

10-14

Sustainable Development of Agro-Industrial Sector and Food Security of the Kyrgyz Republic in the Process of Integration into the Eurasian Economic Union

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Executive Summary

The integration of the Kyrgyz Republic into the Eurasian Economic Union (EAEU) will permit the country to most optimally combine the diversity of natural, economic, intellectual, and other resources into a single system. However, within the framework of the EAEU, the food security of the country depends mostly on ensuring the conditions for effective functioning of the agro-industrial complex, effective implementation of its potential to optimize the volume of production of competitive agricultural products and food necessary to meet the needs of the population and processing industry, and reduction of dependence on food imports.

This study aims to identify the key food security issues of the Kyrgyz Republic in the process of its integration into the EAEU. To this end, the study identifies key changes in the agro-industrial complex and reveals the interests of potential stakeholders (the political elite, business, actors in the agricultural production sector, population, etc.) in strengthening food security. To improve food security of the Kyrgyz Republic in the process of its integration into the EAEU incorporating the best interests of all stakeholders, the following policy options were offered: (i) to create a system of procurement depot complexes; (ii) to expand the transportation systems and replace the vehicle fleet; (iii) to reform veterinary and phytosanitary systems; (iv) to support the food security atlas; (v) to actively participate in the Scaling Up Nutrition (SUN) Movement; and (vi) to strengthen the social protection system to reduce poverty in rural areas.

The food security situation in the country was forecasted based on current trends and factors as well as proposed recommendations, which were prepared during this case study. In making decisions, the Government of the Kyrgyz Republic must take into account the interests of all stakeholders in an optimal manner and, at the same time, must understand that integration into the EAEU does not deprive political elites of their independence in making management decisions. All proposed policy options will help develop the agro-industrial complex of the country and strengthen its food security; however, it is expected that the most productive options include creating a system of procurement depot complexes; reforming the veterinary and phytosanitary systems; developing the transportation system; and strengthening the social protection system to reduce poverty in rural areas. Implementation of these policy options will help agricultural producers of the country enter

the common agricultural market as well as help the government improve quality of the agricultural output, reduce dependence on imports, increase exports, reduce social tensions, and supply quality food products to the population of the country.

Background

Overview of the Agro-Industrial Complex of the Kyrgyz Republic

The agro-industrial complex is one of the most important sectors of the Kyrgyz Republic economy. It accounts for 15 percent of GDP and employs more than 30 percent of the workforce.

According to the official data of the National Statistical Committee of the Kyrgyz Republic, in 2010–15 the average annual production growth rate remained at 0.5 percent. The structure of the country's agriculture is dominated by crop production (51 percent of the gross output value) and livestock (47 percent); the share of other subsectors (services, forestry, fisheries) does not exceed 2 percent (Figures 1 and 2).

Cultivated crops include mostly wheat, barley, potatoes, vegetables and fruits, fodder and technical crops (cotton, tobacco, sugar beets). The main subsectors of livestock breeding are dairy and beef cattle, sheep and goats, horses, and poultry.

Peasant farms (60.2 percent) and privately owned small landholdings of the population (35.7 percent) manufacturing products partly for sale and partly for private consumption form the basis of agriculture in the Kyrgyz Republic. In 2010–14, the share of state and collective farms in the total gross output of agricultural production remained virtually unchanged; in 2014 it accounted for about 2 percent (Table 1).

Overview of Food Security of the Kyrgyz Republic

The *food security* of the Kyrgyz Republic refers to the physical availability of food in sufficient quantity, access to this food by households (food produced by households, as well as that acquired through purchase, gift and other sources), and the consumption of food in a quantity required to meet nutritional needs [1].

Food and nutrition security are believed to be achieved if there is adequate food (in terms of quantity, quality, security, and socio-cultural

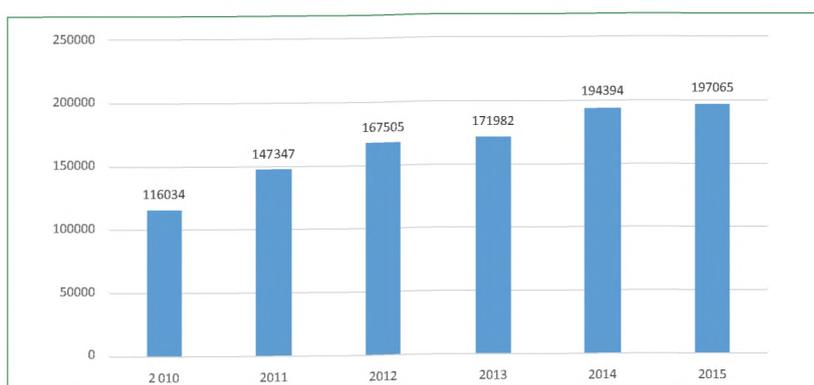


Figure 1. Gross Agricultural Output (Kyrgyz soms, million)

Data source: Kyrgyz National Statistics Committee data.

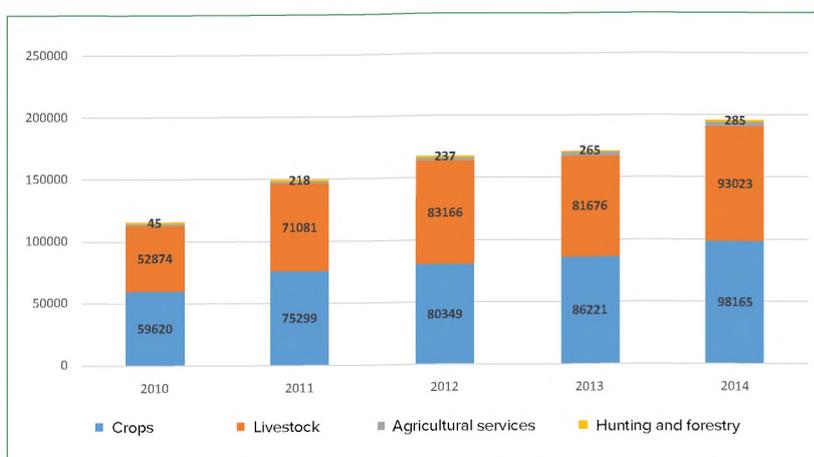


Figure 2. Gross Output by Sector: Agriculture, Forestry, and Fisheries (Kyrgyz soms, million)

Data source: Kyrgyz National Statistics Committee data.

Table 1. Number of Agricultural Farms by Sector

	2010	2011	2012	2013	2014
Agricultural farms (as of the end of the year), number	332,170	345,113	357,227	383,436	384,871
<i>including:</i>					
State farms	64	65	60	56	40
Collective farms	509	556	525	497	513
Peasant farms (individual farms) and individual entrepreneurs	331,059	344,492	356,642	382,883	384,318
Subsidiary farms of state, collective organizations, and enterprises	538	538	538	538	538

Data source: Kyrgyz National Statistics Committee data.

acceptability) that is accessible and satisfactorily consumed and digested by all individuals at all times to ensure an active and healthy life.

In accordance with the *Law On Food Security in the Kyrgyz Republic*, physiological dietary norms are taken to mean scientifically substantiated and legislatively approved nutrient and energy intake standards, which ensure that the needs of healthy people in terms of the necessary nutrients and energy intake are fully met [2]. Approved physiological norms are shown in Table 2 [3].

As shown in Table 3, a comparison of the availability of basic food products on the domestic food market of the Republic by product description, taking into account carry-overs and average physiological norms, with the availability of products produced domestically makes evident the difference between the quantities of a specific product consumed by the population and the quantities of the product grown in the Kyrgyz Republic. For example, domestic consumption of bread products in 2015 amounted to 177.5 percent, while 108.9 percent of bread products

were produced inside the country. Analyzing the results finds that, out of nine food security products, the Kyrgyz Republic is fully self-sufficient only in three: potatoes, milk, and vegetables (Table 3). Other products were imported from other countries. As Figure 3 shows, the percentage share of imported food products is still substantially higher than that of the exported goods.

From 2010 to 2015, the export of agricultural and food products remained consistently at 12 to 14 percent of the total export of goods; the share of imports of agricultural products ranged from 15 to 18 percent of the total imports. In value terms, exports remained at the same level, while imports demonstrated a growth trend caused by the increase in U.S. currency value. The Kyrgyz export structure is dominated by the following agricultural products: vegetables, nuts, fruits, beans, and milk. Its import structure is dominated by certain types of agricultural products and readymade food products: meat, wheat, vegetable oil, readymade food products (sugar, chocolate, and confectionery), and alcoholic and nonalcoholic beverages.

Table 2. Physiological Dietary Norms set for the Population of the Kyrgyz Republic

Food products	Physiological dietary norms of food intake per capita		
	kg/day	kg/month	kg/year
Bread products (bread, macaroni products, flour, grits, legumes) in grain equivalent	0.32	9.61	115.34
Potatoes	0.27	8.21	98.55
Vegetables and vine crops	0.32	9.52	114.25
Fruits and berries	0.34	10.31	123.74
Sugar and confectionery	0.07	2.13	25.55
Vegetable oil	0.03	0.76	9.13
Meat and meat products (in meat equivalent)	0.17	5.11	61.30
Fish and fish products	0.03	0.76	9.10
Milk and dairy products (in milk equivalent)	0.56	16.67	200.00
Eggs, number	0.51	15.21	182.50

Source: <http://faolex.fao.org/docs/texts/kyr104425.doc>

Table 3. Availability of Basic Foodstuffs on the Domestic Food Market of the Kyrgyz Republic (Percent)

	2010	2011	2012	2013	2014	2015
<i>Availability of basic foodstuffs at the domestic food market of the Kyrgyz Republic, including carry-overs / carried forward balances and in accordance with average physiological norms</i>						
Bread and bakery products	281.3	145.3	139.3	153.7	147.9	177.5
Potatoes	248.6	161.3	152.8	154.0	182.8	256.0
Milk	113.2	112.0	112	112.0	135.1	117.2
Meat	85.2	77.8	75.0	71.2	87.4	68.5
Vegetables	178.8	131.4	146.3	139.1	174.1	184.8
Vegetable oil	194.6	90.2	98.8	112.3	140.2	145.7
Sugar	70.6	66.1	63.7	72.0	73.7	87.2
Poultry eggs	43.7	43.6	42.6	43.1	56.9	50.7
Fruits and berries	23.8	25.7	24.0	27.6	33.0	36.9
<i>Produced domestically</i>						
Bread and bakery products	147.2	88.9	59.1	89.0	72.2	108.9
Potatoes	248.4	161.1	152.7	154.0	182.5	255.8
Milk	113.2	112.0	112	112.0	135.1	116.7
Meat	59.1	56.8	56.9	56.1	68.7	56.5
Vegetables	178.4	130.8	146.1	139.0	172.2	182.8
Vegetable oil	58.4	34.2	27.9	27.3	31.6	70.5
Sugar	10.1	12.2	9.4	17.3	16.3	38.5
Poultry eggs	38.6	38.5	40.3	40.0	49.7	47.7
Fruits and berries	18.2	21.7	21.6	23.2	28.5	31.2

Data source: Kyrgyz National Statistics Committee data.

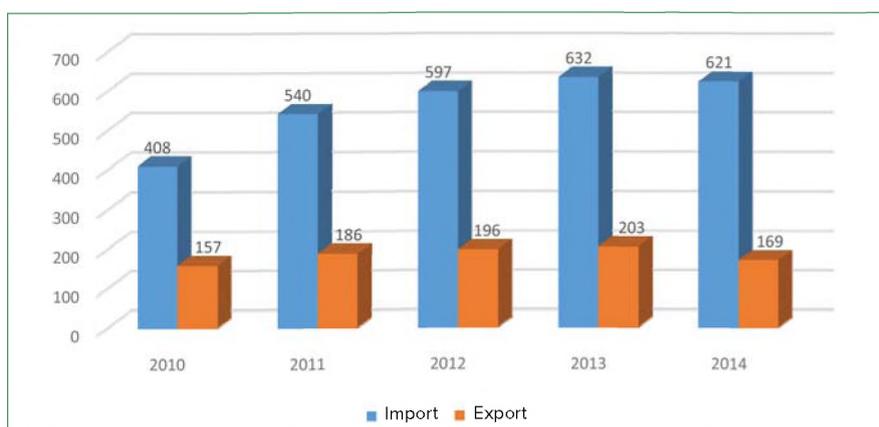


Figure 3. Dynamics of Trade in Food Products (US\$, millions)

Data source: Kyrgyz National Statistics Committee data.

In 2010–15 the Kyrgyz Republic faced factors that had a negative impact on agricultural production:

- Agricultural production decreased as a consequence of an acute shortage of fuel, oil, and lubricants, which followed political events in the country (the revolution in 2010 resulted in the change of government) and the temporary closure of the border with Kazakhstan and Uzbekistan, causing a lack of diesel fuel at many petrol stations, especially in the mountainous regions of the country.
- Agricultural production was also affected by abnormally hot weather during the grain-filling period (wheat and barley). In addition, in some years these regions experienced heavy rains, mudslides, and frosts in mid-May, which affected the indicators of gross agricultural crop output.

The increase in gross agricultural output in January–December 2015, when the Republic became a full member of the Eurasian Economic Union, was caused primarily by the increased production of grain, vegetables, and potatoes, as well as livestock production. This was recorded in all regions other than Batken Region and the city of Bishkek. Grain production grew as a result of a significant increase in wheat and barley yields. For example, if in 2014 the average wheat yield was 16.9 centners per hectare (at net weight), in 2015 it was 23.7 centners per hectare. Respectively, the barley yield was 12.7 centners per hectare in 2014 compared with 21.3 centners per hectare in 2015.

Main Policies Implemented in Kyrgyz Republic in Agro-Industry and Food Security

Export-Import Policy and the Development of the Agrifood Trade

Agrifood trade plays an important role in the economy of the country. The main markets for the *export* of agricultural products from the Kyrgyz Republic include the Russian Federation (cotton, tobacco), Kazakhstan (vegetables, dairy products, fruits), and Turkey (beans).

Imported products are supplied mainly from Russia (vegetable oil, chocolate, confectionery, cigarettes, and fertilizers), Kazakhstan (wheat and wheat flour, vegetable oil, soft drinks, cigarettes), China (fruit, meat), Western Europe (sugar, processed food),

and Ukraine (poultry, chocolate, confectionery). The geographical and commodity structure of exports and imports remained fairly stable.

The Kyrgyz Republic's accession to the EAEU in 2015 is the most important change in public policy that has occurred in recent years. The change in the Kyrgyz som exchange rate against the national currencies of the countries, which are its major trade partners, made a substantial impact on the Kyrgyz Republic's foreign trade. In accordance with the overview of agri-food trade policy in the former USSR countries (2014–2015) conducted by the Food and Agriculture Organization of the United Nations, as of the end of 2015, the som appreciated against the Russian ruble and the Kazakhstani tenge and weakened against the U.S. dollar and the Chinese yuan. As a result of these exchange rate changes, the price competitiveness of Kyrgyz goods dropped in major export markets. Conditions have become more favorable for imports from Russia and Kazakhstan. At the same time, imports from China, the European Union, and the countries with the exchange rate pegged to the U.S. dollar became more expensive.

In addition, the economic recession in 2014–15 in Russia and the somewhat slower growth rates of Kazakhstan's economy had a negative impact on the Kyrgyz Republic's exports. Economic sanctions imposed by Russia against the European Union and some other countries that banned the import of agricultural products and foodstuffs from these countries created niches in the Russian market and, consequently, additional opportunities for increased agrifood exports from the Kyrgyz Republic to Russia. As this overview shows, the Kyrgyz Republic so far has failed to take this opportunity to increase exports and establish itself in the Russian and Kazakhstani markets. The main reason for this failure is that the quality of Kyrgyz products often does not meet the requirements and technical standards established by the Eurasian Economic Union, which considerably limits the potential for the export boost [4].

In 2014–15, the economic policy of the Kyrgyz Republic government as a whole, and with respect to the import of agricultural products in particular, was focused mainly on EAEU pre-accession measures. Otherwise the country's economic policy has undergone limited changes. The bulk of the agrifood trade was made with the countries that are party to the Commonwealth of Independent States free trade zone agreement (CIS FTZ) with a zero import tariff rate. An important exception, as noted above, was a temporary (but repeatedly renewable) import duty on wheat flour, the rate of which in recent years

was 3 soms per kilogram (about US\$0.06 dollar per kilogram, or about 20 percent of ad valorem equivalent). When crossing the Kyrgyz Republic's customs border, all products—including those originating from the countries that are party to the CIS FTZ—were subject to 12 percent value added tax (VAT). Trade with other countries was carried out at the rates of the most-favored nation (MFN) tariff in accordance with the customs tariff of the Kyrgyz Republic, which was not particularly high compared with international standards. In this case too there has been one significant exception: certain goods (in particular, beef and poultry) imported by individuals were not subject to VAT (in a so-called simplified procedure). This procedure is mostly applied to imports from China. The Kyrgyz Republic almost never resorts to quotas for agricultural product imports (there are quantitative restrictions on the import of alcoholic beverages from the countries outside the World Trade Organization), nor does it actively use sanitary and phytosanitary measures and other non-tariff measures [4].

In March 2015, the Government of the Kyrgyz Republic approved the Action Plan for Developing Exports of the Kyrgyz Republic for 2015–2017 that singles out as a priority all the traditional agrifood export products (dairy products, fresh and processed vegetables, fruits and nuts, wool and animal skins, and cotton) as well as meat products and bottled water. In the Republic, breeding beef cattle is one of the main subsectors of agriculture and is a traditional activity of the country's rural population, although the export of meat products from the country is virtually nonexistent now because of an unfavorable veterinary situation [4].

In accordance with the overview conducted by the Food and Agriculture Organization of the United Nations, all activities of the Action Plan for Developing Exports of the Kyrgyz Republic Export for 2015–2017 are focused on four areas:

1. **Access to trade information and export promotion:** The Action Plan is expected to carry out marketing and other studies, strengthen the capacity of trade support institutions (including the Agribusiness Competitiveness Center), assist the private sector in organizing and participating in exhibitions and fairs, and create and develop national and sectoral brands.
2. **Trade facilitation:** Measures included to ensure the country's accession to the EAEU are seen as a major opportunity to increase exports to the

countries that are members of this association. Another set of measures in this area involves reducing time and expenditures needed to implement export procedures by introducing a “single window” mechanism for foreign trade throughout the country and improving business processes in this area. The most resource-intensive trade facilitation measures aim at improving logistics and infrastructure.

3. **Support and development of quality infrastructure:** Activities in this area are of great importance for the promotion of the Kyrgyz Republic's agrifood products because their nonconformity with technical specifications of the importing countries is one of the most significant barriers to their export. Implementation of the Action Plan for the accession of the Kyrgyz Republic to the EAEU is planned in the field of technical regulation and application of sanitary, phytosanitary and veterinary measures. In addition, implementation of measures aimed at improving quality infrastructure are planned; these measures include increased budget funding and the creation of private laboratories and service organizations (especially in the area of veterinary medicine), training of entrepreneurs in the use of the techniques of the HACCP system of food safety management, adherence to international safety standards, and others.
4. **Access to finance:** The Action Plan is intended to improve exporters' access to financial resources. Interest rates on loans are high for a period of one to two years, and scarce resources for long-term loans is one of the most serious obstacles resulting in the low competitiveness of agricultural producers in the Kyrgyz Republic. The Action Plan is expected to include exporters as a priority category in credit support programs aimed at small and medium-sized businesses that are implemented with the support of international development organizations and the state budget. In addition, the task is set to properly arrange for VAT reimbursement to export companies, the issue that could not be resolved for many years [4].

Bilateral and multilateral trade agreements are enumerated below:

- The Treaty on the Accession of the Kyrgyz Republic to the Treaty on the Eurasian Economic Union of May 29, 2014, signed on December 23, 2014.

- The Protocol amending the Treaty on the Eurasian Economic Union of May 29, 2014, and selected international treaties included in the law of the Eurasian Economic Union in connection with the accession of the Kyrgyz Republic to the Treaty on the Eurasian Economic Union of May 29, 2014, signed on May 8, 2015.
- The Protocol on the conditions and transitional provisions related to the implementation by the Kyrgyz Republic of the Treaty on the Eurasian Economic Union of May 29, 2014, selected international treaties included in the law of the Eurasian Economic Union, and acts by the organs of the Eurasian Economic Union in connection with the accession of the Kyrgyz Republic to the Treaty on the Eurasian Economic Union of May 29, 2014, signed on May 8, 2015.

Enforcement of these documents entailed many amendments in various areas of legislation, regulation, and administration. Key changes related to foreign trade of agricultural and food products can be divided into the following groups: (i) import regulations, (ii) customs and tax administration, and (iii) technical regulations and sanitary and phytosanitary measures [4].

1. Import regulations: Presently no substantial changes from the country's accession to the EAEU have been observed in the Kyrgyz Republic. However, fewer imported goods from Turkey and China for the benefit of EAEU partners, such as Kazakhstan and Russia, are expected after the transition period. Besides, higher duties for some types of imported products may lead to an increase in prices for consumers. But, because of the devaluation of national currencies in Russia and Kazakhstan, Kyrgyz goods have lost their competitiveness on these markets and, as a consequence, the import of products from these countries has increased.

The Kyrgyz Republic joined the Common Customs Tariff (CCT) of the EAEU, which implies a full renunciation of the previously existing national customs tariff and, in particular, of the simplified regime for individuals that served as the main channel of cheap imports from China and some other countries. This means a significant increase of customs duties on the import of agricultural products from the countries with the MFN status (i.e., all countries except CIS members and Vietnam). It may be noted that a significant increase of import duties and taxes on agricultural products is expected as a result of the abolition of the simplified regime with

very low rates and a general rates increase during the transition from a national customs tariff to the CCT EAEU [4].

2. Customs and tax administration: The Kyrgyz Republic has begun to implement the EAEU Customs Code and is currently reorganizing its customs administration in line with the organization's rules. The Kyrgyz Republic borders with China, Tajikistan, and Uzbekistan represent EAEU external customs borders through which goods are released for free circulation throughout the Union. The border between Kazakhstan and the Kyrgyz Republic is now an internal border within EAEU and therefore no longer a customs border—hence the customs services of both countries have ceased their activities (and even their presence) along this border. Import duties charged by the State Customs Service of the Kyrgyz Republic now accumulate to a common EAEU fund. Under Article 8 of the above-mentioned Treaty on the Accession, the Kyrgyz Republic will receive 1.9 percent of the total duties collected by all the EAEU member states. At the time of the negotiations it was expected that this would signify a significant increase in revenues to the state budget compared to the customs duties collected before joining the EAEU. However, because of the drop, in 2015, of imports to Russia and other EAEU countries by 20 to 40 percent, the Kyrgyz Republic's government revenue increase from this source turned out to be negligible. In view of the cessation of customs control with respect to the trade with the countries that are EAEU members, responsibility for administration of the VAT on the import from these countries has transferred from the State Customs Service to the State Tax Service of the Kyrgyz Republic (STS). When importing from the EAEU, taxpayers are no longer required to pay VAT at the border, generating certain risks of tax evasion. In order to minimize these risks, STS has recently introduced an accounting system for goods crossing the Kyrgyz-Kazakh border [4].

3. Technical regulations and sanitary and phytosanitary measures: The Kyrgyz Republic should fully join the system of technical regulation and sanitary, veterinary, and sanitary and phytosanitary quarantine control adopted within the EAEU. This involves implementing a set of measures to harmonize legislation, modernize and expand the range of existing laboratories and their accreditation with EAEU authorized structures, train all market participants, and so on. Because of the technical complexities of adjusting to all these changes, the Kyrgyz Republic was granted a deferral on accession

to many of the existing EAEU technical regulations for a period of 6 to 48 months; for the majority of food and food safety regulations the deferral was provided for 24 months [4].

Policy on State Support of Agriculture

In accordance with the overview of agri-food trade policy in the former USSR countries (2014–15) conducted by the Food and Agriculture Organization of the United Nations, agricultural support measures implemented in the Kyrgyz Republic include budgetary programs of a general service provision nature: the financing of plants and animals protection offices; the procurement of agricultural chemicals and veterinary drugs; support for plant breeding and livestock breeding; the development of agricultural mechanization, pasture monitoring, maintenance, and irrigation infrastructure; the provision of soft commodity loans to agricultural producers for inputs such as seeds, fuel, lubricants, and other logistical resources.

A significant part of these measures is implemented as part of the Public Investment Program that incorporates international development agencies' projects. A relatively new program of support for agricultural producers is the project called Agricultural Financing 3, which was approved by the government in March 2015 and implemented using proceeds from the government budget. Similar projects had been previously implemented in 2013–14. In 2015–16, a total of 330 million Kyrgyz soms (about US\$5 million) was provided to finance interest rates on subsidized loans to agricultural producers, who obtained access to loans from the Kyrgyz Republic's commercial banks with an interest rate of 9 or 10 percent per annum for 24 months and a six- or nine-month grace period. These loans are not attached to specific products or agricultural subsectors. Lending (from banks and micro-credit organizations exceeding 2 billion soms in 2014) to the agricultural sector has substantially increased. However, the lending amount remains low relative to the agricultural sector's share in GDP or the percentage of people employed in this sector. Access to "long" loans is limited because of high interest rates [4].

Stakeholder Groups

It is feasible to ensure the Kyrgyz Republic's food security during its integration into the EAEU by achieving the maximal balance of interests of the

most interested groups (political elites, actors in agriculture, population), the activities of which affect the development of agriculture and food security.

Government

One of the key stakeholders interested in the improved efficiency of the agricultural sector and the country's strengthened food security is the Government of the Kyrgyz Republic, represented by the political elite and domestic bureaucracy. The process of the Kyrgyz Republic's integration into the EAEU is hampered by the interests of the government's political elites; agencies are deprived, to a certain extent, of the sovereign independence and of monopolies seeking to limit competition (this issue is related to personal political interests of representatives of the authorities, who will now have to make decisions in conformity with EAEU requirements and standards). Therefore it is necessary to identify the political elites' motives in order to sharply accelerate the integration process. Triggered by its membership in the EAEU, the transition to world prices for energy and other raw materials necessary for the functioning of the most important agro-industrial complex sectors may potentially cool down the relations between the Kyrgyz Republic and the EAEU, in turn affecting the pace of the integration process.

Making decisions on the management of the agricultural sector development and food security, the political elite of the country must, first and foremost, take into account the interests of the population, agricultural producers, and other actors of agricultural production. Furthermore, decisions must be made in accordance with the EAEU legal framework. The elite should understand that pursuing national interests does not run counter to EAEU objectives and does not deprive the leadership of the country of independence in decision-making. It means only that now that the country has become a member of the EAEU, its agricultural sector operates in new conditions, and, indeed, the wise use of existing opportunities will only strengthen the economic potential of the country. The pursuit of common interests through the implementation of joint development projects related to agribusiness production together with the ally states, as well as the implementation of agreed agricultural policy, is thought to help shape new perceptions of the political elite of the Kyrgyz Republic and incentivize the leadership of the country to accelerate integration with the EAEU.

Actors in Agricultural Production

In order to ensure food security in the context of the Kyrgyz Republic's integration into the EAEU, the state should abandon its dependent status as the donor of natural resources to agriculture. In this regard, the role of various agribusiness entities (agricultural organizations, farms, processing plants) will be strengthened, because their contribution will be conducive to strengthening the country's food security once intra-relationships are restored along the entire chain of production cycle—from agricultural production to processing and the production of finished products. It is in the interests of various agribusiness entities that this should be the major focus of their efforts.

The actors in the Kyrgyz agro-industrial complex are objectively interested in strengthening integration and developing economic relations with partners from EAEU member states. The development of the processing sectors of the country's agro-industrial complex whose products are usually not competitive in foreign markets is feasible only provided the common agricultural market is integrated. This would ensure the survival and development of the agricultural sector, which is one of the most important in the national economy and is critically dependent on the CIS markets.

Agricultural companies and farmers must also get access to the common agricultural market. However, first it will be necessary to carry out substantial work to bring the quality of their products in line with EAEU requirements.

The Kyrgyz Republic's agro-industrial complex remains in a state of crisis, and there is the potential for a further drop in production. At the same time, the domestic conditions for its development are extremely limited, while the available capacity is clearly insufficient for modernizing and increasing competitiveness. Accelerated integration into the EAEU opens access to new markets; it also ensures improved trade terms and increased turnover, enabling the agro-industrial complex to launch large-scale joint projects in the field of agriculture, thus giving a powerful impetus to enhanced food security.

Population

With regard to the population's interests in strengthened food security, the most important thing is to increase the share of high-quality food in the

food market. In addition, agro-industrial complex development will reduce unemployment and improve overall living standards. The policy aimed at boosting the population's incomes is driven, among other things, by the need to preserve the country's skilled workforce. The conditions for the free movement of skilled labor from the Kyrgyz Republic set forth within the EAEU lead to a situation where these workers create value added for a foreign, albeit allied, country. Part of the funds earned by Kyrgyz citizens working in Russia is repatriated, but the bulk of the value added that is created by them stays in Russia. The loss of this value added creates problems for the Kyrgyz Republic's budgeting, as well as for financing major public expenditures—including those aimed at agro-industrial complex development. Implementation of the projects intended to develop the agro-industrial complex will help create new jobs and will reduce both the unemployment rate and the outflow of the working-age population to neighboring countries.

Policy Options

The analysis made of the current situation in the agricultural sector and food security of the Kyrgyz Republic and the review of the stakeholders' interests and motivation has enabled the development of several options for political transition in the country.

1. Create a System of Procurement Depot Complexes

According to Nikita Mendkovich—an expert on the Russian Council on International Affairs—the Kyrgyz Republic could take its agricultural niche within the Eurasian Economic Union [5]. For example, the Republic enjoys a comparative advantage in tobacco, beans, and cotton production compared to other EAEU member states. However, there are a number of issues that, once resolved, will allow the Kyrgyz Republic to benefit from the situation.

The main problem is the fragmentation of agricultural production in the Kyrgyz Republic. According to Mendkovich, a sufficiently large part of the market is not consolidated into large holdings, and business suffers from a shortage of land, poor logistics, and intermediation. As an example, he cites the production of white beans in Talas, which face problems of access to external markets because manufacturers are dependent on intermediaries who lower purchase prices and in turn are dependent on Turkish companies, which

provide goods transportation services. At the same time, it is worth noting that this is not too reliable a channel, because Turkey itself is a bean exporter to the post-Soviet region and, thus, a competitor to Talas' manufacturers. As a result of these problems, for example, in 2013 a significant share of Kyrgyz beans, despite their large yield, failed to reach the Russian and Kazakhstan markets.

In some southern regions of the Kyrgyz Republic, a weak transport system leads to intermediaries' ability to dictate terms. Their influence is so strong that the purchase price for the product and regional market price differ by an order of magnitude. As a result, farmers are deprived of profits and working capital needed for production modernization and expansion.

The implementation of the idea of establishing procurement depot complexes through a public-private partnership would contribute to the centralized procurement of any agricultural products (meat, milk, vegetables, fruits, etc.) and would enhance their subsequent supply to foreign markets. Operators of such centers would purchase from local producers at a fair price, and at the same time they would cooperate with wholesale customers throughout the country, as well as with other markets primarily located in EAEU member states. A price that would be fair for everybody must be set, regulated, and monitored by the State Agency of Anti-Monopoly Regulation under the Government of the Kyrgyz Republic, whose main task is to protect and develop competition to support the efficient operation of markets of works, goods, and services [6].

The activities carried out by the operators of the procurement depots should be also supervised and monitored by the government to avoid collusion with agricultural producers and/or wholesale consumers. In exchange, the government may provide some subsidies, benefits, or support needed to put in place the necessary equipment. Such complexes are rather expensive, as they entail both government financing and investments by other interested market participants (international organizations, business community) and involve the procurement of expensive equipment. However, all market participants would benefit from having these depots established: producers would sell their products at a reasonable price, allowing them to modernize production; consumers would be able to buy products at affordable prices; the state would thus ensure increased food security, among other things, for low-income families who would be able to get more vitamins and improve their nutrition.

2. Expand Transport Systems and Replace the Vehicle Fleet

The transport systems in the Kyrgyz Republic are poorly developed. The main transportation vehicles are trucks that are costly both in terms of product transportation and the use of fuels and lubricants. Discussions about the importance of the railway transportation system within the Republic have been going on for a long time. A developed and branched railway network would help reduce transportation and logistics costs and attract more investment projects to various sectors of economy, including agriculture. However, all these ideas remain on paper, because no budget money is allocated for their implementation.

Expanding the transportation systems and replacing the vehicle fleet means a set of long-term and costly activities, but, if implemented, these improvements would benefit other sectors besides the agricultural sector. During the establishment and expansion of the transport systems, workers would be hired, thus reducing unemployment, and a convenient transportation system would enable an increase of the export of agricultural products and foodstuffs, as well as other types of goods produced in the Kyrgyz Republic.

3. Reform the Veterinary and Phytosanitary System

Diseases of livestock and a lack of effective veterinary services are important obstacles limiting the development of the livestock sector. In addition to negatively impacting livestock productivity, diseases of domestic animals also jeopardize public health and limit the export potential of the country. There also exist serious concerns regarding the quality of food.

Failure to comply with EAEU requirements for agricultural output reduces the country's export potential substantially.

The measures aimed at reforming veterinary and phytosanitary safety as part of EAEU accession have not yet been integrated into the state budget.

According to the reports of a parliamentary delegation, during a trip to the Issyk-Kul Region it was ascertained that the state of veterinary medicine in the Kyrgyz Republic was poor [7]. A set of measures aimed at achieving veterinary improvements would simultaneously result in high costs for the state;

however, these measures would provide the country with meat and substantially reduce dependence on import.

The private sector would have to take extensive measures to train staff and improve the technology used to ensure compliance with EAEU technical regulations and problem-free passage of the sanitary, veterinary, and phytosanitary control systems. This would require both time and investment.

The Government of the Kyrgyz Republic should ensure the establishment of sanitary and phytosanitary laboratories authorized to issue certificates for agricultural products to be exported to the EAEU in accordance with its requirements and regulations.

The modernization of laboratories and their accreditation, along with improvements to sanitary, veterinary, and phytosanitary control systems, would allow certificates of conformity, declarations of conformity adopted by product manufacturers, and unified EAEU forms of veterinary and phytosanitary certificates issued by the relevant authorities of the Kyrgyz Republic listed in the EAEU single register to be recognized throughout the territory of the EAEU.

It would also be necessary to ensure the development of the research potential of the agricultural science and support to promising areas of research.

4. Support for the Food Security Atlas

The UN World Food Programme (WFP) and the Ministry of Agriculture and Land Reclamation of the Kyrgyz Republic developed the first edition of the *Atlas of Food Security*. The atlas is a new tool for mapping food security in the country. It is a series of thematic maps on food security based on existing data and indicators, and includes 30 thematic maps on the four pillars of food security (availability, access, utilization, and stability). All maps are presented with a description of the inequalities between the regions/districts and a comparison with other maps in the atlas. The first part of the atlas focuses on the production of wheat, potatoes, and vegetables. The second part includes the nine crops that shape the food security of the Kyrgyz Republic. For example, wheat is a major product in the diet of the majority of the Kyrgyz population. Daily, an average person receives about 1,076 calories from wheat, representing 38 percent of daily energy needs. This crop represents 47 percent of the total domestic cereal production [8].

One of the maps represents the average wheat production over three years (2012–14) by district. The map reveals data on wheat production in the Sokuluk, Jayil, Issyk-Ata, and Moscow Districts of the Chui Region (Oblast)¹; Uzgen and the Kara-Suu District of the Osh Region; and the Tyup District of Issyk-Kul Region, which together account for more than half of the wheat production in the country.

At the same time, according to official statistical data, wheat production in the highly productive districts of the Chui Region (Sokuluk, Jayil, Issyk-Ata, Moscow, and Panfilov Districts) fell sharply in 2013 and 2014.

The importance of this atlas is emphasized and prioritized by the Ministry of Agriculture, Food Industry and Land Reclamation.

5. Participate Actively in the SUN Movement

As the Ministry of Agriculture, Food Industry and Land Reclamation is guided by the Program of Food Security and Nutrition in the Kyrgyz Republic, which has been approved by a Resolution of the Kyrgyz government dated September 4, 2015, the ministry stresses the importance of the Kyrgyz Republic's participation in the Scaling Up Nutrition (SUN) Movement established in 2010 by a range of stakeholders concerned with the lack of progress toward reducing hunger and malnutrition and achieving food and nutrition security for all [9]. The *Road Map for Scaling-Up Nutrition (SUN)* published in 2010 states "Nutrition security can be achieved when secure access to an appropriately nutritious diet is coupled with a sanitary environment, adequate health services and care, to ensure a healthy and active life for all household members."

The program of food security and nutrition in the Kyrgyz Republic for 2015–17 cites the results of a sample household survey of energy consumption (per capita kilocalories per day) in 2012 and the first half of 2013 for those households that have a positive balance compared to the minimum consumption standard, with the exception of the population of Batken Region, where the energy value of food has a negative energy balance. Inadequate consumption of protein and fat per capita per day is noted in almost all regions with the exception of the population with the highest income [10].

¹ Region has the same meaning as oblast in this case study.

Unbalanced nutrition during fetal development and infancy is one of the causes of stunted growth and intellectual development, high morbidity, mortality, and occurrence of chronic diseases in adults: cardiovascular diseases, certain types of cancers, diabetes, anemia, and other diseases.

The participation of the Kyrgyz Republic in the SUN Movement is an additional measure aimed at improving nutrition and eliminating vitamin deficiency in the country.

6. Strengthen the Social Protection System to Reduce Poverty in Rural Areas

Social support policy should be coordinated with food security programs. In order to improve social protection systems, consultations are provided on issues of policy, capacity development, and the promotion of sustainable and equitable rural development, poverty reduction, food security, and nutrition.

Special attention should be paid to strengthening the institutional and professional capacity for the development of the agricultural sector at all levels (from farms to research institutions). Investments in agricultural education, social protection, and an expanded list of services, along with greater cooperation between farmers, would help address a number of challenges. Primarily, this would address the general goal of accelerated development in rural areas, including productivity growth of existing enterprises, increased incomes and reduced poverty of the population, and the creation of new businesses and new jobs for the unemployed population outside the farms, thus ensuring productivity gains by these farms.

Assignment

The assignment is to identify and analyze the changes in the agro-industrial complex of the Kyrgyz Republic in connection with the country's integration into the Eurasian Economic Union (EAEU). In addition, suggest policy actions that would strengthen food security and ensure that relevant stakeholders' interests are met.

Policy Recommendations

This case study has identified key challenges in development of the agro-industrial complex and food security of the Kyrgyz Republic during the process of its integration into the EAEU.

The analysis of statistical data over the studied period (2010–15) demonstrated that, despite increased agricultural output (mostly as a consequence of the increased production of potatoes, wheat, and vegetables), the country is not able to provide home-produced food products to its population; that is why the percentage of imported food is still high. At the same time, failure to comply with EAEU standards and requirements substantially reduces the volume of exported agricultural output produced in the country.

After the country joined the EAEU, state support of the agro-industrial complex changed significantly. Currently a number of budget programs aimed at supporting agricultural producers by providing them with commodity loans of seeds and lubricants/fuel, developing the mechanization of agriculture, and maintaining and developing irrigation infrastructure, among others, are being implemented.

Regarding implementation of export-import policy toward agricultural products, after the country joined the EAEU, more drastic changes occurred in such areas as import regulation, customs and tax administration, and technical regulation.

However, the measures being undertaken are not sufficient. The agro-industrial complex of the Kyrgyz Republic is still in crisis and the country's dependence on imported food is high.

In order to ensure steady and sustainable development of the agro-industrial complex and strengthen the food security of the country, new policy decisions that would strike the right balance between the interests of the most important stakeholders—for example, political elites, agricultural producers, and the population—need to be worked out in the process of integration in the EAEU.

Based on this premise, this case study has developed and offered options for political changes aimed at facilitating the development of the country's agro-industrial complex and strengthen food security. *Forecasts of changes in the situation that would take place if the proposed policy options were implemented help recommend the most productive and efficient options—namely, creating a system of procurement depot complexes; reforming the veterinary and phytosanitary systems; expanding the transportation systems and replacing the vehicle fleet.* It is important to note that comprehensive

implementation of the recommended policy options will have a positive impact on agro-industrial complex development, help create conditions for increasing the output of competitive agricultural products of high quality, improve the situation with supplies of food to the population of the country, reduce dependence on imports, and increase export volumes. Moreover, it is expected that the implementation of the proposed policy options would lead to more jobs in agriculture and lower the unemployment rate, which would help reduce social tensions in the country.

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