Agro-Industry Sector and Agro-Enterprise Cluster Development in Selected Transition Economies

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Korea Rural Economic Institute

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Introduction

- Investigating current situations of development of agro-industry sectors and agro-enterprise cluster in five selected transition economies:
  - Kazakhstan
  - Kyrgyz Republic
  - Mongolia
  - Tajikistan
  - Uzbekistan

- The report suggests policy guidelines for effective investment attraction and facilitation towards the sectors

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Contents

- Reviews current situations of agriculture and agro-industry sectors
- Describes investment/business environments of the agro-industry sectors with FDI, policy, law, regulatory issues and facilitation procedures
- Theoretical review of the concept of cluster followed by some issues of agro-industry cluster development in the countries
- Case reviews for the development of agro-industry clusters and implications for the countries
- Provides a few policy guidelines in terms of legal/regulatory, institutional, and operational requirements

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Review of Agriculture and Agro-Industry Sector

Macroeconomic Indicators (year 2003)

	Kazakhstan	Uzbekistan	Mongolia	Kyrgyz Rep.	Tajikistan
Population (million)	14.9	25.7	2.5	5.0	6.6
% of Rural Population	43.4	63.5	46.6	65.2	73.5
Employed (million)	7.0	9.6	0.9	1.8	1.9
Agriculture	2.4	3.0	0.4	0.9	1.3
Unemployment Rate (%)	8.8	29.4*	3.5	8.6	2.4
GDP (billion US$)	29.7	9.9	1.3	1.9	1.6
% of Agriculture in GDP	7.9	33.1	20.1	37.2	28.2

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Before Independence…

- CIS were a unified market and were integrated into the production and trading networks of the Soviet economic system
- The employment, income, and social indicator of CIS were broadly middle-income; poverty was virtually unknown
- However, after the independence, national borders and import controls converted CIS countries into small, segmented market economies with limited growth potential
- CIS countries suffers relatively high unemployment from limited economic growth

- Agriculture is the major industry provides employment opportunity and considerable GDP share in Uzbekistan, Kyrgyz Republic, and Tajikistan
- In the end of 2003, average per capita incomes of Uzbekistan, Kyrgyz Republic, and Tajikistan were less than US$ 400 which is below the average in South Asia ($460) and in sub-Saharan Africa ($450)
- Among the selected five countries, Kazakhstan is the biggest recipient of foreign direct investment (FDI) followed by Mongolia and Uzbekistan
- Due to weak domestic supply and industry development, Mongolia and Tajikistan rely on international trade to import goods and services

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Trade and Finance Indicators

	Kazakhstan	Uzbekistan	Mongolia	Kyrgyz Rep.	Tajikistan
Exports of Good and Services (% of GDP)	50.4	36.7	67.6	38.0	60.0
Imports of Good and Services (% of GDP)	44.2	29.6	80.3	42.2	79.3
FDI (US$)	2.1 bill.	70.0 mill.	131.5 mill.	45.5 mill.	31.7 mill.
Present Value of Debt (US$)	23.1 bill.	4.8 bill.	1.1 bill.	1.6 bill.	0.9bill.
Short-term Debt Outstanding (US$)	2.8 bill.	221.0 mill.	285.2 mill.	38.7 mill.	81.7 mill.
Aid per Capita (US$)	18.0	7.6	99.7	39.1	22.9

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Review of Agriculture and Agro-Industry: Early stage

- The Soviet model of socialist agriculture dominated the region from the early 1950s to the independence
  - Most land was cultivated collectively in large-scale farms with thousands of hectares and hundreds of workers
  - The Product markets and input supply channels were controlled by state organization within an administrative command framework
  - Virtually no budget constraint for production
- The command economy insulated the farms from market signal, imposed central targets as a substitute for consumer preferences, and allowed farms to function under soft budget constraints

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Review of Agriculture and Agro-Industry: Kazakhstan

- 40% of population resides in rural area and 20% of labor is employed in agricultural sector
- One of the world's largest grain producer and exporter
- The main grain is wheat while cattle-breeding and fruit are specialized as industrial crops
- Livestock production is a key economic activity
  - Accounts for about 40% of the production value in agriculture
  - Major source of employment, food, and income for rural area
- The production of meat and milk satisfies domestic demand while fruit and vegetable satisfies only local demand from limited transportation and storage

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Review of Agriculture and Agro-Industry: Kazakhstan

- Agricultural input industry has not been developed due to lack of investment
  - Availability of input is too low, which limits productivity
- Food processing industry consists of more than 30 specialized sectors, sub sectors and separate manufactures
  - About 5,151 plants and manufactures, 80% of them are SMEs
  - Employment in SMEs is 69.4 thousands (10.3% of total industry)
- The segments of agro-industry by commodity types (2004)
  - Flour and Cereal : 74.3%
  - Meat Processing: 14.1%
  - Dairy: 8.5%
  - Fruits and Vegetable Processing: 3.1%

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Review of Agriculture and Agro-Industry: Uzbekistan

- Major agricultural production: wheat, cow milk, cotton seed and lint, and tomatoes
- Major exporting agricultural commodities: cotton lint, grapes, tomatoes, and onions
- Major importing agricultural commodities: flour of wheat, sugar, and vegetable oils
- From the survey of IFC, the number of agro-industry enterprises are about 130 thousands in 2004, which is 56% of total SMEs in the country.
- 7th cotton production and 2nd cotton export in the world
  - About 60% of population is working in cotton industry sector
  - Cotton takes about 20% of total export amount in 2003

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Review of Agriculture and Agro-Industry: Mongolia

- Produce about a quarter of the world output of cashmere
  - Small-scale cashmere processing factories are scattered in country
  - 5 domestic and 80 foreign invested processing factories in 2003: 42 primary level, 37 knitting, and 6 complex level factories
  - Substantial amounts of raw and primary level processed cashmeres hinders additional creation of value within the boundary of Mongolia
- Food self-sufficiency is low w/o meat products
  - Crop farming is a relatively new activity
  - Wheat production in 2003 is 164,400 ton which is not sufficient
  - Imports wheat flour from Kazakhstan, vegetables and fruits from China

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Review of Agriculture and Agro-Industry: Kyrgyz Rep.

- Economy is predominately driven by agriculture and relatively small manufacturing industries
  - Agriculture contributes 37% of nations' GDP and employs about half of total registered employment
  - 40% and 54% of agricultural output is produced by private farmers and household farms, respectively
- Potatoes, wheat, cow milk, sugar beets, and maize are major products of the country
- Major exporting items: Cotton leaf and tobacco leaf
- major importing items: Wheat and sugar

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Review of Agriculture and Agro-Industry: Kyrgyz Rep.

- To stimulate the development of the cotton production, government has set aside about 3% of total arable land
- As a result, cotton production increased from 75,000 ton in 1995 to 122,000 ton in 2004
- Nearly 80% of cotton is grown by private farmers, which generates almost 5% of the total value of the country's exports
- High production costs from lack of fertilizers, pesticides, and herbicides weaken the cotton industry and export potential
- Tobacco is also an important cash crop but grown by state owned enterprises with limited local value-add activities

Review of Agriculture and Agro-Industry: Tajikistan

- Tajikistan can cultivate virtually almost all crop due to unique geographic and climate conditions
- Agriculture contributes nearly 30% of country's GDP, more than half of employment, and 30% of exports
  - Cotton production provides 30～40% of budget revenues in tax
- After the agrarian reform, 85.3% of meat, 86.5% of milk, 81.5% of eggs, 56.7% of vegetables, and 66.3% of fruit and berries were produced by the private sector in 2001
  - The major part of the most valuable irrigated land is still controlled by state and collective farms
- Cotton production covers more than 50% of the country's irrigated land

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Review of Agriculture and Agro-Industry: Tajikistan

- Before the independence, cotton yield per hectare was the highest in Central Asia region with an earning capacity of 60 to 70% of production costs
- However, cotton production dramatically declined after the independence. The reasons are:
  - No centralized supplies of material and technical resources
  - World lint cotton price dropped more than 50% in the past years
  - Cotton production costs are keep growing
  - Cotton marketing and production are subject to the state administrative system without competition among participants
  - Local government imposes extra charges on cotton sales to increase tax collection

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Investment/Business Environment of the Agro-Industry Sector: Kazakhstan

- No discrimination between domestic and foreign investors
  - The Law on New Foreign Investment in 2003
- Setting Investment priority
  - Industrial infrastructure, processing industries, agriculture, housing, the social sector and tourism infrastructure
  - The incentives for direct investment in the priority sectors are: property tax and income tax exemptions for a period up to five years and exemptions or reductions in customs duty rates on materials necessary for completion of the investment project

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Investment/Business Environment of the Agro-Industry Sector: Kazakhstan

- High burden of taxation
  - The maximum tax rates: 30% for cooperation tax, 15% for value added tax, 21% for social security tax
  - Burden of taxation is 32-35% of total revenue
- Low Foreign Direct Investment (FDI) on agricultural sector
  - Share of FDI: 52% for mining and oil, 20% for manufacturing, 0.1% for agriculture
  - Food industry not lucrative due to low market demand for the local food products, implying less attractive to foreign investors

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Investment/Business Environment of the Agro-Industry Sector: Uzbekistan

- Rapidly increasing numbers of SMEs from government support
  - 177.7 thousand in 2001 → 237.5 thousand in 2004
- The speed of privatization is low
  - Agro-industry sector is just in design of early implementation stage
- Low FDI share of total investment and agricultural sector
  - In 1993, the foreign investment comprises only 0.8% of total capital investment while it increased to more than 20% in 2003
  - Foreign investors have had more interests in manufacturing sectors including oil and gas industries
  - The volume of FDI for manufacturing is 58% while agriculture is 2.7%

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Investment/Business Environment of the Agro-Industry Sector: Uzbekistan

- Positive vs. negative investment environment
  - Joint ventures with foreign investors: exempt profit tax for seven years under new law
  - Agro-industry: exempt from asset tax
  - Internal turbulences in May 2005 affected negatively on the investment intention both of domestic and abroad
  - Lagged privatization is a major factor hindering the investment promotion

Investment/Business Environment of the Agro-Industry Sector: Mongolia

- Favorable environment for investment in social infrastructures: roads, electricity, and telecommunication
  - 100% tax exempt for 10 years for the profits and 50% exempt for the next 5 years
- Increased FDI and higher priority on construction and IT sector
  - Contribution: China 40%, Canada 14%, U.S. 10%, Korea 7%, Japan 5%, and Russia 3%
  - Low FDI for the agriculture and agricultural industry sector: 1%
  - With the exception of land ownership, all investment can be 100% foreign-owned and operated
- In 2005, free trade zone law and other related laws to build free economic complexes near areas bordering with Russia and China:
  - Altanbulag, Zamyn-Uud, and Tsagaan Nuur

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Investment/Business Environment of the Agro-Industry Sector: Kyrgyz Republic

- Most liberal and democratic transition policies in Central Asia to achieve economic stabilization and restructuring
  - Market friendly trade regime, no foreign exchange controls, and admitted to WTO in 1998
- Increasing FDI under new investment policy and low priority to agricultural sector
  - US$ 453 million (1993-2001), US$147 million (2003), and US$175.6 million (2004)
  - Low investment priority to agricultural product processing sectors

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Investment/Business Environment of the Agro-Industry Sector: Tajikistan

- Deterring domestic or foreign investment due to political and economic instability
  - Bureaucratic procedure is arbitrary and restrictive
  - Political and economic instability have discouraged FDI
  - Corruption and the lack of democratic reforms deter investors from investment
- Restriction on payments and transfers
  - Limits on wages for foreign workers and requirements on repatriation
  - Many capital transactions require the central bank's approval
- Low inflows of FDI and the high FDI concentration in textile industry
  - Net FDI stocks: US$ 31.6 million (2003)→US$ 22.4 million (2004)

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Case Reviews and Implications of Agro-Industry Cluster Development

- Definition of Agro-Industry Cluster
- Case Reviews of Cluster Development
- Current Status of Agro-Industry Cluster
- Implication (Possible Outcomes) of Cluster Development

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Definition of Agro-Industry Cluster

- Cluster-based economic development has received an increasing attention from researchers and numerous organizations (OECD, European Commission, US AID)
- The concept of cluster motivated mostly by Michael Porter
  - By Porter, “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”
- Clusters encompass an array of linked industries and other entities which are important to competition. Clusters include suppliers of specialized inputs, such as components, machinery, and services, and providers of specialized infrastructure

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Definition of Agro-Industry Cluster

- Clusters are often extending to customers, manufacturers of complementary products, companies in industries related by skills, technologies, or common inputs
- 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
- Clusters arise because they increase the productivity with which companies can compete.
- Cluster development initiatives are an important new direction in economic policy based on privatization, market opening, and reducing the costs of doing business

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Case Review of Cluster Development: The California Wine Cluster

- The cluster includes 680 commercial wineries and several thousands of independent wine grape growers
- In the cluster, extensive complement of industries exist including suppliers of grape stock, irrigation and harvesting equipments, barrels and labels, specialized public relations and advertising firms, and numerous wine publications aimed at consumers and trade audiences
- The cluster related with local institutions such as UC Davis, the Wine Institute, and special committee of the California senate and assembly
- The cluster also have weaker linkages to other California clusters in agriculture, restaurants, and wine-country tourism

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Case Review of Cluster Development: The Italian Leather and Textile Cluster

- Italian leather and textile cluster contains well known companies, such as Ferragamo and Gucci, and specialized suppliers, machinery, molds, design services
- It also contains of several chains of related industries including leather goods and footwear
- The cluster employ common marketing media and compete with similar images in similar customer segments. Leather cluster and textile cluster produces complementary products that linked with common channels.
- The extraordinary strength of Italian leather and textile cluster can be attributed to the multiple linkages and synergies of each cluster

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Current Status of Agro-Industry Cluster

- The food processing industry cluster consists of value chains: raw materials, R&D, processing, packaging, transportation & storage, and sales.
- In transition economies, technological level of the agricultural equipment is very low and R&D for food processing industry rarely exists
  - Absence of independent R&D institutions
  - Most of SMEs have no enough funds for R&D
- Most of transition economies, except Kazakhstan, are not capable to support the formation and operation of industry-driven cluster networks from insufficient funds. Also, the networking between agricultural producers and other institutions are weak.

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Current Status of Agro-Industry Cluster

- In Kazakhstan, it is possible to develop agro-industry cluster in food processing complex
  - Kazakhstan raised a fund for SMEs since 1998
  - Up to 2004, cumulated funds for SMEs is 130 million US$
  - About 90% of processed foods are imported
- Based on availability of raw materials, possible candidates for cluster development in Kazakhstan are:
  - N. Kazakhstan and Akmola for wheat processing cluster
  - Kustanay for milk and meat processing cluster
  - Almaty for fruits and vegetables processing cluster

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Current Status of Agro-Industry Cluster

- Uzbekistan, Mongolia, Kyrgyz Republic, and Tajikistan have no agricultural complex or initiation for agro-industry cluster. These countries need effort to combine intensive agricultural production sites with processing facilities
- Uzbekistan, Kyrgyz Republic, and Tajikistan may have potential to develop clusters of textile with cotton product
  - Lack of funds and institutional settings are barriers to the cluster development
  - Government intervention in cereal and cotton production and marketing is a usual phenomenon
- Other than cotton, Kyrgyz interested in vegetable and fruit processing industries and Mongolia has potential of cashmere textile industry

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Implication (Possible Outcomes) of Cluster Development

The expected possible outcomes of agro-industry cluster development on transition economies can be summarized as follows:

- Poverty reduction
  - Income of residents residing in the rural area will be increased with an introduction of cluster in the area
- Increasing job opportunities for women
  - Clusters will create various jobs for women in some work fields
- Improving balance of trade
  - Substitution effects from trades with foreign countries

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Poverty Reduction

- Rural are based agro-industries are in general labor intensive and can alleviate poverty in rural area by raising incomes and creating employment
  - In case of Kyrgyz Republic, rural poverty consistently declined over the 1998-2001 period, at an average rate of 8% per year. It was largely driven by increasing consumption which resulted from equitable growth in the agricultural sector
  - In Mongolia, the poverty level has not at all improved. The portion of people whose income is below the national poverty line is 36% in 1990 while 35% in 2000
  - Tajikistan also suffers poverty from civil war and delayed structural reform.

Increasing Job Opportunities for Women

- Since the transition to market economy, it is evaluated that women have become less competitive in the employment market, especially in the private sector
- Increasing private plots after the land reform, rural women have had more opportunities to work at food processing and sale of agricultural products from their family plots
  - In Uzbekistan, private plots are very important as a major occupation for women
  - In Mongolia, increase of milk production and the production and processing of raw cashmere generate additional works to female because traditionally these are considered as women's job

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Improving Balance of Trade

- The development of agro-Industry cluster can increase supply for domestic and international food production demand
  - The growth of agro-industry and increased food production can substitute domestic demand for food items
  - With a current growing food consumption trends, the successful cluster development will provides a chance to advance to international food market with competitiveness
  - Kazakhstan imports 90% of its food requirement from trade but development of agro-industry cluster can reduce food imports
  - Mongolia, Uzbekistan, Kyrgyz Republic, and Tajikistan can increase export of cashmere, cotton products, and processed vegetables and fruits with proper industry clusters

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Conclusions and Recommendations

- The basic requirements of agro-industry cluster development are as follows:
  - Establishment of legal and regulatory frameworks
  - Private sector development
  - Constructing a close relationship between participants of cluster
  - Development of technologies in every value chains such as production, processing, storage, marketing, and so on
  - Extensive financial support and investment promotion for the related industry development by constructing banking system
  - Constructing necessary infrastructure
- These requirements, as policy guidelines, are reviewed as legal or regulatory requirements, institutional requirements, and operational requirements

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Conclusions and Recommendations

Initiation of Legal Frameworks

- Construct legal or regulatory frame works for the development of agro-industries in these transition economies
- Principles and measures for various investments, taxations, training, R&D, financing, and other related issues
- Establishing proper property rights, enhancing contract binding features
- Securing benefit and economic incentives from market competition are desired legal framework

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Conclusions and Recommendations

- Extensive Financing and Investment Promotion
  - Increase budget to agro-industry corresponding to its contribution to the national economy
  - Increase agricultural fund with low interest rate
  - Establish the baking system which facilitate provide loans related farming and processing activities in rural areas
  - Expand R&D investment to promote the development of adoption of technologies require by agro-industry
  - Provide a climate conducive to economic development and regulations and procedures which are favorable to and convenient for foreign investors
  - Alleviate the burden of taxations such as VAT, property tax, etc. for SMEs

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Conclusions and Recommendations

- Development of Technologies
  - Support for national universities and newly established R&D companies to improve the technologies in the value added chains
- Development of Private Sector
  - Kazakhstan and Kyrgyz Republic have made transition from a central planned to a market economy, while others have adopted a hybrid type of market economy with room for government intervention
  - Develop private sector to launch a cluster process
  - Accelerate the emergence of private sector processors and traders by privatizing state owned agribusiness and encouraging new entrants
    - ✓ in Uzbekistan, cotton ginneries more efficiently operated through privatization

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Conclusions and Recommendations

- Constructing a Close Relationship between Participants of Cluster
  - Keep a close relationship between participants of cluster such as food producers, related industries, universities, research institutes, finance sectors, administrates, input supplier, and so on.
  - Work for the improvement of quality education for future specialists
- Constructing Basic Infrastructures
  - Construct the social infrastructure to clear the way for easy access to regions regarded as important for regional distribution of investment, which will help promote agro-industry development
    - ✓ Basic infrastructure requirements: roads, electricity, and water are not sufficient to develop a relevant agro-industry cluster

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