

Almaz Kamalov
South East Polk High School
Altoona, Iowa
Russia, Factor 12

Russia: Investing in Education, Training and Extension for Improved Implementation of Agricultural Research and Technology

Russia is the biggest country in the world, but climatic and geographic factors limit Russia's agricultural activity to about 10 percent of the country's total land area. Of that amount about 60 percent is used for crops; the remainder is for pasture and meadow. In the European part of Russia, the most productive land is in the Central Chernozem Economic Region and the Volga Economic Region, which occupy the grasslands between Ukraine and Kazakhstan. More than 65 percent of the land in those regions is devoted to agriculture.

The economic reforms, which began in 1990s, reduced Russia's livestock sector. The agriculture of Russia became less effective; farms could not longer afford capital investments. One of the biggest problems is in Russia's agriculture sector, and it is probably the most difficult problem to solve because of the high cost related with shortage of modern agricultural machineries and its proper maintenance. Russia's fleet of machinery is in poor conditions, and machinery is deteriorating faster than it is being replaced. The way to solve this problem is investment in education and improving technologies.

The average size of private farms in Russia is smaller than average size of scale-efficient family farms in the United States and European Union while the average size of agricultural enterprise is much larger than the average size of efficient western family farms. The size of family-operated farm in Russia is usually 4-5 people. Children go to the school, but most of them cannot apply to universities because test scores of those farmers' children are not high enough because of the lack of education. Even when they have high scores, parents cannot afford to pay for their education for private colleges and universities. One of the most important things that Russian government should solve is demographic problem. In 1992, Russia's population entered a period of negative growth; that is, the number of deaths exceeded the number of births combined with the number of immigrants. This happened for the first time in the history of Russia during peacetime. The increase in deaths from preventable causes points to problems in Russia's health-care system.

The major form of crop that Russia grows is wheat. Russia produces every year about 40 millions tons. Barley is Russia's second major grain with its current average production capacity. Russia produces roughly 500,000 tons of malting. Sunflower seed is Russia's chief oilseed crop, and Russia is one of the world's top producers. Because of combination of high price, low cost of production relative to wheat, and growing demand, sunflowers have become one of the most consistently profitable crops. It is also important to point out to Russia's produce import such as meat, cacao, butter, tea, and agricultural raw materials.

Russia also faces a number of problems in its agricultural area: lack of dependable infrastructure, insufficient contemporary technologies, and educated and well-trained labor force to operate them. In the last few years, it is easy to notice decline in farming mainly because of less emphasis in agriculture. And, the problem roots because of less emphasis on education. The one way of solving these problems is heavy investment in education and improving out-dated technologies. Another problem of Russian agriculture is that it is not efficient; it uses four times more energy than the United States and other western countries. The low level of development exists because of low gene potential of livestock and plants. It requires research and investments; therefore, it all ties back to education. Education must be the backbone of every country that tries to compete in

world arena along with other countries. Just take United States endeavors on heavy investment on education and putting teachers back to classrooms to teach and teach well to nourish the world's next leaders. This was also one of the main points of the President of United States, Barak Obama in his latest address to the nation.

Economic inequality reflects unequal investments in general and higher education. It is about unequal access to education for individuals from different social strata. Social base as well as territorial area of university entrants is becoming narrow: since the 1990s there has been increase in youths from financially stable families — businesspeople, intellectual individual, and government officials — and the corresponding decrease of children of the laborers such as farmers, teachers, and the alike. Intellectual inequality is gradually becoming the base of all the other types of inequalities.

Typically, farms located far from major towns or urban areas; therefore, delivery of agricultural products, in a timely fashion, to larger markets is a big problem for farmers. Not all farmers are well-equipped with reasonable transportation to transport produce with necessary means to keep them fresh and consumable. Thus, farmers sell their farm products such as: milk, vegetables, and meat to larger agribusinesses but at significantly low prices. Profits generated from lack of access to larger market share in short amount of time restrict opportunities to grow and to invest into their own family-operated farms.

Normally, families in Russia can not pay for higher education for their children because average family income is not high. But there is public education system, which is paid by the Russian Federal Budget. Students can apply to universities and colleges and may qualify themselves for government education support by scoring enough points from the state examinations. Therefore, there is a good alternative to qualify oneself to have the government pay for the entire higher education. While the competition is all time fierce, the number of grants for government support is limited.

At the farms, farmers – usually family-owned and family-operated – use old farming techniques and machineries because the new models of equipment are expensive and inaccessible for ordinary farmers. That makes Russia's farms not efficient. More recently, in Russia, small farmers are going bankrupt and can not continue its operations. It is hard to find new jobs and they cannot earn sufficient income to meet basic needs such as food. So, they are not able to get adequate nutrition, and getting sufficient education is out of the question while the basic needs are not satisfied.

By the words of Nobel Prize Winner and American Economist, Paul Krugman, “Russia really doesn't belong in the group. It's a petro-economy in terms of world trade.” “There are a lot of people and a lot of technical skills and at least potentially Russia could be a part, but its role in the world right now is not at all similar to China.” Indeed, at the moment the problem of investment capital and investment in technological development is quite large. Agro-industry of Russia is very important not only for Russia itself but also for its citizens as well as to those countries that rely on Russian products. Russia has enormous potential, which requires prudent implementation and execution.

In Russia, women have long been an integral part of the paid labor force and essential to the functioning of the economy. The average level of education in Russian women is probably highest in the world and equal if not, higher to that of Russian men. In the Soviet period, half of the labor force was female. However, inequalities still exist where women are highly concentrated in “Female” mostly related jobs. Furthermore, women were prohibited from many

types of work; very few were in management, and women's average wages were markedly lower than those of men. In addition, childcare and work in at home continued to be seen as women's major responsibilities.

The Russia government is making efforts to change the higher education system, but large expenditures will not bring desired results if the system is not really reformed. While it is not always clear what is being taught under these rubrics, evidence suggests that many institutions have not changed. Employers often depend on their own training programs rather than the higher education system. Another word what is supposedly taught and learnt in higher education is not necessarily meeting the current demand for well-educated and skilled employees for those employers who are willing to hire. As a result, going for higher education while spending significant funds, is not necessarily preparing those young adults to the challenges of real business world.

The trends for this factor measured on the government spending on the high education and overall investments. The indicator that shows effectively working system of investments is number of developments, patents, and inventions. Now investments grow but not enough to the full potential of what Russia can actually accomplish. The education system indicator is the amount of the specialists, at the other levels of education; employers report difficulties finding qualified workers. The agricultural industry needs to triple the number of specialists in order to meet its current production targets. Rural family not improving as it could improve; the average real incomes of family grow but insignificantly.

The investments and education of Russia can be improved; education system needs really substantial reforms, especially in high education. These reforms can change the country, and the life of people in the country. The average families, who could not pay for the good education, are going to take it. They will be able to find high income jobs. The investments in different programs like supporting small family-operated farms and new technologies will help these farmers to generate bigger incomes. Improving infrastructure will also help small farms to transport their products to their customers to better meet their day-to-day needs in much efficient and faster ways.

Improving the education and improving the implementation of agricultural research will help to keep environment in good condition. The farms and agricultural businesses will use more useful and more ecologically friendly machines and technologies. It will push forward toward the development of economy because the resources will be used more rationally and because there will be more qualified specialists on the labor market. The average real incomes will grow; it will subsequently cause the poverty reduction in the region if not, the whole country.

Climate change implies good changes and some new opportunities for Russia. Increasing temperature may benefit agriculture and urban development. Farms will produce more products. But increasing of temperature also will cause the melting of permafrost in Russia's resources in each area, damage oil and gas pipelines, and infrastructure that are critical to Russia's energy industry. Consequently, it increases Russia's greenhouse emission. Russia's priorities are overwhelmingly energy focused and economic growth oriented with climate change and environment protection. It will cause increase in price for energy and gas. Government will need to spend more money for fixing those problems instead of money which could be used for investments in modernized technologies and education. It seems as if we are aware of where the problems take root at and yet we have not figured out one efficient way of targeting those problems. However, the governmental inefficiencies on targeting those issues are only ending up

with squandering more and more vital funds instead of supporting the very backbone of healthy society – education and technological advancement.

Population decline is rather unusual for the industrialized countries such as Russia. It causes problems to the Russian government and its' health care system. Younger generations in Russia are less healthy than older generations. The Russia government tried to solve those problems, but it was more ideological than practical. Population growth will cause the advantages and disadvantages for the Russian economy. Disadvantages are that the more population means more demand for food, shelter, and the average real gross domestic product going to decrease. Advantages are the increasing of potential power of the Russian economy. The incoming of government taxes revenues will increase, so it will be able to invest in infrastructure, education, and technologies.

In my opinion Russia needs to achieve the following objectives. To guarantee food independence within the parameters defined by the Food Security Doctrine of the Russian Federation; to increase the competitiveness of Russian agricultural products in domestic and foreign markets based on innovative development of agriculture, optimization of its institutional structure, creation of a favorable environment for business development, improvement of investment to agriculture industry, to ensure the financial stability of agricultural producers; to ensure reproduction and more efficient use of agricultural land and other natural resources, make production more environmentally friendly; to ensure rural development

To achieve all of these objectives, Russian government should make vital reforms, investments, and changes. The lands should be used more effectively; the government should give opportunity for the farms for use of lands by subsidizing farmers, especially in difficult climate regions. Credit system should be reformed as well. Russia should make investments through the agricultural technologies. Also should develop the animals and plants factor. Russia should not overlook at its exports. The volume of the financial support for the programs should be increased.

I believe Russia should make full scale investments in development of its infrastructure, irrigation, restoration of land resources, and science and innovation. Primarily, Russian government has to develop informational and advisory support system for rural areas in telecommunications, electricity, gas, water, and road constructions. Banks should make effective credit system for the farmers and agriculture businesses. I believe that in the future the non-governmental corporations will make investments in the agriculture because there is a huge potential growth for the Russian economic system.

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