RESEARCH INTEREST

AGRO-INDUSTRY CLUSTER DEVELOPMENT IN FIVE TRANSITION ECONOMIES

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Summary
This paper is to investigate the current development status of the agro-industry sector and agro-enterprise clusters in five selected transition economies including Kazakhstan, the Kyrgyz Republic, Mongolia, Tajikistan and Uzbekistan, and to provide policy guidelines for the effective attraction of investment in the sector. After the disintegration of the Soviet Union, the countries had been converted into small, segmented market economies with limited growth potentials. They are suffering from relatively high unemployment rates, while agriculture is the industry which provides the largest employment opportunities and takes a considerable share of GDP. However, the missing of market signals has resulted in the inefficiency in the agricultural marketing and processing industry. During the economic transition, the lack of investments and serious budget constraints has negatively affected the development of agriculture and agro-industry. Although each country has adopted diverse efforts to introduce foreign investments, unsatisfactory institutional settings, the prevalence of bureaucratic corruptions, and so forth have hindered the inflow of foreign capital. Cluster-based economic development is recommended to the countries in that it will increase agricultural productivity and bring rural development.

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Clusters encompass an array of linked industries and other entities, for example, suppliers of specialized inputs such as components, machinery, and services, providers of specialized infrastructure as well as agricultural producers. The agro-industry cluster development in transition economies, if successfully implemented, will bring poverty reduction, increased job opportunities particularly for women, and improved balance of trade.

However, the existing environment for the development of agro-industry cluster is not favorable to the countries. The basic requirements of agro-industry cluster development are as follows: the establishment of legal and regulatory frameworks; private sector development; the construction of close relationships among participants of cluster; development of technologies in every value chain such as production, processing, storage, marketing and so on; and extensive financial support and investment promotion for the related industry development by constructing a banking system, and necessary infrastructure.

Ⅰ. Introduction

Since the early 1990s, when the Soviet Union broke down and many republics, which had belonged to it, proclaimed their independence, those new countries have partially and slowly introduced market economies in their pursuit of growth. The economic "growth," not to mention the "development" in its socio-economic sense, however, has been far from being achieved. With no more inflow of resources from Moscow, coupled with bureaucratic inefficiencies and corruptions, political instability, and the lack of social infrastructures, these transition economies seem very fragile, although they do have plenty of latent and manifest resources for economic growth.

A lot of international development agencies as well as donor countries have been involved in providing consultation services to former Soviet countries since their independence, offering funds or performing capacity building projects. This paper is also a product of consultation for some of the former Soviet-bloc countries. It was prepared under the guidance of the Investment and Enterprise Development Section (IEDS) of the Trade and Investment Division (TID) of the United Nations Economic and Social Commission for

Asia and the Pacific (UNESCAP). The consultation is aimed to undertake a research on thecurrent development status of the agro-industry sector and agro-enterprise clusters in five selected transition economies including Kazakhstan, the Kyrgyz Republic, Mongolia, Tajikistan and Uzbekistan, and to provide policy guidelines for effective investment attraction to the sectors.Although Mongolia had not been in the Soviet Union, it had long been under the strong political and economic influence of the Soviet Union, and it was not until the disintegration of the Soviet Union that it had come to start a stand-alone economic expansion.

For the mission, the authors visited each of the five countries and met with several public officials, including those from the ministries of food/agriculture/water management, the ministries of industry/trade/foreign economic relations, the agencies for foreign investment, and other relevant government authorities. They also visited regional offices of international organizations, such as the United Nations Development Program (UNDP), the World Bank, the United States Agency for International Development (USAID), and the Asian Development Bank (ADB), and semi-governmental organizations such as agricultural cooperatives. In addition, they took tours of some places of interest, such as department stores, supermarkets, agricultural processing factories, farms, etc.

The paper, firstly, reviews the current status of agriculture and agro-industry sectors in each country. Secondly, the investment/business environmentsof the agro-industry are described with particular focuses on foreign direct investment (FDI) and policy, laws, regulatory issues,and facilitation procedures. Thirdly, a theoretical review of the concept of cluster is presented followed by areview of some issues on agro-industry cluster development in the countries. Two case examples from the United States and Italy are reviewed where a few meaningful implications can be derived regarding the agro-enterprise clusters development. The implications may shed light on socio-economic aspects of the countries, particularly on poverty reduction and gender issues. In the conclusion, the report provides a few policy guidelines in terms of legal/regulatory, institutional, and operational requirements.

II. Review of Agriculture and Agro-Industry Sector

1. Macroeconomic Status

Before the Soviet Union was disintegrated and the Commonwealth of Independent States (CIS) was formulated, the region, including Mongolia, was a unified market and formed an integrated production and trading network under the Soviet economic system. Employmentrates, income levels and other social indicators were broadly at an average level, and poverty was virtually unknown. After the Soviet Union's disintegration, however, national borders and import controls were created, converting these countries into small, segmented market economies with limited growth potential.

Table 1 shows that thesecountries are suffering from relatively high unemployment rates due to the limited development of industrial sectors compared with agriculture. In Uzbekistan, the Kyrgyz Republic, and Tajikistan, agriculture is particularly the major industry that provides substantial employment opportunities and takes a considerable share of GDP. At the end of 2003,

TABLE 1. Macroeconomic Indicators (Year 2003)

	Kazakhstan	Uzbekistan	Mongolia	Kyrgyz Rep.	Tajikistan
Total population (mn)	14.91	25.7	2.5	5.0	6.6
% of Urban Population	56.6	36.5	53.4	34.8	26.5
Employed (mn)	7.0	9.6	0.9	1.8	1.9
Agriculture and Forestry	2.4	3.0	0.4	0.9	1.3
Industry	0.9	1.2	0.1	0.2	0.1
Others	3.7	5.3	0.4	0.7	0.5
Unemployed (mn)	0.7	0.4	0.03	0.2	0.05
Unemployment rate (%)	8.8	unknown	3.5	8.6	2.4
GDP (current US$)	29.7 bn	9.9 bn	1.3 bn	1.9 bn	1.6 bn
% of GDP					
Agriculture	7.9	33.1	20.1	37.2	28.2
Industry	35.1	23.5	25.3	23.3	28.1
Services	57.1	43.4	54.6	39.5	43.7

Source: ADB and WB.

the average per capita incomes of Uzbekistan, the Kyrgyz Republic, and Tajikistan were less than US$ 400, which is below the average per capita incomes of South Asian nations ($460) and even sub-Saharan African nations ($450). The average per capita incomes of Mongolia and Kazakhstan recorded about US$ 457 and US$ 1,300 respectively.

Kazakhstan is the biggest recipient of foreign direct investment (FDI) followed by Mongolia and Uzbekistan. The economies of Mongolia and Tajikistan heavily rely on import and export of goods and services. This indicates that these countries' domestic markets are still undeveloped.

TABLE 2. Trade and Finance Indicators (Year 2003)

	Kazakhstan	Uzbekistan	Mongolia	Kyrgyz Rep.	Tajikistan
Exports of goods and services (% of GDP)	50.4	36.7	67.6	38.0	60.0
Imports of goods and services (% of GDP)	44.2	29.6	80.3	42.2	79.3
Foreign direct investment (US$)	2.1 bn	70.0 mn	131.5 mn	45.5 mn	31.7 mn
Present value of debt (US$)	23.1 bn	4.8 bn	1.1 bn	1.6 bn	0.9 bn
Short-term debt outstanding (current US$)	2.8 bn	221.0 mn	285.2 mn	38.7 mn	81.7 mn
Aid per capita (current US$)	18.0	7.6	99.7	39.1	22.9

2. Review of Agriculture and Agro-Industry

The five former Soviet-bloc countries began their economic transitionsin 1989-1990 based on their common institutional and organizational heritage in agriculture. In the past, there was no private land ownership, and most farmlands werein the form of large-scale collective farms sized at thousands of hectares. Each farm employed hundreds of workers. Product markets and input supply channels were largely controlled by state organizations under the command economic framework with virtually no budget constraints. This was the Soviet model of socialist agriculture that had dominated those countries in the

Soviet Bloc since the early 1950s. The inefficiency of socialized agriculture was a result of the command economy, which hindered the farms from contacting with market economy, set central targets with no consideration of consumer preferences, and allowed farms to function under soft budget constraints without proper profit accountability.

The missing of market signals resulted in inefficiency in agricultural marketing and food processing industries. Agro-processing industries, or simply agro-based industries, can be described as industries that add value to agricultural raw materials, both food and non-food, through processing them into marketable, usable or edible products, while enhancing the income and profitability of the producers (UNESCAP, 2003).

During and after the economic transition, the lack of investments and serious budget constraints affected the development of agriculture and agro-industry. While recent successful land reform processes in some countries meant positive steps toward a market-oriented agro-industry, the sub-optimal use of inputs, such as fertilizers, chemicals and machinery, is still problematic.

Kazakhstan

Although the share of agriculture out of GDP is only 8 percent, Kazakhstani agriculture is a very important industry sector, since over 40 percent of the population still resides in rural areas and 20 percent of the labor is employed in the agricultural sector.

Kazakhstan is one of the world's largest grain producers and exporters. The main grain crop is wheat. It is also specialized in cattle and fruits. Livestockproduction accounts for about 40 percent of agricultural productions in value. Livestock production has been a key economic activity in Kazakhstan for centuries and will continue to be a major source of employment, food supply, and income for the rural population. The production of meat and milk satisfies domestic demand, while the supply of vegetables and fruits partiallysatisfies domestic demand because of the logistic difficulties associated with transportation and storage problems.

The development of manufacturing industries of agricultural inputs, such as agricultural machinery, fertilizers, and agro-chemicals, has been blocked due to the lack of investments. It results in the fact that the avail-

ability of agricultural inputs is too low, limiting the increased yields acrossthe agricultural sectors.

Food processing in Kazakhstan is one of the strategically important industries as it provides high quality foods for the population. It consists of more than 30 specialized sectors, subsectors and separate manufactures, and includes about 5,151 plants and manufacturers, although 80 percent of which are small and mediumsize enterprises (SMEs). The SMEs employ 69.4 thousand people, 10.3 percent of the total employees of the country.

The major segments ofthe food processing industry includeflour and cereals, meat processing, dairy, and fruit/vegetable processing. Flour and cereals account for 74.3 percent of the total enterprises in terms of the number of enterprises.

TABLE 3. Distribution of Agro-industry by Commodity Types in Kazakhstan, 2004

Sectors of Agro-Industry	Ratio (%)
Flour and cereal	74.3
Meat processing	14.1
Dairy	8.5
Fruits and vegetable processing	2.7
Others	0.4
Total	100.0

Source: Ministry of Agriculture, Kazakhstan.

Uzbekistan

The major food and agricultural commodities produced in Uzbekistan are wheat, cow milk, cotton seeds and lint, and tomatoes. Cotton lint, grapes, tomatoes, and onions are the major exported agricultural commodities and wheat flour, sugar, and vegetable oils are the major imported agricultural items.

A survey administered by the International Finance Corporation (IFC) toward proportionally sampled SMEs throughout the country shows that 56 percent of the respondents are working in the agricultural sector. It is estimated that the number of agro-industry enterprises amounts to 130 thousand

from the fact that the number of active SMEs in 2004 was 237.5 thousand (IFC, 2003, 2004).

Uzbekistan is the seventh largest cotton producing country and the second biggest exporter of cotton after the U.S. in the world. About 60 percent of population is working in the cotton industry, meaning that the importance of the sector is substantial in the national economy. Cotton accounted for about 20 percent of the total export amount in 2003 therefore, the state earns the largest revenue in the agricultural sector from cotton products by selling them at the world market. Too heavy dependence on the export of raw minerals and agricultural products, however, exposes the country to the risk of financial crisis stemming from unstable international demands and prices.

In the midst of the world cotton price moving upward over the long term, the competition in the world market is getting severer; China, the United States, and India are competing with Uzbekistan, and especially West African countries are boosting cotton production and export with their cheap labor.

Wheat production amounts to about 4.8 million tons and it is quite enough for the country to be self-sufficient, but some amount of flour of good quality is imported from Kazakhstan.

Mongolia

Due to the lack of processing equipment and the lagged development of technology, value-addition rates are low in agro-industries. Mongolia produces about a quarter of the world's cashmere output. Small-scale cashmere processing factories are scattered in Mongolia. In 2003, there were five domestic and 80 foreign-invested cashmere processing factories, of which 42 were primary-level, 37 knitting, and six complex-level factories. Substantial amounts of raw or primary-level processed cashmere are exported to China, hindering additional value creation within the borders of Mongolia.

Besides livestock production, food self-sufficiency is low. In Mongolia, a traditional nomadic nation, crop farming is a relatively recent activity and had been developed primarily through large state farms, although now those state farms are completely privatized. Wheat production in 2003 was 164,400 tons, which is not sufficient for feeding its people; Mongolia imports heavy amounts of wheat flour from abroad including Kazakhstan.

Vegetables and fruits had been produced sufficiently until the early 1990s, but they are now imported from China.

Kyrgyz Republic

The Kyrgyz Republic's economy is predominately driven by agriculture and has relatively small manufacturing industries. The agricultural sector accounts for nearly 40 percent of the country's GDP and about half of total registered workers. Following the break-up of state-owned enterprises, the agricultural sector has increasingly moved away from large-scale collective farming to the family farming of subsistence level. Specifically, private farmers produce 40 percent and family farms account for 54 percent of agricultural output.

The major food and agricultural commodities are potatoes, wheat, cow milk, sugar beets, and maize. Cotton lint and tobacco leaves are major agricultural commodities for export, and wheat and sugar are major agricultural items for import.

As part of its effort to stimulate the development of the cotton sector, the government has set aside about 3 percent of the country's total arable land for cotton production. This resulted in the growth of cotton production from 75,000 tons in 1995 to about 122,000 tons in 2004. Private farmers grow almost 80 percent of the cotton, which generates almost 5 percent of the total value of the country's exports. However, the high production costs due to the lack of input materials such as fertilizers, pesticides, and herbicides weaken the industry andnegatively affect its cotton export potential. Tobacco is also an important cash crop for the Kyrgyz agricultural sector. However, most of the tobacco is grown by state-owned enterprises, and local value-added production activities are very limited.

Tajikistan

Agriculture is one of the most crucial sectors in the Tajikistani national economy. Due to its natural environment, Tajikistan can cultivate virtually every agricultural crop. The agricultural sector contributes nearly 30 percent to the country's GDP and accounts for more than half of the total employment. In addition, it is responsible for more than 30 percent of exports. Particularly,

cotton alone provides 30 to 40 percent of budget revenues through taxes.

For the past years, about 400 agricultural producers have been restructured into more than 14,000 farms with 3.8 million hectares of cropland. Agrarian reform significantly affected Tajikistan's agricultural sector and related institutions. Private enterprises produced 85.3 percent of meat, 86.5 percent of milk, 81.5 percent of eggs, 56.7 percent of vegetables, and 66.3 percent of fruits and berries in 2001. However, the major part of the most valuable irrigated land is still controlled by the state and collective farms.

Major food and agricultural commodities in Tajikistan are wheat, potatoes, cow milk, cotton seed, and cotton lint. Cotton lint is the major exportedagricultural commodity followed by onion and fruit products. Sugar, wheat, flour, and beef are the major imported agricultural items of Tajikistan.

Cotton is the major crop the production of which covers more than 50 percent of the country’s irrigated land. Before independence, Tajikistan’s cotton yield per hectare was the highest in the central Asian region with an earning capacity of 60 to 70 percent of production costs. After independence and the subsequent halt in the supplies of material and technical resources from Moscow, however, cotton production dramatically declined. Furthermore, world lint cotton prices have dropped by more than 50 percent from the highest price of the past years while the prices of fuel, machinery, and fertilizers have kept growing.

In Tajikistan, cotton production and marketing are under the control of the state administration, and so there is no competition among participants. Local governments impose extra charges on cotton sales to boost their tax collection.

III. Investment/Business Environment of the Agro-Industry Sector

Kazakhstan

In 2003, Kazakhstan reenacted the “Act for Foreign Investment” after the abolition of the old “Act for Foreign Investment” and the “Act on State Support

for Direct Investment." Under the new law, there would be no discrimination between domestic and foreign investors. Investment favors are provided for priority sectors, which include industrial infrastructure, processing industry, agriculture, housing, the social sector, and tourism infrastructure. The incentives for direct investments in the priority sectors are property tax and income tax exemptions for up to five years respectively, and exemptions or reductions in the customs duty on materials necessary for the completion of investment project.

In 2002, a new law on taxation was enacted. Taxation system is in generalcoincident with international standards. However, so many taxes are imposed on enterprises, which may distort the profit structure of enterprises. Maximum tax rates vary depending on the source of tax: 30 percent for corporate tax, 15 percentfor value added tax, and 21 percent for social security tax. It is estimated that 32 to 35 percentof total revenue accounts for taxes paid by enterprises, implying that the tax burden is very high.

TABLE 4. Selected Tax Rates in Kazakhstan

Types	Tax Rates
Corporate Tax	Up to 30%
Value Added Tax	Up to 15%
Land Tax	Varies by use
Property Tax	1%
Social Security Tax	Up to 21%
Commodity Tax	Varies by commodities
Transportation Tax	Varies by transportation types
Auction Tax	3%

Source: Korea EXIM Bank, 2005.

Kazakhstan has tried to improve the investment climate to attract FDI to more industry sectors including oil industry since its independence. To this end, Kazakhstan enacted four key laws to promote the introduction of foreign investment: the "Act for State Support for Direct Investment (1997)," the "Act for Government Procurement (1997)," the "Act for Foreign Investment (1999)," and the "Tax Code (2001)."

Consequently, Kazakhstan has been fairly successful in attracting FDI,

which supportseconomic recovery. During the period between 1993 and 2003, gross FDI inflows to Kazakhstan totaled 23.4 billion USD. As of 2003, crude oil and natural gas extraction accounted for 51.8 percent of gross FDI, while agriculture, forestry, and fisheries accounted for only 0.04 percent. Food industry, which is based on agriculture, is predominantly domestic market oriented and not lucrative due to the low market demand forlocal food products, implying that it is less attractive to foreign investors.

TABLE 5. Foreign Direct Investment (FDI) in Kazakhstan by Sector

Unit: million USD, (%)

	1993-2000	2001	2002	Jan.-June 2003
Agriculture etc.	7.4(0.1)	5.0(0.1)	2.5(0.1)	1.1(0.04)
Mining	7,841.2(62.4)	3,078.1(67.7)	2,107.7(51.7)	1,148.4(51.8)
Manufacturing	1,766.4(14.1)	641.4(0.7)	829.5(20.4)	433.3(19.5)
Transport etc.	160.0(1.3)	161.1(161.1)	95.2(2.3.)	45.0(2.0)
Finance	206.4(1.6)	44.4(1.0)	11.8(0.3)	7.8(0.4)
Real estate	1,432.8(11.4)	456.5(10.0)	841.4(20.7)	433.6(19.6)
Electric power	433.0(3.4)	33.8(0.7)	17.5(0.4)	58.4(2.6)
Others	715.0(5.7	124.3(2.7	167.9(4.1	91.2(4.1
Total	12,562.2(100.0)	4,544.6(100.0)	4,073.5(100.0)	2,218.8(100.0)

Source: National Bank of the Republic of Kazakhstan.

Uzbekistan

Small and medium-sized enterprises (SMEs) are expanding in Uzbekistan owing to the state support. The number of active SMEs in 2004 was 237.5 thousand, which is much highercompared to 177.7 thousand in 2001. The SMEs' share of GDP was 35.6 percent of the nominal GDP in 2004 and is projected to be 45 percent in 2007. The government support to SMEs will facilitate the agro-industry development; many entrepreneurs are by and large optimistic about the possibilities for business growth.

The speed of privatization is slow in Uzbekistan. According to the World Bank, the Uzbekistani agricultural reform toward a market-oriented economy is still a long way to go. In terms of the privatization of agro-processing and input supply industries, spontaneous and mass privatizations are

just in the early implementation stage. The average score of five sectors (SME enterprises, agro-processing industry, input supply industry, market conforming policy environment and land reform) is only 3.8 (1 means totally centrally planned economy and 10 means completed market reforms). Uzbekistan is ranked third from the bottom among 27 Central and Eastern European (CEE) and CIS countries only ahead of Turkmenistan and Belarus, and classified as one of "slow or non-reformers" (The World Bank, 2003). Rural banking systems and governmental and public institutional frameworks are also in the modest restructuring stages.

The Uzbekistani government has formally declared its pro-foreign investment policy. In 1993, the foreign investment comprised only 0.8 percent of total capital investment; but in 2003, it increased to more than 20 percent. Foreign investors have had more interests in manufacturing sectors including the oil and gas industry.

The largest share of foreign direct investment in 2002 comes from Russia (15.7 percent), South Korea (9.8 percent), and the U.S. (8.7 percent). The data on the amount of foreign investment by sector are not available; but in the estimation from the numbers of investments, the manufacturing sector received the largest portion of FDI with 58 percent, whereas the agricultural sector received only 2.7 percent.

TABLE 6. Foreign Investment as of June 2004

		Number of Companies	Percentage (%)
Manufacturing	Consumer goods	602	26.3
	Others	733	32.0
	Total	1,335	58.3
Trade, restaurants		472	20.6
Agriculture		61	2.7
Transportation & communication		96	4.2
Construction		85	3.7
Health & sports		55	2.4
Culture & others		185	8.1
Total		2,289	100.0

Source: Korea EXIM Bank, 2005.

In 2005, the government of Uzbekistan announced a new tax system. Under the system, venture companies jointly invested by foreign investors are exemptfrom profit tax for seven years. Here, the foreign joint venture means a company with a foreign capital of at least 150 thousand USD, or more than 30 percent of its capital. The conditions get lower in remote areas. The assets of foreign investors are protected through the "Laws on Property of Foreign Direct Investment."

Those companies producing agricultural products are exempt from asset tax; for individual agricultural production units, the tax rate is decided based upon yield, geographical characteristics, accessibility to irrigated water, and so on.

It is problematic in terms of the balanced development because most joint ventures flock to the manufacturing sector only. And many SMEs, in spite of government efforts to stimulate domestic and foreign investments, hesitate to reinvest their earnings in their own businesses.

Internal turbulences, as envisaged in May 2005, have negatively affected the investment climates of both home and abroad. Slow privatization is also a major factor hindering the investment expansion.

Mongolia

The Mongolian government has initiated many efforts to induce foreign investment. Policy priorities are given to such sectors as construction, and information and technology (IT), leaving the agricultural industry at the near bottom.

By taking such actions as the 2002 modification of the "Direct Investment Act," the Mongolian government is trying to provide more favorable investment environments for foreign investors. The Foreign Investment and Foreign Trade Agency (FIFTA), established in 1996 under the Ministry of Industry and Trade, is primarily responsible for direct foreign investment. The Act recognizes a company as a foreign invested corporation when the investment made by foreigners makes up at least 25 percent of the total investment.

The investments made into social infrastructures, such as roads, electricity, and telecommunication facilities, are 100 percent profit tax free for 10

years, and 50percent for the next five years. For other sectors, in case more than 50 percent of the products manufactured through foreign investment are exported, those products are free from profit tax for three years, and 50 percent tax free for the next three years.

Since the early 1990s, the inflow of FDI has steadily increased and recently, the growth is getting faster. China is the largest investor in Mongolia in terms of investment amount; it accounts for 40 percent of total FDI, followed by Canada (14 percent), the United States (10 percent), South Korea (7 percent), Japan (5 percent), and Russia (3 percent). The mining sector benefitsthe most investment flows, while the sectors of food and beverage, and agriculture have received 16 million and 10 million USD between 1990 and 2004, taking up only about 2 percent of total investments combined.

TABLE 7. Foreign Investment by Sectors, 1990-2004 (Unit: thousand USD)

Sectors	Investment
Geological prospecting, mining and oil exploration	638,785
Trade and catering service	166,537
Light industry	86,564
Banking and financial services	66,083
Processing of animal originated raw materials	55,702
Engineering, construction, and production of building materials	51,529
Transportation	20,994
Telecommunication	19,204
Culture, education, science, and press	18,469
Production of foods and beverages	15,572
Tourism	13,642
Agriculture	9,955
Furniture production	5,407
Energy	5,294
Health and beauty services	4,022
Utility service	2,412
Electric appliances manufacturing	1,690
Jewelry and gifts	1,381
Housewares production	1,312
Others	96,074
Total	1,280,628

Source: Foreign Investment and Foreign Trade Agency (FIFTA) of Mongolia, *FDI Review*, 2005.

With the exception of land ownership, the companies can be 100 percent foreign-owned and operated without any Mongolian partners.

Besides, in 2005 the Mongolian government enacted the "Act for Free Trade Zones" and other related laws to build free economic complexes near the areas bordering with Russia and China, viz. Altanbulag, Zamyn-Uud, and Tsagaan Nuur.

Kyrgyz Republic

The Kyrgyz Republic has implemented the most liberal and democratic transition policies among the Central Asian countries to achieve economic stabilization and restructuring. It has a market friendly trade regime: no foreign exchange controls. The Kyrgyz Republic was admitted to the World Trade Organization as early as 1998.

The government of Kyrgyzstan is actively working to improve the investment climate within the country. For the last several years, five "Investment Matrices" have been developed and implemented to increase private investments and to promoteeconomic growth. Also, the policy of limiting inflation, reducing government deficits, and maintaining a stable real exchange rate contributes to improving the business climate.

In recent years, inflation has been running below 5 percent and the som/US dollar exchange rate has been stable, with some appreciation of the somagainst the U.S. dollar in 2002 and 2003. Both the budget and current account deficits have improved since 2000. However, fundamental macroeconomic problems remain and need to be resolved for the country to maintain sustained growth and capacity to reduce poverty. These problems are rooted in high levels of public expensesand debt, slow progress in the banking sector, and poor governance structure. There are also issues of chronic corruption, over-employment, and inefficiency within the governmental sector.

A large inflow of foreign direct investment is important for Kyrgyzstan to achieve sustainable economic growth and enhance its export potential. While domestic savings have increased to 12-13 percent of GDP in 2002-2003, theyare still not sufficient. The country also needs to limit the growth of external public debt by reducing the scales of loans financed through the Public Investment Program and grants from international develop-

ment organizations. Thus, attracting more FDI is necessary not only for securing financial resources but alsofor introducing advanced foreign technologies, management skills, and export market linkages.

While the cumulated FDI inflows to Kyrgyzstan were 453 million USD from 1993 to 2001, the FDIs in 2003 and 2004 were 147 million USD and 175.6 million USD, respectively. With a new investment policy ofthe Kyrgyz government, FDI inflow shows an upward trend. However, agriculture, especially agricultural product processing sector, still requires stable FDI inflow. While the domestic market for processed food is small, Kyrgyzstan is faced with increasingly tough international competition for agricultural and food commodities. The traditional export markets in the CIS countries currently build new food import links with China and European countries. Consumer expectations in these traditional markets have risen significantly since the 1980s.

Tajikistan

The government has made efforts to promote investment but the bureaucratic procedure is arbitrary and restrictive. Although a few foreign entities have invested in Tajikistan, political and economic instability have discouraged substantial amounts of foreign direct investment. Corruption and the lack of democratic reforms deter investors from making investment, and the slow pace of privatization in particular of medium and large-scale enterprises has also kept investment inflows at the low level. Other factors deterring investors include the limited access to finance and the weakness of the public administration.

The International Monetary Fund (IMF) reports that both residents and non-residents may hold foreign exchange accounts, although residents may hold them abroad only with the central bank's approval. Restrictions on payments and transfers include quantitative limits on wages for foreign workers and some restrictions onrepatriation. Many capital transactions require the central bank’s approval.

Tajikistan's banking system consists of the central bank and 16 commercial banks. Commercial banks have focused generally on providing creditsfrom the central bank to state-owned enterprises in agricultural and industrial sectors. The state controls most of the financial institutions' assets. The bank-

ing system is largely ineffective, and the increasing numbers of people conduct business including financial activities in the shadow economy. Bureaucratic corruption is the major deterrent to investment. The procedure for establishing a business is both tedious and time-consuming. Corruption, overregulation, and senseless tax policies have frustrated the development of a private sector.

Tajikistan has had the lowest average annual foreign direct investment since 1993 among all members of the CIS. The civil war and unstable political situations have been the main reasons for a very low inflow of foreign direct investment. The net FDI stock from 1993 to the end of 2001 was 127 million USD, and the gross FDI inflows of 2003 and 2004 were 31.6 million USD and 22.4 million USD, respectively. Most of the foreign investment is concentrated in textile, agribusiness, and manufacturing sectors. Textile is the sector that has enjoyed the largest amount of FDI. It captured 44.6 percent of the total cumulative investment while the mining sector received 42.1 percent during the period of 1993-2001.

Ⅳ. Case Reviews and Implications of Agro-Industry Cluster Development

1. Definition of Agro-Industry Cluster

Cluster-based economic development has received increasing attentions from economic development researchers and numerous organizations, including the Organization for Economic Co-operation and Development (OECD), the European Commission, the U.S. National Governors Association, and the United States Agency for International Development (USAID). Also, a large number of regions and nations have launched initiatives to develop or strengthen clusters.

The concept of cluster is motivated mostly by Michael Porter's research work. According to Porter (1990), “clusters are groups of companies and institutions co-located in a specific geographic region and linked by interdependencies in providing a related group of products and/or services.” Because of the proximity both in terms of geography and of activities among

them, cluster constituents enjoy the economic benefits of several types of positive location-specific externalities.

Clusters arise because they increase the productivity with which companies can compete. The development and upgrading of clusters are an important agenda for governments, companies, and other institutions. Cluster development initiatives are an important new direction in economic policysince they are based on earlier efforts in macroeconomic stabilization, privatization, market opening, and reducing the costs of doing business.

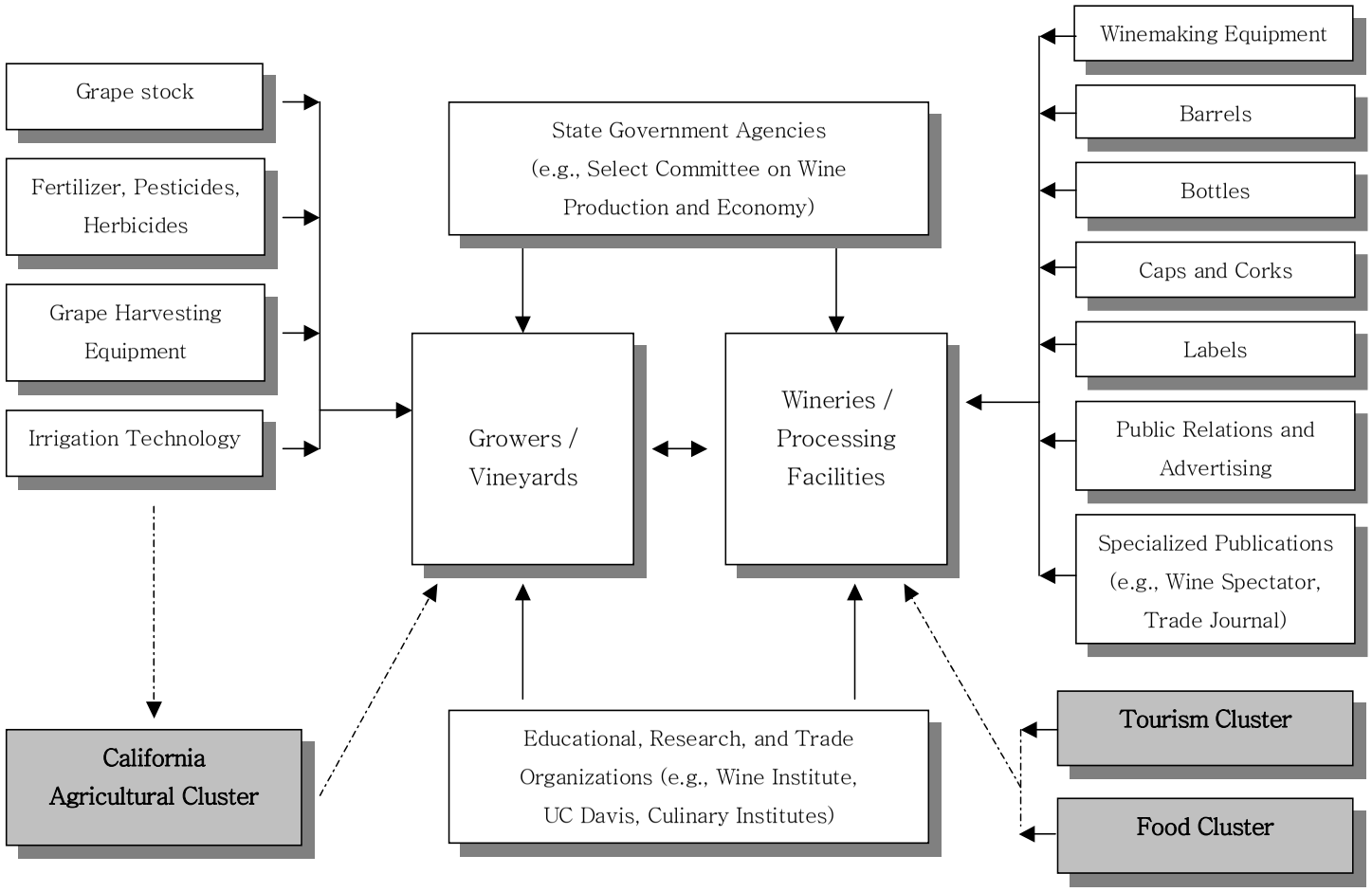
2. Case Reviews of Cluster Development

Clusters are geographic concentrations of interconnected companies and institutions in a particular field. Clusters encompass anarray of linked industries and other entities which are important to competition. They include, for example, suppliers of specialized inputs such as components, machinery, and services, and providers of specialized infrastructure.

Clusters are often extendedto customers, manufacturers of complementary products, companies in industries related by skills, technologies, or common inputs. Also, many clusters include governmental and other institutions such as universities, standard-setting agencies, think tanks, vocational training providers, and trade association that provide specialized training, education, information, research, and technical support (Porter 1998b).

The California wine cluster is a good example of a successful agro-industry cluster. It includes 680 commercial wineries as well as several thousand independent wine grape growers (See Figure 1). In the cluster, anextensive complement of industries, which is supporting both wine making and grape growing, exists, including suppliers of grape stock, irrigation and harvesting equipment, barrels, and labels specialized public relations and advertising firms and numerous wine publications aimed at consumer and trade audiences. A host of local institutions areinvolved with wine, such as the world-renowned viticulture and enology program at the University of California in Davis, the Wine Institute, and special committees of the California senate and assembly. The cluster also enjoys weaker linkages to other California clusters in agriculture, food and restaurants, and wine-country tourism.

FIGURE 1. The Structure of California Wine Cluster



Another example of a cluster is the Italian leather and textile cluster, which contains well-known shoe companies such as Ferragamo and Gucci as well as a host of specialized suppliers of footwear components, machinery, molds, design services, and tanned leather. It also consists of several chains of related industries, including those producing different types of leather goods (linked by common inputs and technologies) and different types of footwear (linked by overlapping channels and technologies).

These industries employ common marketing media and compete with similar images in similar customer segments. A related Italian cluster in textile, including clothing, scarves, and accessories, produces complementary products linked with common channels. The extraordinary strength of the Italian leather and textile cluster can be attributed, at least in part, to the multiple linkages and synergies that participating Italian businesses enjoy.

3. Current Status of Agro-Industry Cluster

The food processing industry cluster consists of various value chains: raw materials, R&D, processing, packaging, transportation and storage, and sales. In the agricultural sectorsof transition economies, the technological level of agricultural equipment is very low and R&D in the food processing industry is characterized as unsatisfied due to the absence of independent R&D institutions. Above all, the small and medium-sized enterprises (SMEs) facing financial problems could not pay attention to R&D. At the processing level, existing technologies cannot be described as complying with the world standards due to the absence of qualified production engineers. Specialized packaging companies are substantially lacking.

In Kazakhstan, the presence of many transportation and storage companies has made the logistics not a limiting factor for the cluster development. Also, if the presence of many wholesale bazaars is taken into account, the wholesales of processed foods do not prevent the development of a food-processing cluster. Most of the rest transition economies, however, are not capable of supporting the formation and operation of industry-driven cluster networks due to insufficient funds. In transition economies, the networking between agricultural and food producers and other institutions is weak and inefficient.

This is mainly caused by the lack of individual entrepreneurship and financial resources.

Kazakhstan formed a fund for SMEs in 1998, and until 2004 since then, it has aided 130 million USD. In Kazakhstan, it is possible to develop agro-industry clusters, such as a food processing complex, because 90 percent of the country's processed foods are imported. Since the location of an agro-industry cluster strongly depends on the availability of raw materials, N. Kazakhstan and Akmola Provinces may be good candidates for a wheat processing cluster Kustanay Province for milk or meat and Almaty Province for fruits and vegetables.

In Uzbekistan, Mongolia, the Kyrgyz Republic, and Tajikistan, there is no agricultural complex or agro-industry cluster. While these countries may have intensive agricultural production sites, the effort to combine geographic benefits with a processing system does not exist. Among the above countries, Uzbekistan, the Kyrgyz Republic, and Tajikistan may have the potential to develop agro-industry clusters in the field of textile based on their cotton production. For those countries, it is usually seen that the government intervenes in cereal and cotton production and marketing. Even though these countries are famous for their enormous cotton production, lack of funds and ineffectively working institutional settings are barriers to the future development of textile industry clusters.

Recently, in the Kyrgyz Republic, there is a growing discussion about developing vegetable and fruit processing industries for niche markets in other CIS countries and Siberia. Mongolia has a concept of "Agricultural Park," but it only means intensive agricultural production sites far from an agro-industry cluster. Although the State *Ihk Khural* Resolution of 2003 emphasized the necessity of enhanced capacity of local production and technological development, the close integration of several functions that would produce synergy effects has not drawn enough attention.

4. Implications(Possible Outcomes) of Cluster Development

The expected possible outcomesof agro-industry cluster development in transition economies can be summarized as follows:

(1) **Poverty reduction**: The incomesof residents in rural areas will increase if the plants are located where people's incomes are relatively low compared to those of urban people.
(2) **Increasing the job opportunities for women**: It is expected that agro-industry will create various jobs especially for women in some labor intensive work.
(3) **Improving the balance of trade**: There exist substitution effects from trades.

Poverty Reduction

Rural-based agro-industries are in general labor-intensive and particularly valuable in alleviating the poverty in rural areas by raising incomes and creating employment. A successful and well functioning agro-industry cluster will help reduce rural poverty.

In the case of the Kyrgyz Republic, rural poverty consistently declined for the period of 1998-2001 at an average rate of eight percent per year. The increasing consumption, which resulted from an equitable growth in the agricultural sector, largely drove the growth. However, rural poverty continues to be significantly higher than that in urban areas. Almost two thirds of the inhabitants live in rural areas and almost three quarters of the poor live in rural areas. Rural households have limited access to public services, such as drinking water, public sewers, reliable electricity, district heating, and telephone service.

In Mongolia, for the years after the transition to a market economy, the poverty level has not improved at all. The proportion of people whose income is below the national poverty line was 36 percent in 1990, and it remained still at the 35 percent level in 2000.

Poverty in Tajikistan is a multidimensional phenomenon. A civil war had delayed economic and social structural reforms of the country. The delayed transition process and the war together weakened both formal and informal mechanisms of social protection, which led to a prolonged poverty of the people. To increase real income and achieve a fair distribution of the benefits from growth, the introduction of agro-industry clusters is crucial in the country.

Increasing Job Opportunities for Women

It is considered that, as a result of the changes after the transition to amarket economy, women have become less competitive in the employment market, particularly in private sectors. Also, there is a mounting concern that poverty is undergoing a process of feminization, e.g. one can find more women unemployed and consequently in poor positions. Women's hardships pose problems to their health and education, too.

With the amount of land officially available for use as private plots increasing, rural women have had more opportunities to work at processing foods and selling agricultural products from their family plots. In Uzbekistan, private plots are very important as major workplaces for women. Therefore, the small-scale agro-industry sector will be not only another source of rural income but an excellent mechanism for absorbing surplus female labor helping enhance women's welfare.

Although it is argued that women in Mongolia do not face a serious problem of gender discrimination, traditional gender relations are in general enduring that is, the women’s unpaid job of caring for young children and the sick as is intensified. With regard to the livestock industry, the backbone industry of the nation, privatization has affected the female very much; it is blurring some distinctions between men’s and women’s work as women and boys take on men’s tasks; and the volume of productive work has increased, and these tasks continue to be women’s responsibility. The increase of milk production and the production and processing of raw cashmere generate additional work for female because traditionally these are considered as women's jobs.

Improving the Balance of Trade

The development of agro-industry clusters can increase the food supply for domestic and international markets. The growth of agro-industry and increased food production may meet the domestic demand for food items. Furthermore, while the food consumption is growing recently, the successful cluster development will provide chances to advance into the international food market based on competitiveness.

For example, Kazakhstan imports about 90 percent of its food requirements from international markets. The development of agro-industry clusters can improve the balance of trade by reducing food imports while the other transition economies of Mongolia, Uzbekistan, the Kyrgyz Republic, and Tajikistan can increase the exportsof cashmere, cotton products, processed vegetables, and fruits, respectively.

V. Summary and Recommendations

Since theearly 1990s, the five transition economies have confronted many challenges including agricultural development. This paper tried to investigate the current development status of the agro-industry sector and agro-enterprise clusters and to indicate policy guidelines for inducing more investment in the sector.

Although there are big differences in many respects among the countries, they are in general suffering from relatively high unemployment rates in industrial sectors, low development of domestic market, etc. The agricultural sector is also less developed due to inefficiency, the lack of investments, and serious budget constraints.

Kazakhstan, famous for its wheat production, livestock, and fruits and food processing, is emerging as a key strategic industry. For Uzbekistan, the production and processing of cotton is substantially important for national economy, which means it may be vulnerable to world competition in this sector. The Mongolian livestock industry is very crucial to this nomadic country, but food self-sufficiency is low as crop farming is a relatively recent activity. The Kyrgyz Republic's recent break-up of state-owned enterprises has increasingly moved its agriculture into family farming which produces potatoes, wheat, cow milk, sugar beets, and maize while cotton lint and tobacco leaves are major exported agricultural commodities. In the case of Tajikistan, the agricultural sector contributes nearly 30 percent to the country's GDP and accounts for more than half of the total employment. The country's major food and agricultural commodities are wheat, potatoes, cow milk, cotton seed, and cotton lint.

In 2003 and 2004, Kazakhstan established a new legal system on taxation and foreign investment to improve the investment climate. Although Kazakhstan has enjoyed a substantial inflow of FDIs, the food industry, which is based on agriculture, is still not so attractive to invest in. The Uzbek government has supported the small and medium-sized enterprises which will provide opportunities for the agro-industry's development, but the agricultural reform toward a market-oriented economy is still a long way to go due to the slowness of privatization. Here, too, a new tax system was launched in 2005 in favor of foreign investors, but it is diagnosed that, in spite of government's efforts to stimulate domestic and foreign investments, entrepreneurs hesitate to reinvest their earnings in their own businesses because of political uncertainty, like the internal turbulence in 2005. Mongolia also provide a more favorable environment for investors and the inflow of FDI has steadily increased. In 2005, the Mongolian government enacted the "Act for Free Trade Zones" and other related laws to build free economic complexes. The Kyrgyz Republic has witnessed improved economic performances including stable inflation and exchange rates; but still more inflow of FDI is critical because of low domestic savings, and agriculture, especially agricultural processing, still requires stable FDI inflow. The situation in Tajikistan is not promising considering that the bureaucratic procedure is arbitrary and restrictive, and political and economic instability has discouraged substantial amounts of foreign direct investment it has hadthe lowest average annual foreign direct investment since 1993 among all the members of the CIS.

Agro-industry cluster development is presented as one of promising strategies for the five transition economies; it will bring poverty reduction, job opportunities especially for women, and improved balance of trade, if successfully implemented. The concept of cluster development is, however, not well-known in this bloc. As policy recommendations, six basic requirements are proposed for the agro-industry cluster development, although they are not exhaustive.

1. Initiation of Legal Frameworks

It is advisable to construct legal andregulatory frameworks for the develop-

ment of agro-industries in these transition economies. The frameworks should include the principles and measures for investment inducement, taxation, training, R&D, financing, and other related issues. For example, establishing proper property rights, enhancing contract-binding features, and securing economic benefits and incentives from market competition are desirable.

2. Extensive Financing and Investment Promotion

It is recommended that the budget for agro-industry sector should be increased so that a proper amount of domestic financing with low interest rates is secured. The banking system is in many cases toopoor in rural areas, which limits financial accessibility by the needed. It is necessary to establish a banking system that can provide loans related to farming and processing activities in rural areas. To promote domestic or foreign investment flows into the agro-industry, governments should alleviate the burden of taxation with respect to VAT, corporate tax, social security tax, and others. Recently, the Kyrgyz Republic has taken steps to eliminate VAT for SMEs. This kind of government activity is a key to a market-friendly policy.

3. Development of Technologies

In the five transition economies, the technological level of agricultural equipment is very low. Outmoded agricultural machines are used in production process. They lower productivity and the quality of final products, which leads to poor economic returns. SMEs' lack of attention to R&Dis mainly due to financial difficulties. Government's support to national universities and newly established R&D companies would improve the situation in this part of the value addition chains.

4. Development of Private Sector

The developmentof private sector is a key to launching a cluster process.

Political 'push' or strong political leadership for the creation of various components of a cluster, which is still prevailing in CIS countries, will not be working without ongoing subsidy and political interests, and those elements will not gotogether to make an integrated and functioning whole. It is proposed that the state accelerates the emergence of private sector processors and traders by privatizing state-owned agribusiness and encouraging new entrants.

5. Constructing a Close Relationship between Participants of a Cluster

For a successful agro-industry cluster, it is necessary to keep a close relationship between cluster participants such as food producers, related industries, universities, research institutes, financial service providers, administrators, input suppliers, and so on.

6. Constructing Infrastructures

Building a social infrastructure to clear the way for easy access to regions shall be regarded as important for the regional distribution of investments, which will help promote agro-industry development. In many transition economies, basic infrastructure requirements such as roads, electricity, and water are not sufficient to develop a relevant agro-industry cluster. Well-developed transportation service is highly desired for the five transition economies with a unique landlocked geography.

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ANNEXES

TABLE 1. Cereal Production (Unit: 1,000 tons)

	1995	2000	2001	2002	2003	2004
Kazakhstan	9,476	11,539	15,866	15,929	14,743	12,347
Kyrgyzstan	912	1,550	1,795	1,712	1,633	1,709
Mongolia	261	142	142	153	184	154
Tajikistan	249	545	478	688	868	883
Uzbekistan	3,223	3,914	4,056	5,535	6,030	5,071

Source: FAO Statistics.

TABLE 2. Wheat Production (Unit: 1,000 tons)

	1995	2000	2001	2002	2003	2004
Kazakhstan	6,490	9,074	12,707	12,700	11,519	9,942
Kyrgyzstan	625	1,039	1,191	1,163	1,014	998
Mongolia	257	139	139	149	180	150
Tajikistan	174	406	387	545	660	672
Uzbekistan	2,347	3,532	3,690	4,967	5,400	4,476

Source: FAO Statistics.

TABLE 3. Barley Production (Unit: 1,000 ton)

	1995	2000	2001	2002	2003	2004
Kazakhstan	2,208	1,664	2,244	2,209	2,200	1,534
Kyrgyzstan	159	150	140	149	198	233
Mongolia	4	2	2	2	2	3
Tajikistan	22	19	15	36	51	52
Uzbekistan	336	67	117	193	160	150

Source: FAO Statistics.

TABLE 4. Potato Production (Unit: 1,000 tons)

	1995	2000	2001	2002	2003	2004
Kazakhstan	1,720	1,693	2,185	2,269	2,308	2,243
Kyrgyzstan	432	1,046	1,168	1,244	1,308	1,363
Mongolia	52	59	58	66	65	67
Tajikistan	112	303	308	357	473	535
Uzbekistan	440	731	744	777	828	830

Source: FAO Statistics.

TABLE 5. Fruits Production (Unit: 1,000 tons)

	1995	2000	2001	2002	2003	2004
Kazakhstan	338	688	741	846	800	953
Kyrgyzstan	126	279	284	220	251	294
Mongolia	0	0	0	0	0	0
Tajikistan	428	555	563	541	342	392
Uzbekistan	225	246	299	255	245	278

Source: FAO Statistics.

TABLE 6. Vegetables Production (Unit: 1,000 tons)

	1995	2000	2001	2002	2003	2004
Kazakhstan	942	1,965	2,301	2,486	2,542	2,740
Kyrgyzstan	342	813	900	499	774	831
Mongolia	27	44	45	45	45	44
Tajikistan	608	450	494	585	579	782
Uzbekistan	3,200	3,097	3,244	3,415	3,883	3,301

Source: FAO Statistics.

TABLE 7. Cotton Production (Unit: 1,000 tons)

	1995	2000	2001	2002	2003	2004
Kazakhstan	223	287	418	361	403	467
Kyrgyzstan	75	88	98	106	106	122
Mongolia	0	0	0	0	0	0
Tajikistan	412	335	453	515	537	558
Uzbekistan	3,934	3,002	3,265	3,122	2,823	3,540

Source: FAO Statistics.

TABLE 8. Beef Production (Unit: 1,000 tons)

	1995	2000	2001	2002	2003	2004
Kazakhstan	548	306	288	297	320	340
Kyrgyzstan	85	101	100	105	94	96
Mongolia	69	113	67	84	80	80
Tajikistan	31	12	15	19	23	23
Uzbekistan	392	390	394	397	413	420

Source: FAO Statistics.

TABLE 9. Pork Production (Unit: 1,000 tons)

	1995	2000	2001	2002	2003	2004
Kazakhstan	113	133	181	187	185	195
Kyrgyzstan	28	24	26	23	22	25
Mongolia	1	1	1	1	1	1
Tajikistan	1	0	0	0	0	0
Uzbekistan	16	15	15	15	16	15

Source: FAO Statistics.

TABLE 10. Mutton Production (Unit: 1,000 tons)

	1995	2000	2001	2002	2003	2004
Kazakhstan	200	91	92	94	94	99
Kyrgyzstan	53	39	37	37	37	37
Mongolia	94	90	77	130	103	100
Tajikistan	19	16	13	14	19	18
Uzbekistan	83	79	81	83	86	81

Source: FAO Statistics.

TABLE 11. Chicken Production (Unit: 1,000 tons)

	1995	2000	2001	2002	2003	2004
Kazakhstan	53	33	34	36	36	37
Kyrgyzstan	3	5	5	6	6	5
Mongolia	0	0	0	0	0	0
Tajikistan	2	2	2	2	3	3
Uzbekistan	16	16	15	16	16	15

Source: FAO Statistics.

TABLE 12. Milk Production (Unit: 1,000 tons)

	1995	2000	2001	2002	2003	2004
Kazakhstan	4,576	3,686	3,878	4,061	4,265	4,460
Kyrgyzstan	864	1,079	1,110	1,140	1,159	1,150
Mongolia	296	376	290	176	270	260
Tajikistan	370	286	351	381	425	450
Uzbekistan	3,550	3,560	3,598	3,631	3,930	3,600

Source: FAO Statistics.

TABLE 13. Rural Population and Farming Population (Year 2003)

	Total Population	Rural Population (%)	Farming Population (%)
Kazakhstan	14.9	6.9 (43.4%)	2.8 (18.4%)
Kyrgyzstan	5.0	3.4 (65.2%)	1.2 (24.0%)
Mongolia	2.5	1.1 (46.6%)	0.5 (22.2%)
Tajikistan	6.6	4.7 (73.5%)	1.9 (31.8%)
Uzbekistan	25.7	16.5 (63.5%)	6.7 (25.7%)

TABLE 14. Rural Population and Agricultural Population (Year 2003)

	Total Population	Rural Population (%)	Agricultural Population (%)
Kazakhstan	14.9	6.9 (43.4%)	2.8 (18.4%)
Kyrgyzstan	5.0	3.4 (65.2%)	1.2 (24.0%)
Mongolia	2.5	1.1 (46.6%)	0.5 (22.2%)
Tajikistan	6.6	4.7 (73.5%)	1.9 (31.8%)
Uzbekistan	25.7	16.5 (63.5%)	6.7 (25.7%)

TABLE 15. Agricultural Land and Irrigation (Year 2002, Unit: 1,000 ha)

	Agricultural Land	Arable Land	Per Capita Arable Land (ha)	Irrigated Land	Irrigation Ratio (%)
Kazakhstan	206,769	21,535	7.4	2,350	10.9%
Kyrgyzstan	10,776	1,345	1.1	1,072	79.7%
Mongolia	130,500	1,198	2.0	84	7.0%
Tajikistan	4,255	930	0.5	719	77.3%
Uzbekistan	27,046	4,484	0.7	4,281	95.5%

TABLE 16. Import and Export Value of Agricultural Product (Unit: 1,000 US$)

	2001		2002		2003	
	Import	Export	Import	Export	Import	Export
Kazakhstan	504,897	532,580	510,411	504,897	532,580	510,411
Kyrgyzstan	61,801	85,431	77,879	61,801	85,431	77,879
Mongolia	113,844	119,761	125,143	113,844	119,761	125,143
Tajikistan	103,691	94,079	134,332	103,691	94,079	134,332
Uzbekistan	222,534	943,504	220,268	854,629	144,360	851,600