultural university education in Russia.

	Quantity of agrarian universities	Quantity of students	University programmers	Governmental standards
Russia	59	429 200	192	22

As to "Quantity of agrarian universities" indicator in Russia, it includes: [7]

- 26 universities,
- 32 academies,
- 1 institute.

Universities have broad range of educational programmers, do fundamental and applied researches in different spheres of life. Academies specialize on one sphere of education, science and culture. Institutes research some spheres in additional to the education process, but are not leaders in scientific and methodological activity like universities and academies.

As to "Quantity of students" indicator in Russia, it consists of: [7]

- 197 800 students, who have intramural agricultural education and
- 231 400 students, who have extramural agricultural education.

As to "University programmers" indicator in Russia, it covers: [7]

122 specialists programmers of high agricultural education and
70 bachelors and masters agricultural programmers.

Contemporary governmental standards of high agricultural education in Russia spell out next directions: [10]

for specialists 1 in animal science sphere,

for bachelors 10 in forest science, agro chemistry, agronomy, gardening, mariculture, industrial fishing, landscape gardening spheres etc.,

for masters 9 in spheres like for bachelors and 2 in animal science and veterinary and sanitary expertise spheres.

It is necessary to notice, that Russian and European educational systems are different. In 2003 the Russian Federation accepted the Bologna Accords, but the whole process of educational process changing is not completed. It seems, that these two educational systems will never be equal. But process of globalization goes on. More than that, one of the state policy principals in educational sphere of Russia is "creation of supportive environment for integration of educational system of the Russian Federation with educational system of other countries in conditions of equality and mutually beneficial relationship"¹.

3. Agricultural universities selection

For reviewing of quality assurance, which exists in universities of Russia and Europe, create lists of universities. On the Russian side chose 10 best agrarian universities according to the National Rating of Universities in Russia for 2014/2015 academic year, see table 2.

Table 2: List of 10 best agrarian universities according to National Rating of Universities in Russia for 2014/2015 academic year.

	Name of agricultural university in RF	Name of agricultural university in EU
1	Russian State Agrarian University - Moscow Agricultural Academy named after K.A. Timiryazev	Wageningen University
2	Stavropol State Agrarian University	University of Reading
3	Saratov State Agrarian University named after N.I. Vavilov	ETH Zurich - Swiss Federal Institute of Technology
4	Orel State Agrarian University	Agro, ParisTech
5	Altai State Agricultural University	University of Copenhagen
6	Saint-Petersburg State Agrarian University	University of Natural Resources and Applied Life Sciences Vienna
7	Omsk State Agrarian University named after P.A. Stolypin	The University of Nottingham
8	Bashkir State Agrarian University	Swedish University of Agricultural Sciences

¹ Federal law of the Russian Federation from 29.12.2012 #273-FZ (red. from 30.12.2015) "About education in the Russian Federation". Author's translation.

9	Ural State Agricultural University	Ghent University
10	Novosibirsk State Agrarian University	Aarhus University

* Composed by authors according QS star rating Topuniversities and National rating of universities in Russia

National rating of universities is formed by non-state Russian information agency Interfax, which do it every academic year from 2009. Main criteria of estimation are educational activity, scientific research, social environment, international activity, brand, innovation and entrepreneurship of universities.

In 2014/2015 academic year Lomonosov Moscow State University stood on the first place with maximum grade 1000. Russian State Agrarian University - Moscow Agricultural Academy named after K.A. Timiryazev became first among agricultural universities for the same period. It stood on the 54-th place of common rating with the grade 509.

Difference in about 500 grades does not mean, that agricultural universities are twice worse than classical ones of non-sectorial education in Russia. It only means, that agricultural education differs from classical one. For example, it is more specialized, practical-oriented, has agricultural land in the material fund structure etc.

European Agricultural universities were evaluated according QS Stars rating were the following criteria, were selected into a key pillars:

- Research - indicators considered here include assessments of research quality amongst academics, productivity (i.e. number of papers published), citations (i.e. how recognized and referred to those papers are by other academics) and awards (e.g. Nobel Prizes or Fields Medals).
- Teaching - a key role of a university is the nurture of tomorrow's finest minds, inspiring the next generation of potential research academics. Typical indicators in teaching quality assessments are collation of student feedback through national student surveys, further study rate and student faculty ratio.
- Employability – graduate employability encompasses more than academic strength, focusing on ‘work-readiness’ - the ability to work effectively in a multi-cultural team, to deliver presentations, to manage people and projects. Common indicators in this area are surveys of employers, graduate employment rates and careers service support.
- Internationalization - here, effective indicators could be the proportion of international students and staff, the numbers of exchange students arriving and departing, the number of nationalities represented in the student body, the number and strength of international partnerships with other universities and the presence of religious facilities.
- Facilities - university infrastructure is an indicator which enables students to know what to expect from their university experience. Indicators such as sporting, IT, library and medical facilities, as well as the number of students societies are considered within this criterion.
- Online/Distance learning - this category looks at various indicators such as student services and technology, track record, student faculty engagement, student interaction, commitment to online and reputation of the university.
- Social Responsibility - engagement measures how seriously a university takes its obligations to society by investing in the local community as well as in charity

work and disaster relief. It also analyses the regional human capital development and environmentally awareness.

- Innovation - innovation, the output of the universities activities and findings to economy, society and culture, has become increasingly relevant for universities.
- Arts & Culture - Effective indicators are the number of concerts and exhibitions organized by the institution, the number of credits and cultural awards and cultural investment.
- Inclusiveness - This area looks at the accessibility of the university to students, particularly at scholarships and bursaries, disability access, gender balance and low-income outreach.
- Specialist Criteria - Excellence in a narrow field is as valid a claim to world-class status as competence in the round. These criteria are designed to extend credit where it's due. This category looks at accreditations and discipline rankings.

4. Quality assurance of agricultural university education analysis

Analyzing quality assurance of agricultural university education, we can list main instruments, which are mostly used by agrarian universities of Russia and Europe, see table 3.

Table 3: Instruments of quality assurance in agricultural university education of Russia and Europe.

	Instruments	Status
1	Licensing	obligate in Russia
2	Governmental accreditation	obligate in Russia, in Europe
3	Certification according to ISO 9001, ESG	non-obligate in Russia, in Europe
4	Rating among agricultural universities	non-obligate in Russia, in Europe
5	Public accreditation	non-obligate in Russia, in Europe

* Composed by authors.

4.1 Licensing and governmental accreditation

Licensing is necessary for educational activity in Russia. Universities, including agrarian ones, must not work without governmental license. On the official web-site of The Federal Service For Supervision in Education and Science in Russia there is consolidated register of license, where every interested person can find this type of document of any educational organizations. Every agricultural universities of Russia, which we chose, place its license and certificate of governmental accreditation on the web-site. It is a state confirmation of high quality education for applicants, theirs parents, all students and even whole university stuff.

Governmental accreditation is the second essential instrument of quality assurance in university educational sphere of Russia and European Union. It consists of educational programmers checking according to governmental standards. Licensing and accreditation are periodically repeated events. There is no assurance, that after the next checking period a university obtains license or accreditation certificate.

4.2 Certification according to ISO 9001

Certification according to ISO 9001:2015 and public accreditation are two non-obligate instruments of quality assurance in agricultural university education of Russia and EU. Since 2000s the certification process of quality management system became one of necessary aspects of every company success. Educational organizations of agriculture were not exception.

For confirmation of customer focus, process approach, continual improvement etc. analyzing universities certify their quality management systems according to ISO 9001:2008. New ISO 9001:2015 will change some directions of quality management building, for example:

- risk-based thinking instead of strict correction and corrective actions,
 - "context of the organization" implementation, which means a set of impacting factors,
 - documented information instead of documented procedures and records,
- but the core of quality management system forming stays the same.

Most of agricultural universities all over the world have their own unique quality management system, some of them forms best education practices. As a result of this process there are certified quality management systems, governmental rewards in quality sphere, high reputation of university and, what is most important, big quantity of applicants and talented students.

At the European level Standards and guidelines for quality assurance in the European Higher Education Area (ESG) were adopted by the Ministers responsible for higher education in 2005. Given this changing context, in 2012 the Ministerial Communiqué invited the E4 Group (ENQA, ESU, EUA, EURASHE) in cooperation with Education International (EI), BUSINESSEUROPE and the European Quality Assurance Register for Higher Education (EQAR) to prepare an initial proposal for a revised ESG to improve their clarity, applicability and usefulness, including their scope. The focus of the ESG is on quality assurance related to learning and teaching in higher education, including the learning environment and relevant links to research and innovation. In addition institutions have policies and processes to ensure and improve the quality of their other activities, such as research and governance. The ESG apply to all higher education offered in the EHEA regardless of the mode of study or place of delivery. Thus, the ESG are also applicable to all higher education including transnational and cross-border provision. In this document the term programme refers to higher education in its broadest sense, including that which is not part of a programme leading to a formal degree. The ESG have the following purposes ⁷:

- They set a common framework for quality assurance systems for learning and teaching at European, national and institutional level;
- They enable the assurance and improvement of quality of higher education in the European higher education area;
- They support mutual trust, thus facilitating recognition and mobility within and across national borders;
- They provide information on quality assurance in the EHEA.

4.3 Rating among agricultural universities

Another method of quality assurance of agricultural universities is to participate in different ratings among agricultural universities. There are a lot of ratings, which are formed by

information and rating agencies, public companies, volunteers' organizations etc. But there is no universal system of estimation with one competent committee, which would specialize on agricultural university education.

5. Proposition

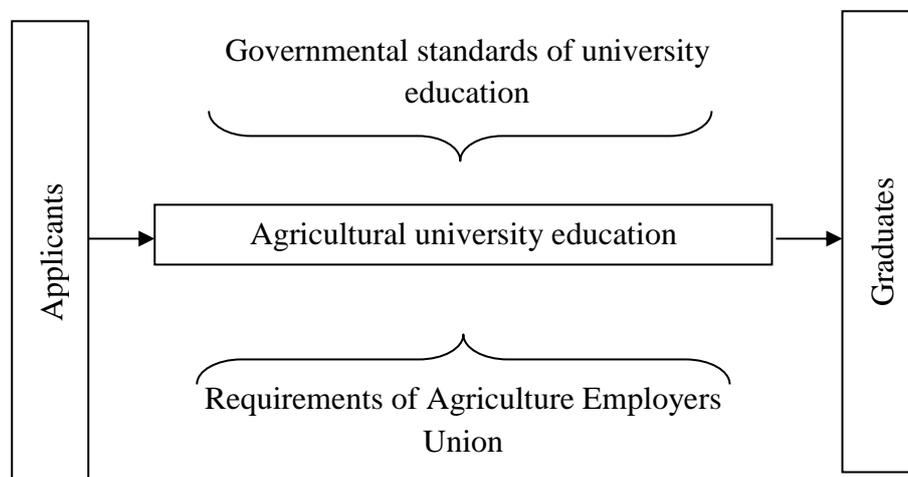
As to new, additional instruments of quality assurance we can examine public accreditation. It is not so popular in the agricultural universities' community. Its main goal is to determine, that graduates of the university satisfy labor market requirements.

In Russia and Europe there are some independent public employers' associations of such economy branches as engineering, tourism, entrepreneurship etc. For organizations of education there is the European Association for Quality Assurance in Higher Education (ENQA). It "promotes European co-operation in the field of quality assurance in higher education and disseminates information and expertise among its members and towards stakeholders in order to develop and share good practice and to foster the European dimension of quality assurance"¹.

Creation of Agriculture Employers Union would be great instrument for quality assurance of agricultural university education. Organizations in different main fields of agriculture can work out their requirements for graduates - future employees and check, accredit agricultural universities.

As a result universities get precise understanding about necessary skills set of graduates and improve their educational process. On the other side employers receive well-educated, practice-oriented staff. The draft of the union participation can be present on the scheme 4.

Figure 4: Scheme of Agriculture Employers Union's participation in the university education process.



Level of employment assistance in agricultural universities, which would have accreditation of Agriculture Employers Union, could be the best guaranty of high quality of education. This instrument can have advantages as for universities and students, as for agricultural organizations.

¹ Official web-site of the European Association for Quality Assurance in Higher Education (ENQA). Link: <http://www.enqa.eu/>.

6. Conclusion

In conclusion of the article it is necessary to underline, that in such different economies like Russian and European is agriculture is still staying a fundamental sphere for quality of population living, food and ecological security. Agricultural university education is the major aspect of sustainable development of agriculture.

There are four most popular instruments of quality assurance in agricultural university education of Russia and Europe: licensing, governmental accreditation, certification according to ISO 9001 and rating among agricultural universities. The public accreditation by Agriculture Employers Union was proposed in the article like a new instrument of university education improvement. In the process of accreditation universities get precise understanding about necessary skills set of graduates and employers receive high-qualified staff.

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