

## **7 Environment Associated with Improvement of Farmers' Organizations and Export Expansion**



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### 7-1 Basic information on farmer organization

#### (1) Background on farmer organization

Before the breakup, kolkhoz and sovkhoz were responsible for regional agriculture in the Soviet Union. Kolkhoz formed cooperatives which owned production methods and agricultural equipment. Agricultural management, operation process and distribution were determined by individual members. Kolkhoz secured a certain part of harvest for the management of the organization, and then allocated to each member and the rest of local consumption was supplied to national distribution network. On the other hand, sovkhoz was a state-owned enterprise that managed agricultural production by state-owned production methods, implemented production in obedience to the direct national plan and submitted the yield decided by the plan. The land owner was the nation (the Soviet Union) in both kolkhoz and Sovkhoz.

By the breakup of the Soviet in 1991, the system of production and distribution which had been managed by the nation disappeared. Following the lead of IMF and World Bank, Kyrgyz positively pushed privatization of lands right after the breakup, which resulted in the ownership of segmented land by small-scale farmers. However, self-employed farmers who lacked the experience of agricultural management were not able to draw up an agricultural management plan or sell products independently. Also, rotation cropping, share of materials and machines and efficient operation became impossible. As a countermeasure to this, cooperative work by small-scale farmers was necessary. In addition, as the Kyrgyz products used to be transported to other republics through the distribution network managed by the Soviet exclusively, Kyrgyz lost the distribution system and markets by the breakup of the Soviet Union.

#### (2) Cabinet order associated with institutionalization of farmers' organization

On the subject of institutionalization of farmers' organization, the Ministry of Agriculture is in the process of reviewing the development program for institutionalization of farmers' organization(2013 ~2017). This program is divided in two: a short-term plan implemented between 2013 and 2014 and a long-term plan between 2015 and 2017.

**Table 7-1: Outline of development program for institutionalization of farmers' organization**

Period	Contents
2013~14 (short-term)	<ul style="list-style-type: none"> <li>• Preparation of system and documents for recognition of purpose of farmer organization</li> <li>• Change and addition of legal regulations of activities of farmers' organization</li> <li>• Grant of reduction and exemption to farmers' organization</li> <li>• Experimental project for farmers' organization in cooperation with overseas donors</li> </ul>
2015~17 (long-term)	<ul style="list-style-type: none"> <li>• Infrastructure development for activities of farmers' organization in the fields of agricultural product processing, service, credit insurance, distribution and marketing</li> </ul>

In this program, development of an export-oriented model cluster project by farmers' organizations in three fields (vegetable oil, milk and processed vegetable products) is planned. For this what is needed are strengthening of the existing processing business and building new human resources for which introduction of PPP methods is required. The support to introduce seeds, fertilizer and various machinery is also mentioned in the program.

It is pointed out that farmers' organization activities responsible for service sector are especially needed and they should take a role of processing, distribution function for import and export and machine supply maintenance function.

Also, the program divides the farmers' organizations into three stages and defines each function.

However, there are problems such as unclarity of locus of responsibility in each project, uncertainty of capital source and human resource building necessary for sustainable activities as far as reviewing the program draft. The details will be mentioned in Chapter 6 "Current situation and problems regarding strengthening of farmers' organizations."

**Table 7-2: Farmers' organizations' roles in each stage**

Classification	Role
Central farmers' organization (nation-wide)	Regulation making, trade activities
Regional farmers' organizations (regional)	Harvest, supply, production, service, trade
Basic farmers' organizations (individual)	General farmers' organization activities

**Table 7-3: Activity plan for “2013~2017 Kyrgyz cooperative activity promotion program”**

No.	Content of activity	Period and fund		Expected result
		Period	Fund source	
1	Legislation to establish amendment and complement of “cooperative act” for unification of mixed terms : “agricultural producers” and “agricultural product service cooperative”	Period	The fourth quarter in 2013	By eliminating negative effect for promoting agricultural cooperatives, proposal for improvement of the existing law is developed and the state-sponsored to the cooperatives is ensured.
		Fund source	Unnecessary	
		Operation style	Legislative bill	
		Agency in charge	ME KR MF KR MSKHM KR SKK (by agreement)	
2	Legislation to establish amendment and complement of the Kyrgyz tax law for unification of mixed terms : “agricultural producers” and “agricultural product service cooperative”	Period	The first quarter in 2015	By eliminating negative effect for promoting agricultural cooperatives, proposal for improvement of the existing law is developed and the state-sponsored to the cooperatives is ensured.
		Fund source	unnecessary	
		Operation style	Legislative bill	
		Agency in charge	ME KR MF KR MSKHM KR SKK (by agreement)	
3	Legislation of draft law concerning amendment and complement of “The Kyrgyz Republic Act on premium rate of national social insurance”	Period	The second quarter in 2014	On deduction to social fund, farmers’ cooperatives will be given preferential treatment, and favorable environment for product service cooperatives to be organized.
		Fund source	Unnecessary	
		Operation style	Legislative bill	
		Agency in charge	ME KR MF KR MSKHM KR Kyrgyz Republic Social Fund SKK (by agreement)	
4	Budget and a long-term prime loan for specific purpose that cover up to 50% of the cost needed for building and repairing processing facilities and warehouse or purchasing facilities and vehicles will be provided to newly-founded cooperatives.	Period	The fourth quarter in 2014	The mechanism of land use is improved and the development of cooperative activities is promoted by restriction on borrowing lands owned by the Ministry of Transportation and Communications.
		Fund source	Unnecessary	
		Operation style	Draft decision by the Kyrgyz government	
		Agency in charge	MCX KP, GRS, GASRR	
5	For attracting as many producers as possible by promoting joint process, Budget and (or) a prime loan for specific purpose for no more than 10 years will be allocated to newly-founded cooperatives for paying lease fees on purchasing agricultural machinery and processing facilities.	Period	All year	Cooperatives have more opportunity to purchase agricultural machineries and processing facilities, process agricultural products and sell end products, and obtain more profit.
		Fund source	1.5 billion som (within the limit of loan budget to agricultural producers)	
		Operation style	Draft decision by the Kyrgyz government	
		Agency in charge	MSKHM KR, MF KR, ME KR, OAO «Aiyl Bank» ( by agreement) SKK (by agreement)	
6	Grants that compensate a part of expense necessary for the payment of the interest rates on a loan an agricultural cooperative obtained from a lending arm will be provided from the state budget.	Period	The first quarter in 2014	Agricultural cooperatives have easier access to funds.
		Fund source	Unnecessary	
		Operation style	Draft decision by the Kyrgyz government	
		Agency in charge	MCX KP, MF KR, ME KR, OAO «Aiyl Bank» ( by agreement) , SKK (by agreement)	
7	On state-owned organizations buying agricultural products for domestic consumption, issues relating to setting the allocation to each cooperative will be studied.	Period	The fourth quarter in 2014	State support on the sales of agricultural products is guaranteed to cooperatives. The amount of agricultural production will increase.
		Fund source	within the limit of budget	
		Operation style	practice	
		Agency in charge	MSKHM KR, MF KR, ME KR, GMR KR	

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No.	Content of activity	Period and fund		Expected result
8	Creation of “cooperative marketing system” through which cooperatives are able to buy and sell products	Period	All year	By implementing a cluster (value chain)-style pilot project, a trade adjusting system of agricultural cooperatives is structured.
		Fund source	1 million som (international donor organization, SKK)	
		Operation style	practice	
		Agency in charge	MSKHM KR, SKK (by agreement) SKS (by agreement)	
9	Strengthening potentiality of cooperatives through interchange in meetings, study tours, training and seminars. Conducting routine-run seminars about the merit of cooperatives	Period	All year	Opportunity to obtain knowledge, skills and information on cooperative activities, various cooperative styles, production process management and organization of cooperatives
		Fund source	1.5 million som ( international donor organization, SKK)	
		Operation style	practice	
		Agency in charge	MSKHM KR, GASRR, OGA, RGA, SKK (by agreement) , SKS (by agreement)	
10	Preparing educational materials for technical training and building advanced system for agricultural cooperatives, and issuing and distributing materials, information brochure, tutorials on agricultural activities	Period	All year	Making Kyrgyz Agriculture University, Agriculture School and Agriculture Vocational School as a base, training programs for human resource development are formulated. Occupational techniques of the members of agricultural cooperatives are developed.
		Fund source	0.5 million som ( international donor organization, SKK)	
		Operation style	practice	
		Agency in charge	MSKHM KR, MON, SKK (by agreement) ,SKS (by agreement)	
11	Cooperating with agricultural cooperatives, governmental agencies and local government, local administrative agencies formulate a local program for development of agricultural cooperatives.	period	All year	The Ministry of Agriculture and Land Reclamation press forward the promotion of cooperatives’ activities in cooperation with the governmental agencies and local administrations. Coordination of agricultural cooperatives, the governmental agencies and local administrations is strengthened in implementing the complex social development program of agriculture and industry.
		Fund source	Unnecessary	
		Operation style	practice	
		Agency in charge	MSKHM KR, OGA, RGA, GASRR	
12	By inviting international donors, support for promotion of agricultural cooperative activities and organization of pilot cooperatives. Using them as a base, founding of an innovation center with space for exhibition is conducted.	Period	All year	Funds from international donor organizations are mainly used for consulting, training and information projects. Information about merit of cooperatives is widespread among agricultural producers.
		Fund source	International donor organization	
		Operation style	Practice	
		Agency in charge	MSKHM KR, MF KR, ME KR, OGA, RGA, GASRR, SKK (by agreement) ,	

GASRR	State Nation-building and Regional Development Service of Kyrgyz
GMR KR	General Material Reserve of Kyrgyz
GRS	State Registration Service of Kyrgyz
MSKHM KR	The Ministry of Agriculture and Land Reclamation of Kyrgyz
MON KR	The Ministry of Education and Science of Kyrgyz
MF KR	The Ministry of Finance of Kyrgyz
ME KR	The Ministry of Economy of Kyrgyz
MYU KR	The Ministry of Justice of Kyrgyz
OGA	Local government of states
RUAR	Regional Agriculture Development Bureau
OAQ «Айыл Банк»	Aiyl Bank Co., Ltd.
SKS	Agriculture Consulting Bureau
SKK	Kyrgyz cooperative unit

### (3) Outline of fund raising in agricultural communities

#### ① Outline

In the cooperative activity promotion program mentioned above, fund raising is indicated as one of the most important issues both for individual farmers and farmers' organizations. The government founded Aily Bank was with the support of World Bank to support farmers and farmers' organizations.

Aiyl Bank was founded to support farmers' organizations by the Ministry of Agriculture, its system was turned to the same system as general banks in 2006. It is 100% government-sponsored, and 70% of the total loan amount is conditioned to cover the agricultural field. In some cases, they receive a fund supply with 6.7% interest from the state, and then lend it to farmers with 6% interest. However, as they sometimes lend at 30% interest in other general commercial fields, they become profitable.

Aiyl Bank provides collateral-free loans up to 50,000 som, but collateral is required for a larger loan. Agricultural land is accepted as collateral legally. However, the bank needs to find a land purchaser within one year as there is a rule that does not allow the land to be left uncultivated for more than one year. According to a person in charge, this is considered highly difficult.

#### ② Other countries' movement

Aiyl Bank plays a role of implementing agency of national programs of the government, and supports an operation of programs by World Bank, ADB, EBRD and New Zealand. The current interest rate for agriculture is 18%, and for others is between 25% and 30% which is same as that of city banks.

The state also provides five commercial banks with the budget which can be lent to the fields of agriculture and food processing with 10% interest, and Aiyl Bank is included in these five banks. The total amount is 4.5 billion som in 2013 within which Aiyl Bank has 1.7 billion som. This means that out of original 18% interest, the government compensates 8%. They have lent with 7% interest in some cases in the past. Though the interest to farmers was raised to 10% last fiscal year, the number of target farmers was increased. This is because it became easier to access to. Aiyl Bank There used to be the sense of inequality among farmers as the number of farmers who were allowed an access to 7% interest loans, however, this problem has been moving toward solution.

A lease project for agricultural machines has been conducted with the budget of the China Development Bank from 2012. The total amount of the budget is \$3 million and 1.5 million yuan. The dollar budget has been already finished and at the moment, it is negotiated whether it is possible to exchange the yuan budget to the dollar. The sum is supposed to be about 60,000 som and most are mainly used for small tractors. The use for high-prices machines such as combines is limited.

As for the budget for processors, The World Bank offers a 10% interest loan program for equipment and facilities.

In addition, Credit Europe Bank in Russia has the budget Russia-made machine lease.

Also there is a lease support program. The interest rates in comparison with those of China are as below.

**Table 7-4: Interest rates comparison between the state and China**

	Kyrgyz government	China Development Bank
deration	7 years	5 years
Capital of borrower between 10~20%	9%	17%
20~30%	8%	16%
More than 30%	6%	15%

Although the lease system of the state seems advantageous from the Table above, many apply for the Chinese lease as it enables the farmers to purchase cheap Chinese products. Application procedure takes more time in the case of the state. According to a farmer, the initial cost to purchase machines from China by this lease, however, as they often break and the repair and part procurement is very costly, the production cost ultimately ends up being high.

There also is the short-term (1-3 years) 10%-18% interest loan budget supported by World Bank for operating fund for processors. Conditions and amount of loan differ depending on collaterals and purposes.

### ③ Loans for farmers' cooperatives

Although Aiyl Bank is studying loans for farmers' cooperative, it has not progressed due to the lack of locus of responsibility in the case of farmers' organizations.

However, they made a 60 million-som loan as a soyuz cooperative fund as a part of the national program.

They were reluctant, as they assumed there were not many cooperatives actually active. There were few cooperatives that applied for the loan at the beginning as expected, however, 50 cooperatives used the loan once they expanded the coverage to dormant cooperatives. The main usage was purchase of machines.

Also, World Bank made a loan to cooperatives as a short-term concentrated project last year. 30% of the covered machinery was given as a grant and the other 70% was covered by an 18-20% loan. Covered by this loan was the purchase of large machinery such as combines and warehouses. However, its superiority is not recognized by business operators. Although Aiyl Bank has been suggesting to the main cooperatives that they should prepare warehouses and consolidating stations necessary for Kyrgyz agriculture, promote people to utilize them and make a system to collect usage fees, it is said to be difficult to gain an understanding of the cooperatives under current circumstances.

## (4) Comparison with neighboring competitive areas

### ① Agricultural production

As reference for studying the promoting direction of Kyrgyz agricultural products, we surveyed the production situation of the agricultural producers around Almaty and Astana as a situation in the competitive areas.

The management scale in both areas is 2,000~2,500ha, which is same as that of large-scale production cooperatives in Kyrgyz, however, the number of employees is about 150 and the area per person is larger compared to that of Kyrgyz cooperatives of the same scale.

Water facilities are managed individually in each farm. The producers around Almaty preserve the efficient water base by appropriately managing the arterial water channels that were inherited from the Soviet era. Around Astana, the producers laid pipelines with their own funds and they have large-scale irrigation facilities by center pivot.

The farm land of the wetland rice-centric farmers around Almaty is 2.0ha, on the other hand, that of some of the wheat-centric farmers around Astana is more than 200ha and efficient operation of large-scale agricultural machines is possible.

As for fertilizer application management, fertilizer companies such as Syngenta make soil analysis and apply adequate fertilizer to each farm based on the analysis. Also, crop rotation is decided by selected agricultural specialists based on the scientific knowledge.

Agricultural machines have been renewed from the Soviet era and the present machines are purchased by self-management.

Under such circumstances, they are much advanced in the techniques to produce specific agricultural products stably and at a low price and it is thought to take a long time for Kyrgyz to catch up with them.

Therefore, for Kyrgyz products to be selected in potential markets of Almaty and Astana, selecting products with the characteristics of Kyrgyz and growing organic products processed products are considered as a promoting direction of Kyrgyz agriculture.



Picture 7-1: combined machine of large grain drill, cultivator and roller



Picture 7-2: combined machine of rotary and suppresser



Picture7-3: large-scale farm(wheat)



Picture 7-4: large-scale farm(wetland rice)



Picture 7-5: booster pump for pipeline



Picture 7-6: drain for exclusive use of the farm

②Tourism

Studying the possibility of opening a farmers' market near Lake Issyk-Kul as a way of promoting Kyrgyz agriculture, we here note the outline of Kok Tobe National Park in Almaty as an example.

The facilities in the park which were opened about 20 years ago include a SPA, a hotel, a restaurant and sports facilities. The park was maintained cleanly and responses of the staff were of equivalent level of Japan.

The parking area was full of luxury cars. The visitors were varied, however, white people were prominent.

Compared with Kok Tobe, aging of the facilities and poor management are noticeable in Issyl-Kul. Also there are problems such as trash littering in the town and bad nature conservation conditions (declining of water quality). Hospitality education will be necessary in the whole town and area to make Kyrgyz agriculture a breakthrough in tourism.



Picture 7-7: Luxury cars in the parking



Picture 7-8: facility condition

## 7-2 Current situation concerning strengthening of farmers' organizations

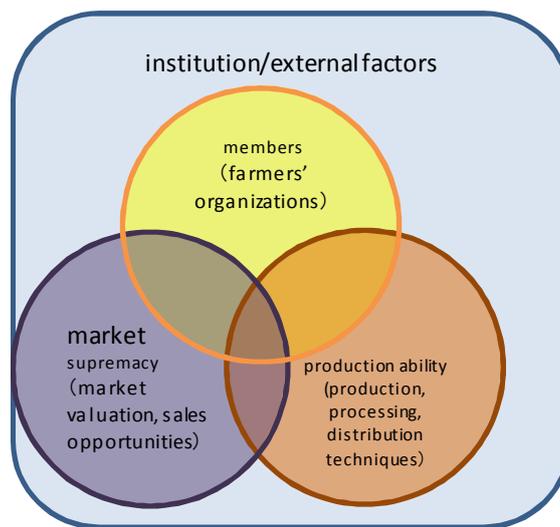
### (1) Method of grasping current situation in this research

Due to the break of the supply chain and value chain associated with the downfall of the Soviet Union, Kyrgyz lacks the elements necessary to establish agriculture as a means of living.

Many agricultural cooperatives have been founded by implementing projects to organize farmers by various donors. However, there is no basis to establish agriculture as industry, the organizations were collapsed when the donors' projects finished. The stagnation of the organization of farmers still continues.

Therefore, in order to realize the strengthening of farmers' organization, it is essential to grasp the present situation based on the current condition of industrial base, production techniques and processing and distribution techniques, and evaluation and needs from the target markets, not only the actual situation of farmers' organizations.

In this research, a simplified survey was conducted on industrial basis of interviewees and the evaluation at Kazakh markets which are potential export destinations along with the hearings about the current situation of farmers' organizations.



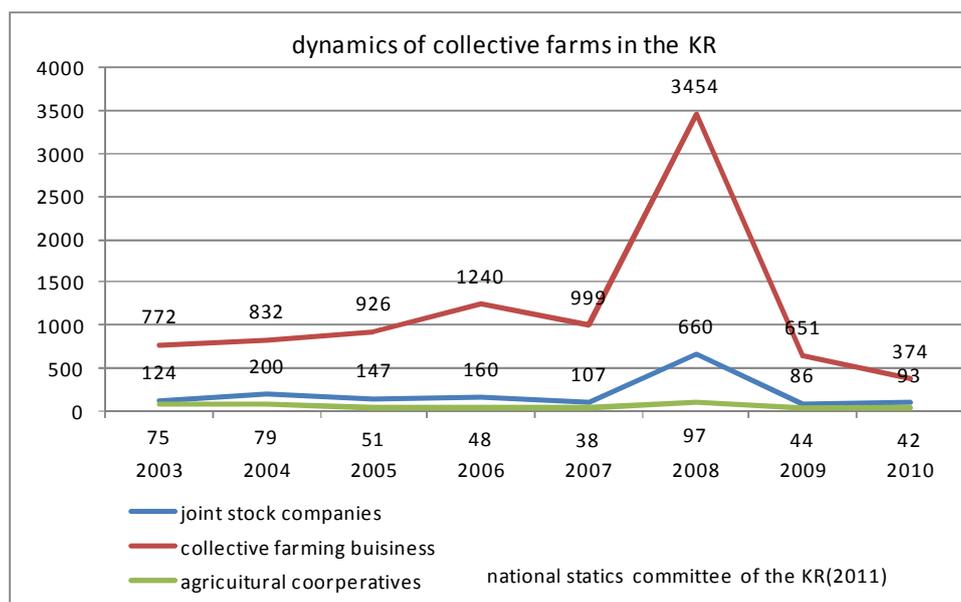
**Figure 7-1: Necessary factors for strengthening of organizing farmers**

(2) Current situation and problems of farmers' organizations

① national-wide movement of farmers' organizations

Statistically, the number of farmers' organizations and agricultural cooperatives are as follows: total 1,428 (IDAI 2011), 374 collective farming business, 93 joint stock companies and 42 agricultural cooperatives (National Statistics Committee of the KR 2011). The total number is unclear as the method of counting is not uniformed. However, the number of active organizations is 426 according to the Ministry of Agriculture.

Also, the number of registered organizations to Agricultural Cooperatives which correspond to Japan Agricultural Cooperatives is 200 and active organizations are 64. Collaboration between the organizations is lacking.



**Figure 7-2: Sample of statistic change of the number of farmers' organizations**

In accordance with the downfall of the Soviet Union, the land and machines owned by kolkhoz<sup>34</sup> and sovkhoz<sup>35</sup> were distributed not only to the members engaged in the production but also to community people including doctors, teachers and drivers. As a result, self-sufficient small farms without agricultural knowledge and techniques appeared and agricultural production ability was virtually lost.

On the other hand, a part of kolkhoz was rebuilt into production cooperatives, some of which still remain operating.

In this course, the support for reorganization by donors including GIZ was started. The number of organizations rose drastically from 2004 to 2010 which was the peak period of the support for organization of farmers by the donors. But it was grasped from the statistics and interviews that the number decreased abruptly and reached the present number. The reason for this is that the agricultural cooperatives organized by the support were founded with the purpose of obtaining low-interest loans and machine leases, so once they received them, the organizations were dissolved or became inactive.

The increase of tax charge caused by organizing was also pointed out as an obstructive factor by

<sup>34</sup> Sovkhoz...National farm in the Soviet era. Management was implemented based on the government plans.

<sup>35</sup> Kolkhoz...Collective farms in the Soviet era. Profit is distributed to the members after certain deduction.

an administrative officer and agricultural organization staff.

The Table below is Tax Code. It appears that service cooperatives enjoy preferential treatment, but it is not properly functioning due to legal discord in fact.

**Table 7-5: Taxation of agricultural producers in the KR**

Types of taxes	Avantageous taxation (with application of 75% principle)		Normal taxation	For comparison	
	Agricultural producer	Agricultural commodity and service cooperative		Farming(peasant), households(without forming a legal entity)	Farming(peasant), households(forming a legal entity)
Land tax	From 300-400KGS per 1hectare in a year	From 300-400KGS per 1hectare in a year	From 300-400 KGS per 1hectare in a year	From 300-400 KGS per 1hectare in a year	From 300-400 KGS per 1hectare in a year
Income tax	10%	10%	10%	10%	10%
Profits tax	Do not pay	Do not pay	10%	Do not pay	Not paid
VAT	Do not pay	Not paid	Not paid	Not paid	Not paid
Sales tax	Not paid	Not paid	From 1,5 to 3,5%	Not paid	Not paid
Property tax	Not paid	Not paid	Not paid	Not paid	Not paid
Social contributions for state social insurance	12% if a legal entity (only if a co-op specializes in agricultural production (livestock and crop) 9,25 to 10% if an individual	12% if a legal entity (only if a co-op specializes in agricultural production (livestock and crop)	12% if a legal entity (only if a coop specializes in agricultural production (livestock and crop)	From 300-400 KGS per 1 hectare in a year	27,25%

Source: The table is based on data of the Tax Code of the Kyrgyz Republic

## ② Transition of farmers' organizations from the Soviet era to the present

The Kyrgyz people used to lead a nomadic life by the traditional family units till the early 20th century. Settle and agricultural life was introduced by federalized to the Soviet Union in the 1920s.

In accordance with the participation in the Soviet Union, the Kyrgyz people joined collective farms (sovkhoz, kolkhoz) and started a settled and agricultural life with playing a certain role in their collective farms. At this stage, productive and social communities outside family unit were born in Kyrgyz.

Collective farm system was accepted with high expectation by the Kyrgyz people at the beginning, and the framework of the present agricultural production basis and techniques was formed by the building of agricultural land and water facilities, introduction of agricultural machines and materials (seeds, forage, fertilizer etc.) matching large-scale management, and injection of abundant fund and techniques from Russia.

However, in conjunction with demotivation and reduction in productivity caused by the contradiction included in communism and the economic deterioration in the whole former Soviet Union, the new communities with collective farms as the center of them gradually lost their dynamism. Then, fragmentation of value chains and supply chains related to agricultural production progressed, and the collective farms in Kyrgyz were forced to make a decision on the future management system when the Soviet Union collapsed in 1991.

All the members including non-agricultural producers discussed the disorganization of collective farms by each farm. Since the distrust of communistic system had reached a climax, many collective farms allocated all the property possible to divide to members in proportion to the number of family members and years of employment and disband the farms.

These small farms had difficulty in maintenance and operation of agricultural machines and accessing to markets, thus, they were trapped in an adverse situation and many small-scale farms started to utilize their farm land for self-supply. This is how the basic structure of the present Kyrgyz agriculture was formed.

On the other hand, a part of collective farms reformed the organization to production cooperatives after the breakup of the Soviet, and continued organized management with indistributable warehouses and large machinery, fund and land and livestock allocated to members.

As participation and withdrawal was free in these production cooperatives, many members seceded. Also technicians from the former Soviet left and supply chains fell apart, which resulted in many production cooperatives stopping operation or disbanding.

Production cooperatives now active are limited, though, some production cooperatives offer service cooperative-like services such as plowing and harvesting operation by large machines and seed lending to small-scale farms. Such production cooperatives are valued as asset left from the Soviet era for strengthening of farmer organization.

## ③ Support to reorganization by donors and causes of failure

For many small-scale farms emerged in accordance with disorganization of collective farms, Cooperative Union was founded in 2002 principally supported by GIZ. Between 2002 and 2003, a project relating to farmer organization was implemented and a large number of agricultural cooperatives were born. However, many of them were fictitious organizations aiming for fund raising and support and are not presently active.

GIZ which played a central role in reorganization of farmers stopped the support in the agricultural field when the project finished in 2007, and now there is no major organization support.

The causes for this are presumed as follows: "Eradication of bad image of collective farms such as exploitation and command hierarchies was not succeeded." "Members were not able to be inspired to make a far-sighted organization because of distrust of the government and poverty." "As organizing was prioritized, support in production techniques and distribution was imbalanced."

Also, as 20 years have passed since the breakup of the Soviet and they experienced two revolutions, the fact that the small-scale farmers started recognizing the necessity of improvement of

management structure independently not relying on the government and of collaboration was verified.

As for the reorganization of farmers from here on, provision of correct information on farmers' organizations and balance between strengthening of farmer organization and support for techniques and distribution should be kept in mind.

Considering the present economic condition of Kyrgyz, the system of sorting water from the mountain areas to water resources and utilizing it for irrigation should be examined depending on the state of existence of groundwater. But, salt accumulation should be taken account when utilizing groundwater and introduction of technology such as micro irrigation is essential.

#### ④ Activity and definition of farmers' organizations

In Japan, collaboration at various level and style is carried out such as the government, agricultural cooperatives and incorporation of enterprise by plural farms.

What called "agricultural cooperatives" is within the thick frame in the Table below. Other farmers' organizations such as agricultural production corporations and processing cooperatives are not called "agricultural cooperatives."

This is to distinguish the contents of the governmental support by sorting agricultural cooperatives that are non-profitable and contribute to members' activities from other profitable farmers' organizations.

**Table 7-6: Outline of farmers' organizations in Japan**

	Large category	Small category	Content of organization
No production capacity (only service)	Cooperative (Agricultural cooperative)	purchasing association	Collaborative purchase of seed and plant, fertilizer and materials
		Sales association	Selection, shipping and sales
		Technology promoting association	Instruction of production techniques and management
		Credit association	Funding and collecting loans
		Mutual-aid association	Insurance for lean harvest and price drop
With production capacity	production	Production association	Production partly done collaboratively but managed independently
		Production corporation	Corporation producing collaboratively
	processing	Processing association	Processing partly done collaboratively but managed independently
		Processing corporation	Corporation processing collaboratively

correspondent to agricultural cooperatives in Japan

In Kyrgyz, various organizations are called "agricultural cooperatives." Their activities are also categorized in diverse ways such as production/processing/service (IDAI 2011), agricultural/financial (the Law<about cooperatives 2002>, processing/service and production cooperatives (used by Ministry of Agriculture), the definition is ambiguous.

Most of the activities by agricultural cooperatives are the management of organization for production. There are only a few farmers' organizations which focus on finance and services such as collaborative purchase and shipping.

In addition, Japanese-style comprehensive agricultural cooperatives (sales, collaborative purchase, technique instruction, financing, mutual aid) do not exist.

In this research, we categorized farmers' organizations into three as follows based on the interviews.

**【Categorization of farmers' organizations】**

Production cooperative

Farmers' organizations, with the former kolkhoz as a mother-body, that are engaged only in agricultural production

Production + service cooperative

Farmers' organizations that are engaged in agricultural production and offer seed supply and machine operation service to small-scale farms

Service cooperatives

Upstream farmers' organizations that offer services related to storage, processing and collaborative purchase



**Figure7-3: Categorization of Farmers' Organizations**

⑤ Current situation of farmers' organizations and farmers

«Production cooperatives»

Many of production cooperatives were rebuilt from the former kolkhoz, however, there are farmers that separate for independence from the organizations even after reorganization and their management is not thought to be going smoothly.

In such a course, BULL'S KG in Tokmok area which was founded a year ago by the founder who was educated about advanced agricultural techniques such as intensive grazing and TMR technique at Obihiro University of Agriculture and Veterinary Medicine in Japan. They are working on advanced management that guarantees the clean quality through tackling feedstuff production, livestock rearing, dairy and meat product processing and distribution and sales consistently.

This production cooperative has realized the high-level management plan based on scientific selection of breed variety, cultivation management of land, rearing management of livestock and clear philosophy. Even though currently their external service is limited to a partial acceptance of slaughter, they also have a spillover effect to the area regarding employment generation. In addition they have the potential capacity of developing their service to send operators and to supply stud to small-scale local farms.

Transformation to the modernized management like this example is expected to the former kolkhoz organizations.



Picture 7-9: farm



Picture 7-10: TMR foraging machine



Picture 7-11: Adult cattle is purchased from Altai region, Russia



Picture 7-12: farm under construction using the former kolkhoz livestock barn

«Production and service cooperatives»

Many of the mother bodies of production and service cooperatives are also former kolkhoz. The number of members of the organizations interviewed varies from 10-400, the management area is also broad-ranging from 300 to 1,500ha. The management is the complex of livestock raising and crop farming.

The decline of the number of members is observed in all cooperatives because of separation and independence of the members. However, the motivation to contribute to local communities is high, and cooperatives of kolkhoz-originated successfully still remain.

The content of services to the areas surveyed is corresponding to the challenges small-scale farms face as shown below. It is expected to conduct improvement of the content of service for promoting the local agriculture in years to come.

**【Content of services at present】**

- Production of seeds for potatoes, grain and beans and their supply to local farmers at a low price
- Lending of seeds and collection in the form of harvest (seed fund)
- Milling and receiving the price in kind
- Entrusted operation by tractor or combine at a low price



Picture 7-13: wheat warehouse of agricultural cooperatives



Picture7-14: entrusted plowing operation

«Service cooperatives»

Many of service cooperatives were organized by small-scale farmers inspired by the support from the donors including GIZ in 2006-2006, and they are comparatively new.

They are small-scale with 7-54members. The members own management land of 1-10ha outside agricultural cooperatives.

They are short of funds and their management structure is difficult to generate internal reserves. Thus their activities are stagnant and self-development is challenging.

Amongst the states surveyed, Chuy and Issyk-Kul are still at the early stage, on the other hand, Talas is working more seriously for its geographical relationship with the capital, limited work opportunity and high demand for cooperatives as crop farming is prominent.

The content of services to the areas surveyed is corresponding to the challenges small-scale farms face as shown below. For improvement of the content of service, it is needed to push forward the securing funds and members.

**【Content of services at present】**

- Collaborative purchase of fuels and seeds
- Seminars for development of agricultural techniques
- Building and management of communal warehouse
- Fund raising for agricultural cooperatives
- Collaborative entrusting of operation by tractor
- Operation of material shops



Picture 7-15: communal fruit warehouse under renovation



Picture 7-16 :collaborative purchase of potatoes and fertilizer

### « Individual management »

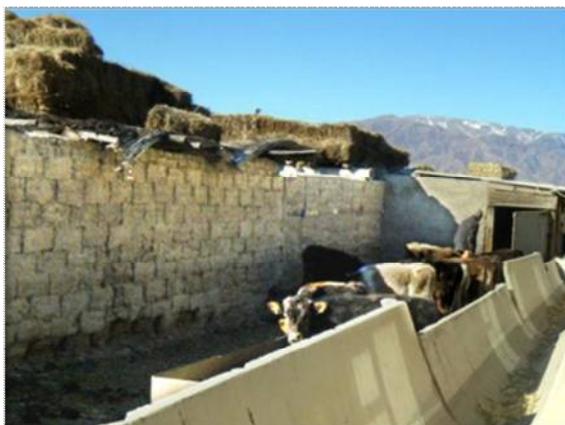
To grasp the views of individual farmers toward agricultural cooperatives, we conducted an interview to a typical farm in Ton area in Issyk-Kul and hold a workshop in Chup area in Issyk-Kul.

#### ① A typical farm (Issyk-Kul)

The farm interviewed took up farming based on the land distributed in accordance with the downfall of the Soviet Union. They are a typical farmer in this region with 15ha farming land and cultivating apricots along with rearing of livestock.

They recognize the necessity of shipping, cooperative purchase and collaborative acquirement of agricultural techniques, and have access to the information of the governmental policies. However, they hesitate to be a part of an organization due to the risk of securing fertilizers, petrol and sales channels commensurate with the size of the organization.

They told that the change of motivation of farmers was prominent, and the possibility of organizing would become higher by going through appropriate trainings and giving right information on agricultural cooperatives to erase the bad image on cooperatives from the former Soviet era.



Picture 7-17: paddock behind the house



Picture 7-18:home-made apple and jam

②Holding of a workshop

Workshops are originally intended to organize small groups of farmers which become a basis of organizing groups. However, the transformation of people through workshops was thought to be difficult from the research results.

Therefore, we hold a workshop targeting the discovery of a bottleneck for organizing farmers and picking key persons.

Though the stagnation of discussion was a concern, constructive discussion was observed from the beginning. Most participants shared the opinions that tackling with the challenges related to recognition, material procurement, processing, storage, facilities and machines is necessary.

Though, there were few opinions on the methods of sales of agricultural products and it seemed many people have trouble in thinking by themselves when inspected closely.

Therefore, the result we reached is that it is realistic to train potential key persons intensively on the strategies on the management of agricultural cooperatives and sales of agricultural products and forward the organization putting these people at the center.

It was remarkable that women are generally better at coming up with their own ideas in the workshop, and some potential female key persons were found.



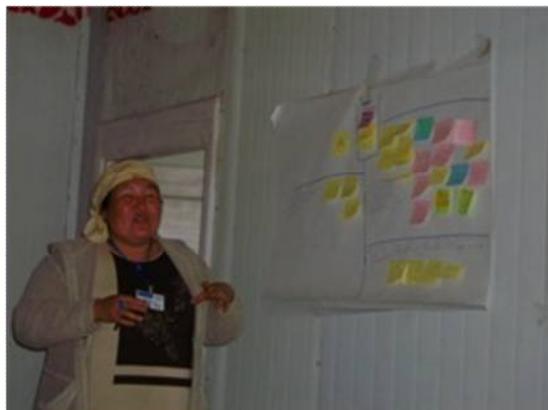
Picture 7-19: at the workshop①



Picture 7-20: at the workshop②



Picture 7-21: at the workshop③



Picture 7-22: at the workshop④

**【outline of workshop】**

○date : 10:00~13:00 (preparation)、 13:15~18:00 (seminar)

○venue : Ichkesu community hall in Chuy

○participant : 24 local farmers (6 people ×4 groups)

○program :

1.icebreak

Finding of common points, games

2.world cafe

Writing opinions on notepads and attaching them on a big piece of paper

Regular shuffle of members

Categorization of the notepads and picking agendas and goals at the final round

3.Interim report

4.seminar

On examples of collaboration in Japan and its economic impact

5.Overview

Categorization of the picked agendas into

Not changeable / changeable by thinking and moving

Necessary to tackle their owns / better to collaborate with others

6.Presentation

7.Lecture by the head of the region

8.Exchange of opinions

### (3) Current situation and problems of agricultural production basis

#### 1) Agricultural production basis

##### «Drainage channels»

As Kyrgyz is dry and a country of little precipitation, water for agriculture is essential for production even though it is richer in clean snowmelt water from the Tia Shan Mountains compared with other Central Asian countries.

The agricultural drainage canals were built in the former Soviet era and currently the major canals are nationally managed with the support from World Bank.

Though, the maintenance of the terminal water facilities is in a difficult situation, due to the breakdown of pumps and breakups of the terminal drainage canals. The infrastructure<sup>36</sup> from the Soviet era is reaching the limit.

Appropriate distribution of water resource is also required as the depletion of the water and the mal-maintenance of the terminal drainage canals are problematic in some regions.

As water flows from the resources to the river mouths, the blockage in the course prevents water to flow to mouths. Therefore, it is essential for the administrations, irrigation associations and each farm should collaborate to manage to maintain the resource.

Considering the present economic condition of Kyrgyz, the system of sorting water from the mountain areas to water resources and utilizing it for irrigation should be examined depending of the state of existence of groundwater. But, salt accumulation should be taken into account when utilizing groundwater and introduction of technology such as micro irrigation is essential.



Picture 7-23: terminal drainage canal



Picture 7-24: terminal storage reservoir

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<sup>36</sup> Standard years of endurance: Drain (concrete) 40 years, headworks (concrete) 50 years, dam, and reservoir 80 years. Deterioration of concrete buildings is faster since the country is in a cold region. Examination of water facility condition and stock management of prevention and maintenance is essential, however, they are fixed after breaking and it is expected that they collapse at the same time

«Farm lands »

Since the agricultural lands in Kyrgyz were distributed to the local people after the downfall of the Soviet, Many are small-scale and the shape of the lands is not suitable for the effective operation of large machines. Also, because reformation of organizations and withdrawal of members have been repeated till the present, lands owned by farmers' organizations are scattered, which makes effective transfer and operation of machines difficult.

Gravel is partly found in the soil, which becomes a factor of breakdown of agricultural machines. Also, the fact that fertilizer management is based on “the appearance” due to the absence of soil analysis organizations results in yield decline by inefficient fertilizer and cost rise.

Basically, renewal of pasture and fertilizer management is not conducted or feeding planning based on the scientific viewpoint is hardly aerated.



Picture 7-25: small-scale farm land(Talas)



Picture7-26: soil condition (Issyk-Kul)

«Agricultural machines»

Many of the agricultural machines have been inherited from the former Soviet era and only 10% of the needed number of the machines is actually in operation. Human-powered agricultural operations of seeding and picking are common, and plowing is still done by horses.

The machines used are mostly aged. They are repaired or fixed with the self-made parts, however, it is easily anticipated that they would break down totally in a few years.

Some interviews revealed some opinions on the problems of agricultural machines. Some donors have been giving a lease or free disposition of machines, though, most of agricultural producers have not been utilizing it properly. Also, many Chinese tractors purchased by a low-interest loan are easily broken and the replacement of the broken parts tends to be expensive.

Thus, a direct supply is not necessarily effective and the response to breakdown will be a problem.

On introducing new agricultural machines in Kyrgyz, it is essential to transfer technology to manufacture and maintain them domestically for the fundamental improvement of the current situation.



Picture7-27: a degraded combine



Picture 7-28: a self-made harrow



Picture 7-29: decrepit grain drill



Picture 7-30: a tractor made in Belarus

(4) Present condition and problems of the institution regarding organization of farmers

The factors necessary for strengthening organization of farmers are as follows.

**Table 7-7: The factors necessary for strengthening organization of farmers**

Factor	Present condition	Future prospects
<b>1. External factors</b>		
① Clarification of the nature of agricultural cooperatives at home	The function and standpoint has not been clarified in the governmental agencies or cooperative development program by the Ministry of Agriculture.	A proposal to agricultural movement development program was made. Clear division of non-profitable and profitable parts by law is expected.
② Positioning by law	As the most farms are poor and the necessity of collaboration is recognized, strengthening of organization is positioned as measures. But it is currently difficult due to the lack of budget and skill.	The development of agricultural cooperatives managed by farmers themselves is anticipated.
③ Long-term strategy by the government	Building farmers' organizations on a long-term basis and enabling them to export internationally is intended. But few factors related to production, processing and distribution exist and there is no practical countermeasure.	It is realistic to revive supply chain and value chain with the support like technical projects and aim for the development led by private sector.
④ Support in the field of funds, techniques and information	Farmers recognize that they have not received practical support for the past 20 years	Farmers have been noticing self-responsibility and the effort for self-support. Opinions on independent utilization of donor support were gained.
<b>2. Internal factors</b>		
① Knowledge and understandings on cooperative activities by members	Leaders and key persons' conscious of contribution to the local areas and the public and necessity of collaboration is high, even though different from that in Japan. But others do not have the same level of conscious.	It is needed to provide information through seminars and merit of collaboration by showing successful examples.
② Cultivation of leaders who play a central role in activities	There exist potential key persons in each region.	Cultivation of leaders for the development of farmers' organization by intensive trainings to the key persons.
③ Funds for foundation	It is presently difficult to collect funds for foundation of new farmers' organizations, though, there are few examples of foundation of new organizations	2. Same as ①
④ Funds for management	Production cooperatives which mother bodies are the former kolkhoz manage to maintain by operating venue. But new farmers' organizations have difficulty in receiving funds for management, which is a factor of stagnation of their activities.	To expand business scale of new farmers' organizations, it is essential to increase capital investors and sponsors drastically.
⑤ Know-how for activities (training on technique, management and organization management)	Donors have been implementing trainings and leaders have high-level knowledge. But the bar is high for the actual activities under the current situation surrounding agricultural cooperatives.	Based on the sustainability of organizations, development of skills on commercializing and corporatization, not only on the knowledge of agricultural cooperatives.
⑥ Economic merit for members (collaboration in shipping, purchase and operation, effective operation of materials)	Few farmers join agricultural cooperatives because of tax system. But, the agricultural cooperatives actually in operation are receiving economical merit.	Only a part of leaders are under strain. If the concept of market economy spreads, the situation may change drastically.
⑦ Social merit for members (activation of communities)	Activation of communities is conceived as different activities from agricultural cooperatives. Some leaders are actively engaged in the activation of communities.	The sense of community is stronger than expected and the conscious of collaboration is high. Existing blood relations should be taken into consideration.

From the interviews, negative opinions on the systems of organization of farmers such as problems on the taxation system where higher tax was posed by institutionalizing and complication of procedure to utilize the support system for fund and lease were heard. Improvement of the governmental program which becomes a basis of policy enforcement will be effective for the solution of these problems.

As the Kyrgyz government is now implementing the 2013-2017 plan of “Kyrgyz cooperative activity promotion program”, we proposed the opinions on the operability of program (plan) enforcement and clarification of enforcement measures and schedule as below.

**【Proposal to the program (plan)】**

1. Operability of program enforcement

- (1) Making the enforcement match the current situation...corroboration of funds, utilization of existing resources
- (2) Clarification of enforcement measures
- (3) Clarification of support –sharing system

2. Accurate evaluation of enforcement

- (1) Clarification of the past course and problems
- (2) Project evaluation and establishment of readjustment system...adjustable management, transparency of information

3. Separation of policies for service cooperatives (non-profitable) and production cooperatives (profitable)

4. Tax system...There is a description of tax exemption. Different from the result of hearing research

5. Priority order of program enforcement, clarification of procedure

- (1) method of gradual promotion...The image of starting as a small cooperative is necessary.
- (2) Clarification of the course...The priority order of each countermeasure and the course is lacking.

6. diffusion guidance

- (1) materialization of diffusion guidance system...Advisory offices where farmers can come any time and consult on anything are needed.
- (2) Reviewing of means of conveying information...lack of the channels which enable information to be conveyed precisely, utilization of mobile tools

7. Effective utilization and appropriate management of land

- (1) Clarification of management system of agricultural land...establishment of management organizations and laws
- (2) method of land amassment...utilization of Japanese method of farm reform, replotting, exchange and consolidation

8. Effective utilization of facilities...The abundance of existing utilizable facilities should be evaluated.

9. Promotion of changes in the consciousness of the nationals...Education about “contribution to the public” and “importance of collaboration” should be given.

### 7-3 Countermeasures to problems

#### (1) Corresponding range of strengthening of farmer organizing

The problems extracted based on the result of the interviews to the farmers' organizations and administrations and the local survey are as follows. As the financial basis of Kyrgyz is weak and there is not enough human resource in the government, the policy development which should be conducted by the government has not been implemented. Since no prospect of improvement in near future about this is seen,

As for those within the thick frame in the table below, out of all the problems, it is realistic to tackle with each problem by forming agricultural cooperatives at a village or regional level.

**Table 7-8: problems and policies**

Category	Problem	policy
information	Lack of information on agricultural production techniques, management, agricultural cooperatives	Tacked by strengthening of farmer organization (village, state, region level)
Basic agricultural management techniques	Lack of soil management (diagnosis), crop management and livestock management techniques (small-scale farms)	
materials	Breakdown of production and distribution system of fertilizer, seed and frozen sperm	
agricultural machines	Aged machines from the Soviet era Absence of maintenance system	
processing facilities and techniques	Shortage of facilities (slaughter, selection, precooling, processing) and processing techniques	
Sales channel	Purchase by brokers is main stream.	
Terminal infrastructure	Aging of terminal water facilities, inadequate farm roads	
Collaboration with surrounding industries	Lack of information exchange with financial institutions, processors, distributors and research institutions	
Fund	High interest, shortage of line of credit	Countermeasure at state- national level necessary
Development and diffusion of agricultural techniques	Shortage of quality seed and livestock, undeveloped agricultural management techniques and diffusion system	
Infrastructure	Aging of water resource recharge (forestation), main water facilities and roads	
Institution	Institutions that do not allow incentives to organization Long-term lease of agricultural land not possible	
Plan	Lack of crop production plan by national- and regional-unit, emergence of gap between supply and demand	
Epidemic	Foot-and-mouth disease, brucellosis, echinococcus	
External factors	Border closure, Customs Union	

## (2) Directionality of development of farmers' organizations

As for development of farmers' organization, change in consciousness of the Kyrgyz people toward farmers' organizations is essential. Therefore, on directionality of development of farmer organization, it is important to make a model project successful and to let them know that their effort leads to success through information provision and inspection tours.

For the realization of farmer organization based on economic promise, it is needed to implement comprehensive countermeasures for not only approach for organizing but also recovery of value chains and supply chains.

In short, if the movement of products and information in production, selection, coordination, shipping (bearers  $\rightleftharpoons$  production organizations), processing, distribution and market (domestic and overseas) is not recovered ensuite, any supports, not only that to the farmer organization field, will not be successful.

In Kyrgyz, the farmers' consciousness to the quality is low, and products prices are set low in accordance with that of the worst quality. Quality improvement and stability of supply by setting rules through organizing, negotiation power will be backed up.

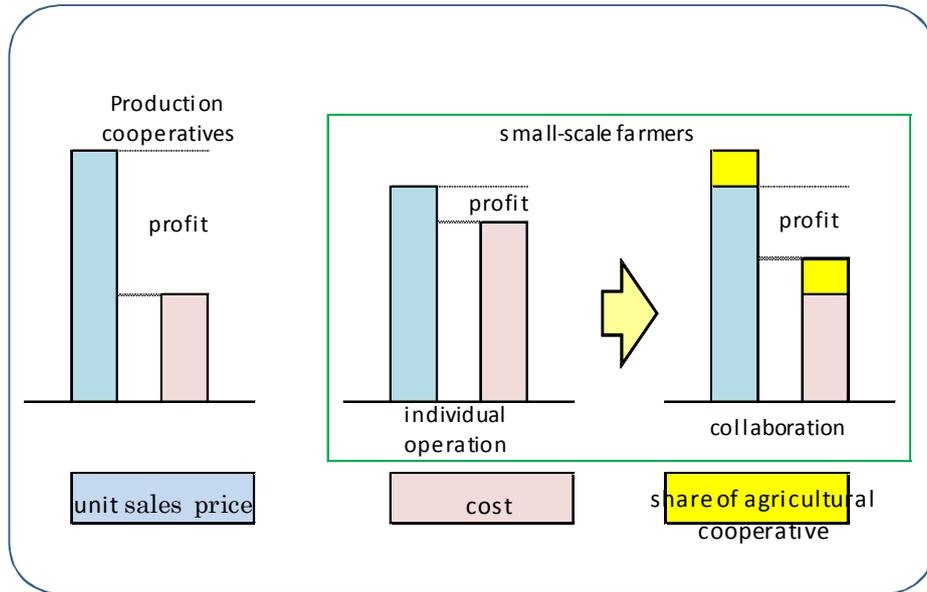
From the interviews in Kyrgyz, the result that the fund and machines are in direct needs was obtained for strengthening of organization, however, attaching too much weight to the local need may lead to ad hoc measures. Hence, it is necessary to consider the agricultural structure of Kyrgyz comprehensively and examine the foundation of sustainable institutions

### ① Areas that have production (partially service) cooperatives

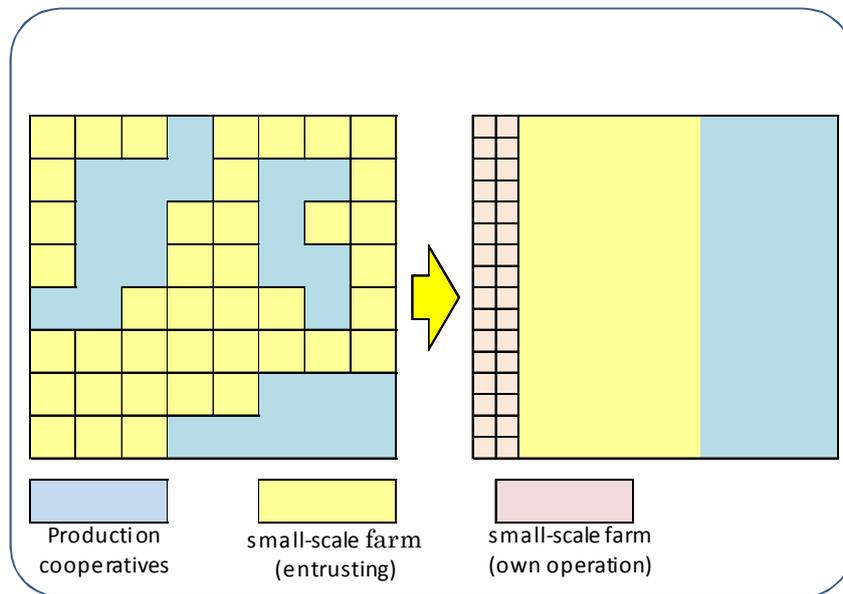
In the areas that have production cooperatives, the directionality below is presumable.

#### 【Directionality of cultivation of farmers' organizations】

- transition to **production+ service** cooperatives and contribution to advancement of local agriculture
- Collaborative purchase of production materials, technical guidance on agricultural production, collaborative shipping of agricultural products (selection, storage, distribution)
- Employment generation by developing processing and sales projects
- Entrusting of operation, amassment of land utilization
- fund accumulation for operation fund, agricultural machines and facilities and mutual aid etc.



**Figure 7-4: image of collaborative purchase and shipping**



**Figure 7-5: image of entrusting of operation and amassment of land utilization**

②Areas that do not have production cooperatives

In the areas that do not have production cooperatives, the directionality below is presumable.

**【Directionality of cultivation of farmers' organizations】**

- Foundation of **service cooperatives** by the investment from the local small-scale farms
- Aim at the same service contents as production + service cooperatives
- As there are problems stated below, it is necessary to cultivate them on a long-term basis through activities such as provision of information, seminars and training.
  - Securement of members
    - Certain number of members is necessary for effective collaboration
    - Understanding is hard to gain as the effect is not obvious before the start.
    - There are no successful samples around.
  - Securement of funds for foundation and initial investment
    - The funds required at the time of foundation are investment for facilities and machines and operating funds
    - High interest, complication of submitted documents, land not accepted as collateral
    - It is needed to start with the limit of own funds + $\alpha$ .
  - Acquisition of know-how and knowledge on foundation and management
    - know-how and knowledge on the articles of incorporation and administrative regulations
    - know-how and knowledge on legal work, finance and tax affairs required for management
    - know-how and knowledge on management and marketing
  - Continuity of operation
    - Securement of profit possible to reserve internally is necessary for continuing operation.
    - Since getting loans is often difficult in effect, it is required to solve the problems above and expand the range and scale of services gradually.

## 7-4 Concrete action plan

### (1) Concrete action plan for cultivation of farmer organization

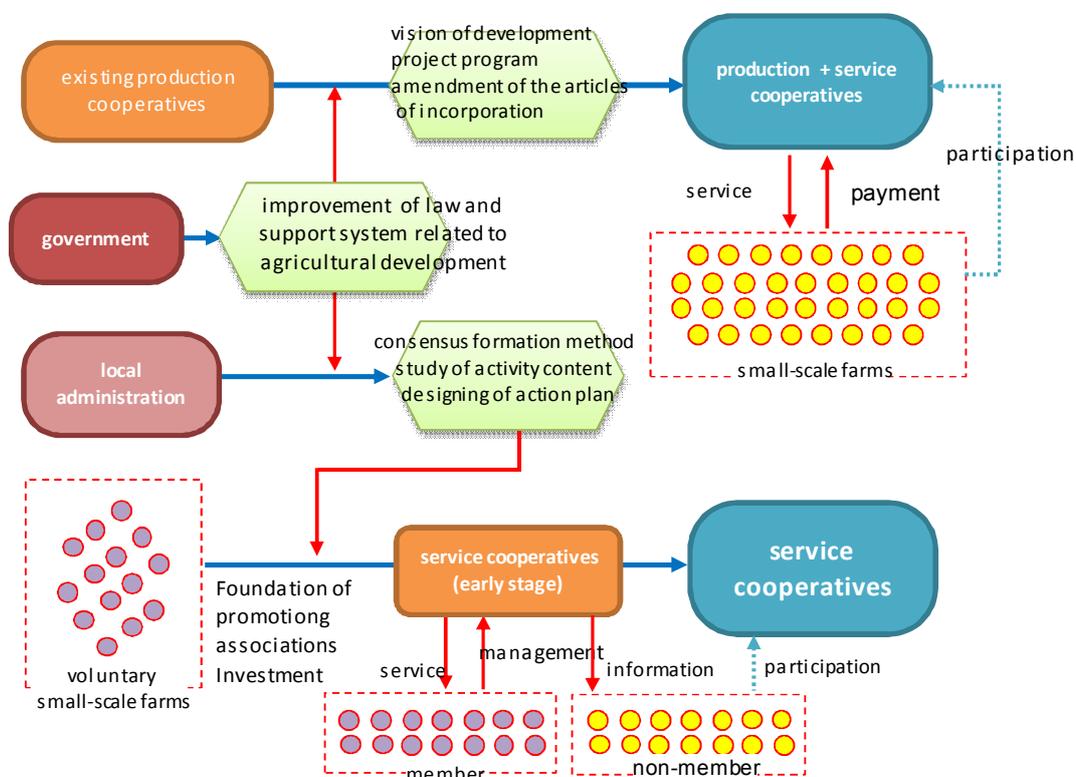
For cultivation of farmer organization, the Kyrgyz government, local administration, farmers and production cooperatives should take as stated below.

**【action plan for cultivation of farmer organization】**

- ① Start-up of new joint activities and its expansion
- ② Development of basic conditions of agricultural production
- ③ Establishment of market development and distribution
- ④ Value-adding to products

#### ① Start-up of new activities and its expansion

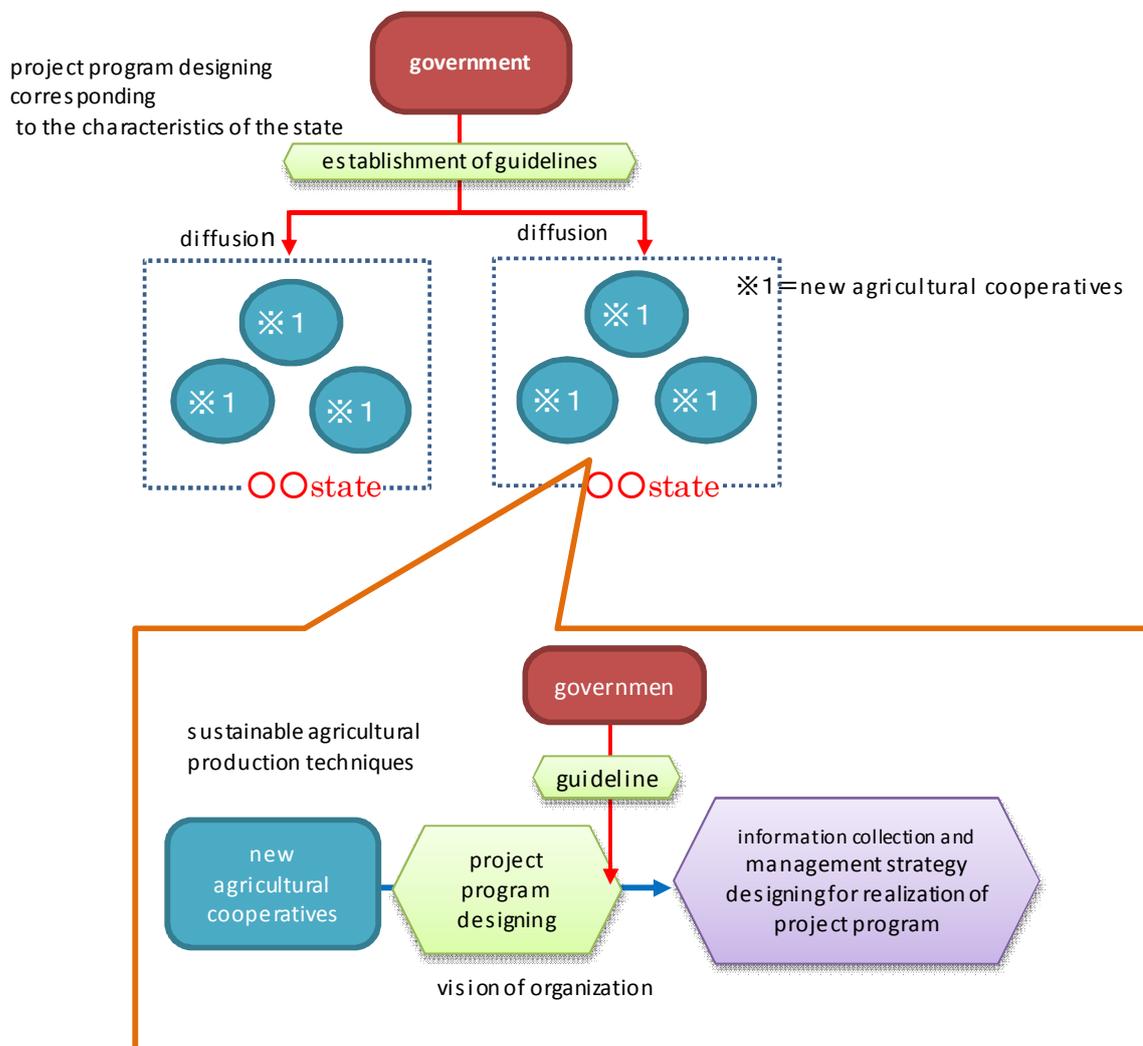
- The government take measures to induce the existing agricultural cooperatives to expand the service contents to the local areas and found new service cooperatives.
- The existing agricultural cooperatives design project program and amendment of the articles of incorporation based on the middle-term joint activities, and expand its activities to production and service cooperatives.
- As for villages without organizations that function the center of collaboration, local administrations play a central role in building consensus on collaboration among farmers, studying the scale and contents of activities appropriate to the local production condition and cultivated crops and designing action plans intended for foundation of new cooperatives.
- Farmers in the villages without organizations that function the center of collaboration found service cooperatives with the support from the local administrations.



**Figure 7-6: foundation and expansion of joint activities**

②Development of basic conditions of agricultural production

- Production + service cooperatives and service cooperatives (hereinafter referred to as new cooperatives) design project programs of farmers' organization and management units that the local should aspire for based on the current situation and characteristics of the local agriculture.
- The government establish production techniques which can be sustained by each region independently and value-adding methods to agricultural products (processing, sales, distribution), and design the guideline.
- The government spread agricultural production techniques and value-adding methods to product +service cooperatives and service cooperatives.
- New cooperatives collect information to apply for their own management and design management strategy based on the governmental guideline about agricultural production techniques and value-adding.



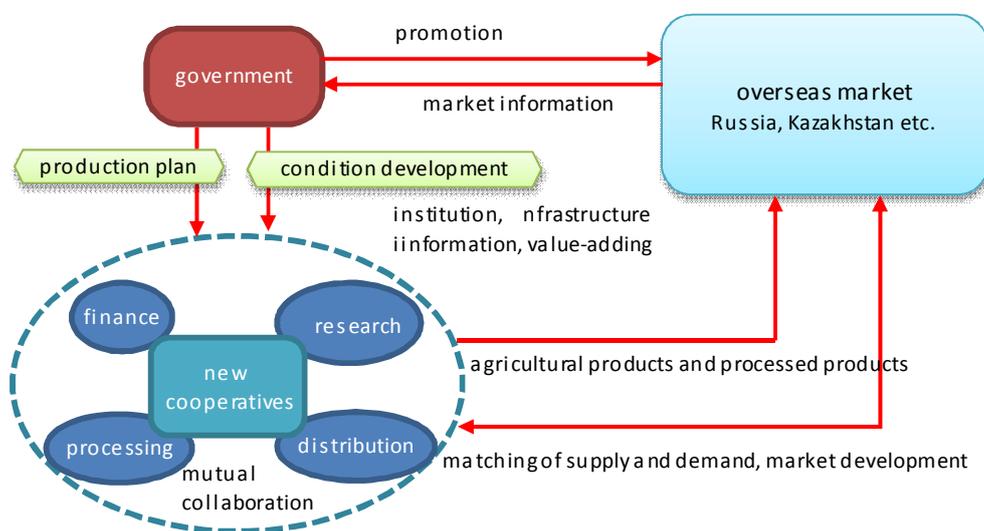
**Figure 7-7: Development of basic conditions of agricultural production**

③ Market development and establishment of distribution

- The government develop necessary conditions (institution, infrastructure, promotion) for both domestic and international distribution.
- The government design broad-range production plans based on the local conditions such as seasonal demand change and weather conditions and give guidance to agricultural cooperatives.
- New cooperatives develop markets and establish distribution collaborating with the government and surrounding industries (finance institutions, distributors, research institutions).

④ Value-adding to products

- The government develop basic conditions for the production of value-added products.
- New cooperatives design brand and processing strategy and conduct production and sales of value-added products.



**Figure 7-8: Market development, establishment of distribution and value-adding to products**

(2) Contents of program for cultivation of farmers' organizations

As a program implemented by outside organizations such as donors intended for the cultivation of farmers' organizations, the contents below are thinkable.

① Development of model cases (three models)

1) Production + service cooperatives

- A. Orthodox livestock production cooperatives (discover at the next stage of research?)
- B. Orthodox agricultural production cooperatives (Mukai, Zarya etc.)
- C. Production cooperatives conducting diversified and advanced management. (BULL'S KG etc.)

② Action toward model cases

1) Support for expansion of collaborative activities

- A. Support for creating the articles of incorporation, administrative regulations and project programs
- B. Provision of information on management of farmers' organizations, agricultural production techniques, sales and processing

**Table7-9: Content of the articles of incorporation in Japan (example)**

General provisions	• purpose • appellation • area • office • advertising method • notice and demand to members
Business enterprise	• business • agreement of exclusive use • usage by non-members • business regulations
member	• member qualification • Special case of member qualification concerning members of agricultural land use improvement organization • participation • offer of qualification variation • Statutory agent • Equity disposition • participation by inheritance • authorization of participation and suspension of authorization of equity disposition • secession • expulsion • equity refund • reduction of investment unit
Investment and cost sharing	• obligation of investment • Amount of investment unit and payment method • imposition of cost • Irrevocability of amount of charge • penalty charges
administrator	• quorum of administrators • grounds for disqualification of administrators • appointment of administrators • request for re-election of administrators • representative director • chairperson • union president, senior director and managing director • duty of auditor • responsibility of administrator • term of administrator • counselor
assembly	• call-up of assembly • calling procedure • agendas of assembly • matters to be reported • quorum • emergent bill • accountability of administrators at assembly • decision-making method and chairperson • special agendas of assembly • exception for special agendas • prosecution or postponement of assembly • resolution by proxy or agent • statement of associates associate members • minutes
general meeting of representatives	• general meeting of representatives • term of representatives • decision-making right
board	• convocator • calling procedure • agendas • matters to be reported • decision-making method and chairperson
accounting	• accounting year • classification of accounting • usage of surplus cash • disposition of surplus cash • capital reserve • balance for education and information • voluntary reserve • appropriation to payment of yield and investment • loss disposition
Miscellaneous regulations	• distribution of residual assets • contracts

2) Support for operation

- A. Support for creating agricultural management plan (Crop production plan, management and labor income and expenditure etc.)
- B. Provision of information on the agricultural production and market of competitive areas such as Almaty and planning and conducting of on-site inspection
- C. test marketing in the potential markets and holding skull sessions with buyers and consumers
- D. Holding matching seminars with the surrounding industries (financial institutions, processors, distributors, research institutions etc.)
- E. Provision of information and giving training by collaboration with other projects (agricultural production techniques, distribution, processing and certification)

③ Creation of a master plan for strengthening of farmers' organizations based on the model cases

④ Diffusion activities regarding strengthening of farmers' organizations

- 1) Provision of information to the areas where the foundation of service cooperatives is gathering momentum
  - A. Orthodox livestock and agricultural areas (Tyup area in Issyk-Kul state etc.)
  - B. Area where diversification (tourism, processing and so on) is possible (Ton area in Issyk-Kul state)
- 2) Spreading to surrounding areas
  - A. Holding seminars in various locations
  - B. Support for inspection of model cases
- 3) Support for creating government-related plans

(3) Road map for development of model cases

The enforcement schedule for implementing (2) is basically as follows.

① Phase 1 Support for development of collaborative activities (First year)

- 1) Support for creating the articles of incorporation, administrative regulations and project programs
- 2) Provision of information on operation of farmers' organizations

② Phase 2 Support for development of basic conditions of agricultural production (second and third year)

- 1) Establishment of the basis of agricultural management
  - A. Support for creating agricultural management plans (crop production plan, management and labor income and expenditure etc.)
  - B. Support for establishing agricultural production techniques
  - C. Provision of information on agricultural production techniques, sales and processing
  - D. Provision of information on the method of stock management
- 2) Information collection toward Phase 3
  - A. Provision of information on the agricultural production and market of competitive areas such as Almaty and planning and conducting of on-site inspection
  - B. Pilot sales in the potential markets and holding skull sessions with buyers and consumers
  - C. Holding matching seminars with the surrounding industries (financial institutions, processors, distributors, research institutions etc.)

③ Phase 3 Support for establishment of market development and distribution (fourth and fifth year)

- 1) Development of sales channels of general products

- A. Development of domestic and international sales channels
  - B. Holding of business-matching events in the potential markets
  - C. Test marketing (events) and continuation of exchange of opinions with buyers and consumers in the potential markets
  - D. Continuation of matching seminars with the surrounding industries (financial institutions, processors, distributors, research institutions etc.)
- 2) Information collection toward Phase4
- A. Support for creation of brand and processing strategy
- ④Phase4 Support for value-adding (later than sixth year)
- 1) Support for development of the basic conditions for the production of value-added products
  - 2) Support for establishment of extensive distribution system

## **8 Proposal Regarding Promotion of Kyrgyz Agricultural Export and Strengthening of Farmers' Organizations**



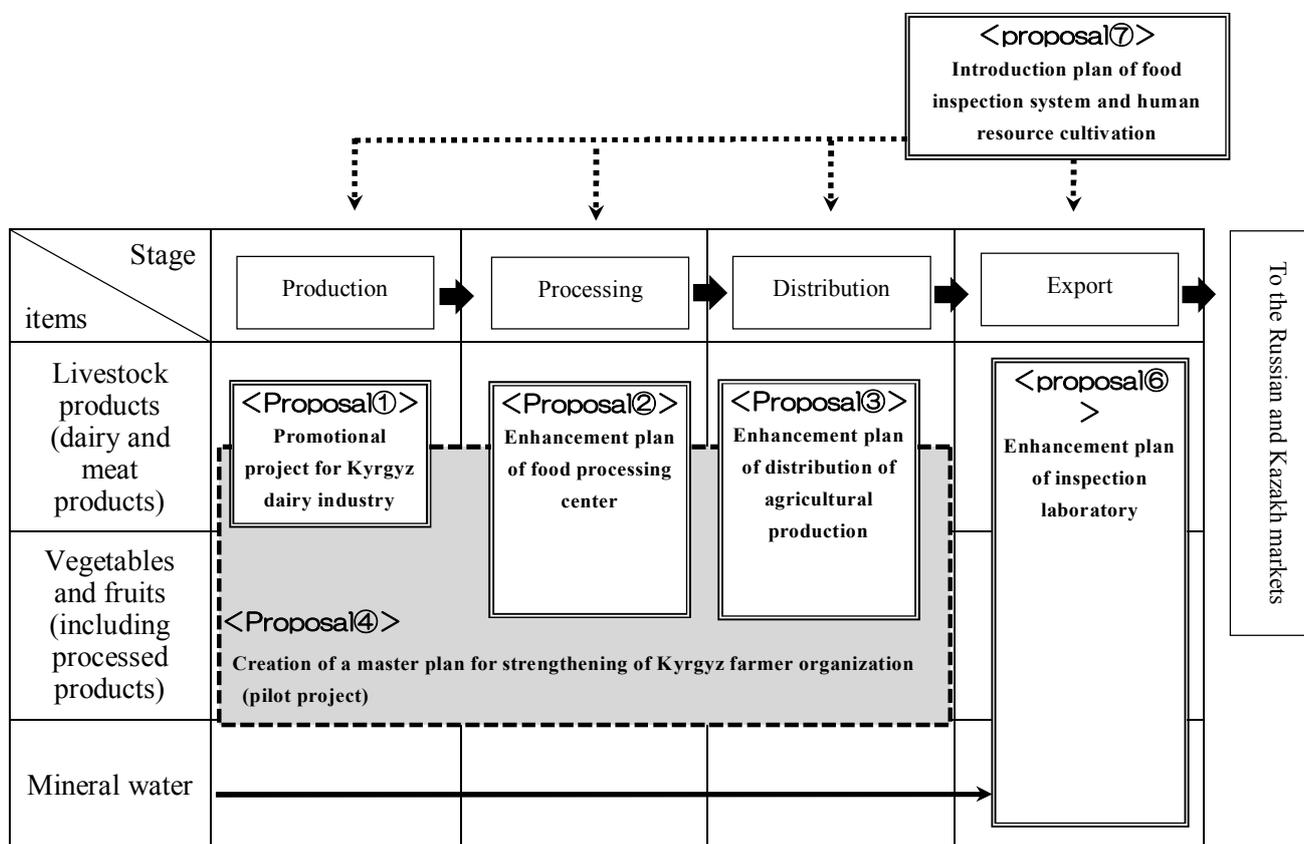
## 8 Proposal Regarding Promotion of Kyrgyz Agricultural Export and Strengthening of Farmers' Organizations

### 8-1 Organization of proposals

In this research, we studied development strategy based on the existing problems of livestock, vegetables, fruits and mineral water in this report from chapter 3 to 5, intending to promote agricultural products of Kyrgyz and strengthen farmer organization. Besides, in Chapter 6 organized a development strategy based on the function of agricultural cooperatives that play a wide range of roles in from production to the services to farmers, and in Chapter 7 the current situation and problems regarding food inspection and certification system essential for export promotion.

In this Chapter, we make six proposals as methods for export promotion of Kyrgyz agricultural products. In that regard, we presume Russia and Kazakhstan as the major markets as they are the members of Customs Union, and livestock (dairy and meat products), vegetables, fruits and their processed products and mineral water as target export items.

The relation of each program is charted as below. Synergistic effect is expected of these programs.



**Figure 8-1: Relation of Programs**

### 8-2 Points to remember in implementing proposed projects

- (1) Program promising complex effects and information exchange

Six proposals are made in this chapter, for some of which improvement of organization, technical guidance, human resource cultivation and distribution service is necessary. As for this, what is needed

is a consistent program for export promotion which is the final goal, not a system or program created by respective projects.

Hence, holding a periodic occasion for information exchange among persons concerned is essential. Since there is no smooth collaboration and information exchange between the government agencies or the central and local governments, establishment of a system that enables it with the support from the third parties is required.

(2) Creation of concrete models of success

On studying quality improvement, farmer organization and increase of competitiveness for export promotion, presentation of concrete models of success is essential. This enables the understanding of necessity of quality improvement and meanings of farmer organization.

Setting of a target country and items is needed, and the models should be universal to be a good example for other regions.

Especially, the Kyrgyz government has announced the participation in Customs Union of Russia, Kazakhstan and Belarus, it is necessary to create models that correspond with the quality certification and standards of these countries. Above all, grasping the technical standards and various institutions of Customs Union is required on cultivating human resource for quality management and establishing a certification system.

(3) Studying possibility of collaboration with universities, regions and private companies and utilization of programs

Interviews were conducted in Japan for this research. In the process, universities, regions and private companies that consider a long-term collaboration with Kyrgyz have been found. Cooperation with these institutions and regions is effective as a way to mutually complement JICA projects.

**Table 8-1: Organizations interested in Kyrgyz**

Category	Organizations	Target theme	remark
University	Iwate University	agriculture in cold region, house building,	There is an interdepartmental collaboration with a Kyrgyz university, and inter-university collaboration and cooperative management are being pushed forward.
	Obihiro University of Agriculture and Veterinary Medicine	organic agriculture, dairy farming	Examination of human resource development program
	Senshu University	marketing	Field survey with Kyrgyz students
Region	Kitami city	Regional disaster prevention, city planning	Utilizing the system of grass-roots technical cooperation
	Morioka city	Intercommunication	Collaboration with Iwate University
Private company	Agricultural Start-up Business Venture (Hokkaido)	Agricultural machinery(Hokkaido, Kanto, beekeeping, rice(Kanto)	Utilizing the system of grass-roots technical cooperation
	Agricultural Machinery (Hokkaido)		As part of business development in the former Soviet zone
	Agricultural Machinery (Nagano)		Same as above
	Trading Company (Tokyo)		Study of production areas in the Central Asia

(4) Effective utilization of framework of “Central Asia + Japan” dialogues

Japan has been playing a catalytic role in interregional cooperation with Central Asia including Kyrgyz. The export promotion of the Kyrgyz agricultural products contributes to “improvement of trade investment environment”, one of the goals mentioned in the joint announcement of the fourth meeting of foreign ministers of “the Central Asia + Japan” dialogues (November, 2012) and this enables the securement of stable supply and safety of food in the Central Asia. Moreover, as for the trade within the Central Asian countries, the fact that Russia and Japan work together for the security and economic development in the whole Asian and Pacific region is stated in the joint announcement of Abe and Putin in April, 2013, which means that Japan plays a role in the collaboration in the whole of Eurasia. The subject of this project should be examined with considering the security and demand for food for the whole of Eurasia including Kyrgyz holistically.

(5) Leveraging the past experience

On studying this proposal, similar examples in the past are used as reference. The outline of “Final report of planning study on improvement of agricultural management and promotion of animal product processing industry of Kyrgyz” conducted in 2007 is as follows. The fruits of the projects were not spotted in this research. The lack of supposition of end-consumers (sales destinations) and trade conditions are thought to be the causes for it. Hereafter, it is necessary in the proposed projects to examine the needs of the markets and trade environment closely, not only the aspect of production.

**Table 8-2:  
Information and problems obtained from “Final report of planning study on improvement of  
agricultural management and promotion of animal product processing industry of Kyrgyz”**

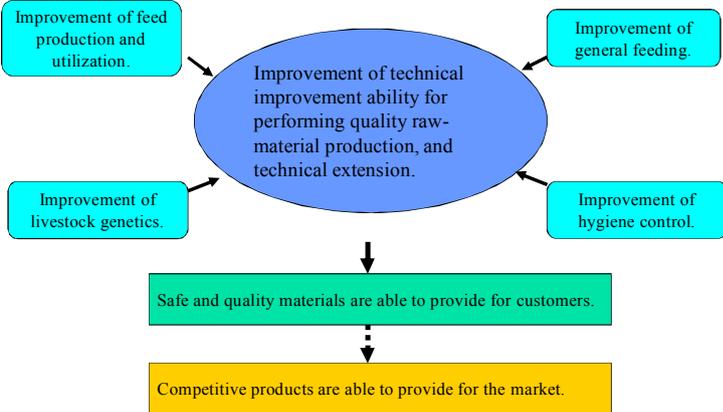
Area	Pilot project	Action plan	Information and proposal gained from the report
Osh	“Mady Cotton Demonstration Farm” pilot project  purpose : production enhancement of the major crops of the state	By the project in 2005 and 2006, yield was improved. Reflecting the result, production enforcement project was continued till 2010	Proposal by “Final report of planning study on improvement of agricultural management and promotion of animal product processing industry of Kyrgyz” (hereinafter referred to as “Promotion of animal product processing industry report”) is as follows. 1) promotion policy of cotton industry 2) Institutional Build-up and renewal of roles  <b><u>As it is not food item, it is not relevant to this research.</u></b>
Naryn	“Sheep fattening experiment” pilot project  purpose : breeding experiment of sheep, the major income source, in Naryn boosting a livestock business	1) Gain test by each forage, breed, condition and 2) sales survey of sheep fattening experiment were implemented in 2005 and 2006. Accepting the result from the survey, the action plan was proposed.	Proposal by “Promotion of animal product processing industry report” is as follows. 1) foundation of state-owned livestock laboratory 2) plan for proper utilization of pasture 3) promotion of sheep fattening, plan for cultivation of superior breed  <b><u>The fattening test in 2005 to 2006 has been finished as planned. At the time of the research, no direct profit to the farms was observed.</u></b>
Issyk-Kul (Tyup)	“Foundation of Marketing Service (MSC)” pilot project  purpose: implementation of specialistic marketing, market development, sales promotion of regional specialties, quality improvement, marketing research and improvement of delivery methods	In 2005 conducted the foundation of MSC, market research in Almaty, sales of potatoes in a chain supermarket, then clarification of problems. In 2006, potato seed was purchased, sales contract was signed with producers and markets. Based on the result, the action plan was proposed.	According to “Promotion of animal product processing industry report,” sales and distribution of agricultural products were implemented. However, it was reported that there are such problems as troubles caused by the low morals of producers and distributors and bribe of the government officers. Low consciousness in other activities was also reported. Proposal for these problems by this report is as follows. 1) changeover of the local administration role 2) securement of safety of agricultural products, livestock, meat and processed products and quality 3) promotion of processing industry – intensive support to processing companies 4) development of private sector relating to strengthening of marketing, sales and distribution  <b><u>The actual activities of MSC are unclear.</u></b>

source : *Final report of planning study on improvement of agricultural management and promotion of animal product processing industry of Kyrgyz (JICA, 2007)*

### 8-3 Outline of proposals

#### **Proposal No.1: Dairy industrial development project in Kyrgyz**

Name of project	Dairy industrial development project in Kyrgyz
Target products and place	Target products : Raw milk and dairy products Target place: Chui States
Background	Dairy industry in Kyrgyz is mainly carried out using raw milk produce by small scale dairy farm which is raising several heads of cattle on their farm. There is large gap about dairy technology among the producers, and there are also many producers who have not experienced training of dairy technology. Such producers might supply polluted raw milk, and about 25% of raw milk became receipt refusal due to bacteria contamination more than a dairy company's standards as an illustration in this survey. Moreover, there are many issues about dairy cattle management, and production of raw milk is low. Furthermore, there are large gap between the companies about manufacture facilities and improvement in management ability, and the milk processing plant where hygiene control is insufficient either. This project will supply various required technology to dairy companies and farmers in the Chui State that is the main dairy industry area in Kyrgyz. By carrying out this activity, production and quality of raw milk and dairy products will be improved.
Veneficiallys	veneficialys : (direct veneficialies) Dairy companies and dairy farm that are belong to milk producers association. (in directveneficiaries) Dairy companies and dairy farms that are not belong to the association.
Method	Project terms (3~4years)
Budget	4~500Millon Yen (3~4years)
Cpntents of project	
Target	A market can be provided with competitive products and it contributes also to export promotion.
Project target	1. The quality of milk from dairy industry company which belongs to milk producer association which is the cooperation target of the project improves. 2. The raising techniques concerning dairy cattle of dairy farm which is the target of the project improves. 3. The experience from project activities is summarized as technical advice, and is reflected in the dairy policy of the Kyrgyz.
Expecting results	1. To obtain the techniques and knowledge about roughage production and utilization. 2. To obtain the techniques and knowledge about general feeding techniques. 3. To obtain the techniques and knowledge about animal reproductive health techniques. 4. To obtain the techniques and knowledge about milk hygiene techniques.

<p>Activities</p>	<p>MoA which works as CP, has maintained structure and implementation system that was established by the former Soviet Union when they had only limited works, such as distribution agricultural materials to the collective farm, collection of agricultural statistics during the union. That became very vulnerable, now. There is nothing which generalizes an agriculture technology to farmers, such as extension agency and extension worker. Therefore, it is difficult to carry out the extension act only through the ministry. In this project, a milk union which mainly consists of dairy industry companies in Kyrgyz, takes primary role. This project will provide a direct technical transfer program to dairy companies that are member of the union and farms that have contracted with those dairy companies.</p> <p>WB established Rural Advisedly Service (RAS) in their project for a technical extension to dairy farmer. (Handover of RAS from WB to MoA as “extension office” was considered, the plan was not realized due to some problems, such as insufficient budget. Now, RAS undertakes projects that are commissioned from donors and MoA as NGO.)</p> <p>This project will provide training to RAS extension worker and “farmer to farmer (FFS)” training that is conducted by the dairy farmer who had trained.</p>
<p>Input</p>	<ul style="list-style-type: none"> <li>● Expert: General feeding, Roughage production, Reproductive health, Animal hygiene, Milk hygiene, Genetics, Extension, Gender, Marketing, Training.</li> <li>● Equipment: ( if it is necessary)</li> <li>● Training: (Japan or third country)</li> </ul>
<p>The image of project</p>	<div style="text-align: center;">  <pre> graph TD     A[Improvement of feed production and utilization.] --&gt; C(Improvement of technical improvement ability for performing quality raw-material production, and technical extension.)     B[Improvement of general feeding.] --&gt; C     D[Improvement of livestock genetics.] --&gt; C     E[Improvement of hygiene control.] --&gt; C     C --&gt; F[Safe and quality materials are able to provide for customers.]     F -.-&gt; G[Competitive products are able to provide for the market.]             </pre> <p>Image of improving raw dairy material production</p> </div>
<p><b>CP</b></p>	<p>The ministry of agriculture and land reform</p>

**Proposal No.2: Project on Quality Improvement for Agricultural Products**

Name of Project	Project on Quality Improvement for Agricultural Products ~Quality Improvement mainly by using post-harvest technologies~
Target commodities and area	Target commodities : Vegetables and fruit Target areas : Ishuk Kul, Chui State
Background / Objective	Neighboring countries need import of agricultural products to meet the domestic demands, and Kyrgyz has export potential for surplus products. But, there are some problems such as non-constant quality and post-harvest loss because of large number of small-scale farmers, low cultivation and post-harvest technologies, and lack of warehouses.
Beneficiary	Beneficiary : (Direct beneficiary) • Producers and processors of each commodity (Indirect beneficiary) • Distributors and consumers in domestic and international markets
Supporting scheme	Master Plan Study (Three years)
Budget	4~500 Million Yen (Three years)
Contents of project	
Overall Goal	1. Farm producer will yield good quality agriculture products that meet a market need. 2. Farm income and sales volume will be increased.
Project Purpose	Postharvest treatment techniques will be improved for vegetable and fruit quality progress.
Expected outcome	1. Quality standards of agriculture products are established. 2. Agriculture extension workers improve their own postharvest skill. 3. Thanks to awareness of farmers and middlemen about agriculture product quality, post harvest skill is improved. 4. Enough quality agriculture products can be provided for manufacturing.
Activities	1. Survey about harvesting and manufacturing method that are feasible on the scene. 2. Study and planning about agriculture quality standard. 3. Planning of instruction and preparation of these materials. 4. Training for improvement of postharvest technique to farmers and extension workers. 5. Marketing test to consumers.
Inputs	Consultant: Leader/postharvest technique, Marketing, Hygiene control, Operational coordination. Provision: Necessary equipment

<p>Project image</p>	<p style="text-align: center;">Image of quality improvement provided by postharvest technique.</p>
<p>Counter Part</p>	<p>MoA, ABCC, RAS, CCI, Food Processors Association, Agriculture Cooperative etc.</p>

**Proposal No.3: Project on Improvement of Food Processing Center**

Name of Project	Project on Improvement of Food Processing Center ~Capacity building and product development of food processing~
Target commodities and area	Target commodities : Processed food (esp. livestock food products) Target areas : Bishkek
Background / Objective	Many supermarkets sell not only domestic food but also imported food from USA and China to meet the consumer needs. Domestic producers may be able to promote sales by coping with market change such as package design modification. There is no system to assist quality improvement and new-product development in Kyrgyz now, so it is considered to establish the training system to assist strengthening competitiveness of process food by utilizing existing facilities with collaboration of public, private and academic source.
Beneficiary	Beneficiary : (Direct beneficiary) • National technical university and SME food processing companies (Indirect beneficiary) • Distributors and consumers in domestic and international markets
Supporting scheme	Technical Cooperation Project (Three or four years)
Budget	4~500 Million Yen (Three or four years)
Contents of project	
Overall Goal	1. Food processors will be able to promote new-product development and quality improvement, and to develop capacity of food processing. 2. Competitive products will be supplied to domestic and international markets.
Project Purpose	Functions will be improved for practical trainings to develop new food processing to meet the market needs.
Expected outcome	1. Necessary knowledge and technology for food quality control is acquired. 2. Necessary hygiene control and inspection technology for food safety is acquired. 3. Techniques for develop new products to cope with market needs is acquired. 4. Packaging technologies to meet products character are acquired.
Activities	1. Practical training for food processing utilizing mini plant in Food Training Technology Center of National Technology University. 2. Food processing trainings of quality control, new-product development, packaging are introduced. 3. Developing capacity for food processing

<p>Inputs</p>	<p>Consultant: Leader/food quality control, Operational coordination as long term export,, New-product development / packaging as short term expert Acceptance of trainees: food processing overseas training Provision: Necessary equipment</p>
<p>Project image</p>	<pre> graph TD     A([Quality control tech.]) --&gt; B[Existing food processing facility for training (Mini plant)]     C([Product development tech.]) --&gt; B     D([Safety improvement &amp; inspection]) --&gt; B     E([Packaging Tech.]) --&gt; B     B --&gt; F[Practical Training for food processing]     F -.-&gt; G[SME can improve quality and products.]     F -.-&gt; H[Capacity building of food engineer]     </pre> <p style="text-align: center;">Image of improving food processing in mini plant</p>
<p>Counter Part</p>	<p>Food Training Technology Center in National Technology University</p>

**Proposal No.4: Project on strengthening agricultural marketing**

Name of Project	Project on strengthening agricultural marketing ~Small-scale farm products export center for vegetable and fruit ~
Target commodities and area	Target commodities : Vegetable and fruit, and their processed food Target areas : Issyk-Kul and Chui State
Background / Objective	Demands are high in neighboring countries, especially Russia and Kazakhstan, import is indispensable in order to meet domestic needs. But it is necessary to supply competitive agricultural products with reasonable price to the market to meet market requirements in imported countries. It is considered to establish small scale farm product export center to promote export with collaboration of each stakeholder such as producers, processors, distributors, and exporters.
Beneficiary	Beneficiary : (Direct beneficiary) • Distributors and exporters • Producers and processors (Indirect beneficiary) • Distributors and consumers in domestic and international markets
Supporting scheme	Master Plan Study (Three years)
Budget	4~500 Million Yen (Three years)
Contents of project	
Overall Goal	Reinforce value chain in the import countries Establish successful model by verification
Project Purpose	Small scale farm products export center will be established as one stop center to promote agricultural products.
Expected outcome	Quality standards and grading will be set up and disseminated. Vegetable and fruit production/marketing information system will be set up and managed. Match-making opportunity for production and distribution will be established.
Activities	Strengthening management capacity of product export center Strengthening agricultural collection and shipment system Set-up and disseminate quality and grading system Production/market information system Establishment of match-making system

Inputs	Consultant: Leader/food quality control, Operational coordination as long term export,, New-product development / packaging as short term expert Acceptance of trainees: food processing overseas training Provision: Necessary equipment
Project image	<div style="text-align: center;"> <pre>                     graph TD                         A[Small-scale products export center] --&gt; B[Reinforce value chain and establish successful model]                         C[Procuring farm products, improving add value, testing, storage , export] --&gt; B                         D[Match-making opportunity] --&gt; B                         E[Production/market information center] --&gt; B                         F[Specify area and items to improve value chain] --&gt; B                 </pre> <p>Image of Small scale farm products export center</p> </div>
Counter Part	PPP (Conceivable participating bodies: MoA, ABCC, RAS, CCI, Food processors association, Agricultural Cooperatives, etc.)

**Proposal No.5: Creation of a master plan for strengthening of Kyrgyz farmer organization (pilot project)**

Name of Project	Creation of a master plan for strengthening of Kyrgyz farmer organization (pilot project)
Target commodities and area	target : farmers' organizations target area : Bishkek, Chuy, Issyk-Kul (Talas)
Background / Objective	<p>In Kyrgyz, a number of small-scale farms were born and “occupational” farmers disappeared in accordance with the disbandment of kolkhoz. Thus, the agricultural production ability dropped dramatically, and recovery of production ability by organizing farmers has been an emergent issue. Even though support for foundation of the western-style service cooperatives has been given by international donors, most of the service cooperatives are now not active as they do not match the current situation of Kyrgyz.</p> <p>Production cooperatives that have the former kolkhoz as a mother body, on the other hand, offer services such as seed and material supply, entrusted operation by large agricultural machines to small-scale farms, even though the function is limited.</p> <p>Therefore, we offer support to develop the production cooperatives now in operation into “production + service cooperatives” with enhanced service functions to the regions, and to strengthen the management bases of production cooperatives themselves and raise the level of agriculture of the whole regions. Improvement of production capacity, industrialization of processing and distribution, employment generation and enhancement of management bases by increase of management acreage per farm are expected, and eventually, by cooperation with processing and certification projects, response to domestic supply and export promotion is improved.</p>
Beneficiary	Benefit target : (direct-benefit target) The Ministry of Agriculture, farmers' organizations, farmers (indirect-benefit target) Kyrgyz food producers, exporters
Supporting scheme	Technical cooperation of development plan research style
Budget	2 million yen (1 million yen × 2 years)
Components of project	
Overall goal	To develop farmers' organizations which can be responsible for improvement of agricultural production and its advancement
Project purpose	<ol style="list-style-type: none"> <li>1. Success cases of farmer organization are formed.</li> <li>2. To formulate a comprehensive plan to strengthen farmer organization in the whole of Kyrgyz.</li> <li>3. To formulate an action plan for promotion of strengthening of farmer organization.</li> </ol>

Expecting outcome	Value of farmers' organizations is recognized and activities for the promotion of farmer organization in the whole Kyrgyz are started.
Activities	<p>Three models by type (livestock raising, farming, advanced) are selected from the existing production cooperatives, then provision of information, seminars and support for creation of agricultural management plan intended for development of collaborative activities are implemented. Matching events with markets and exchange events with consumers are also held for securing the sustainability of activities.</p> <p>Knowledge obtained from the model cases are bundled as a master plan, based on which an overall plan for strengthening of farmer organization in the whole Kyrgyz. Support for inspection to model cases in the surrounding areas is also offered, through which problems for diffusion are picked up and action plans are studied.</p>
Inputs	<p>Long-term expert: leader and strengthening of farmer organization</p> <p>Short-term expert: marketing, production techniques</p> <p>Acceptance of trainees: overseas training on farmer organization</p> <p>Equipment provision: minimum required equipment</p>
Image of project	<pre> graph TD     A["1. Extracting the model cases • Orthodox livestock production cooperatives • Orthodox agricultural production cooperatives • Production cooperatives conducting diversified and advanced management"] --&gt; B["Extracting Knowledge and issues"]     B --&gt; C["3. Creation of a Master Plan • Organizational framework, Activities Contents • Role of each Organization, Framework of Promotion • Action Plan, Annual Plan, etc."]     C --&gt; D["4. Considering Action Plan • Support for on-site inspection of model cases • Extracting the issues for promoting • Formulating an Action Plan"]     D --&gt; E["2. Support for Model Cases • Support for expansion of collaborative activities (Support for creating the articles of incorporation, Provision of information on activities, etc.) • Support for operation (Support for crating plan, Provision of information, on-site inspection, test marketing, holding skull sessions, etc.)"]     E --&gt; A     E --&gt; C     </pre>
CP organization	The Ministry of Agriculture

**Recommendation No. 6: Laboratory capability improvement with reliable quality management**

Name of project	Laboratory capability improvement with reliable quality management
Target commodity and area	Target commodities : Food (Raw materials and Processed food) Target area: Bishkek, Osh
Background / Objective	<p>Currently the Customs Union requests quality control and safety assurance according to the criteria of TR-CU at import in 2013. However there is no governmental laboratory or certificate system responding to the request. Additionally, the laboratory does not reach a high enough level of international standards, such as ISO17025. This is a reason why Kyrgyz products cannot establish reliability of the union's members and other countries and the doors have been closed for export.</p> <p>For improvement of laboratory capacity, other donors have supplied laboratory equipment and provided operation training. But there are few technicians who can handle the equipment with good maintenance. Moreover, there are not enough method validation, accurate confirmation or data management. The project will improve the capability of laboratory staffs, utilizing existing facilities and equipment. The overall goal is acquisition of ISO17025 and export promotion.</p>
Beneficiary	<p>Beneficiary :</p> <p>(Direct beneficiaries) The Standardization and Metrology Center (MoE), Testing and Certification Centre (MoE)</p> <p>(Indirect beneficiaries) Food Manufacturer, Exporter</p>
Supporting scheme	Project-type technical cooperation (3~4years) Grant Aid
Budget	4~500Millon Yen (3~4years)
Components of project	
Overall goal	<ol style="list-style-type: none"> <li>1. The project will install ISO 17025 in the laboratory.</li> <li>2. Kyrgyz will increase exports to neighboring countries.</li> </ol>
Project purpose	The laboratory will be able to analyze any parameters that are required by TR-CU and laws of importing countries with accuracy.
Expecting outcome	<ol style="list-style-type: none"> <li>1. Chemist's skill is improved through appropriate training.</li> <li>2. Enough inspection equipment is provided.</li> <li>3. Appropriate methods are provided.</li> <li>4. The project installs management system in the laboratory.</li> </ol>
Activities	<ol style="list-style-type: none"> <li>1. Clarification of detail requirements of TR of the Customs Union.</li> <li>2. Provision of necessary equipment and operation training.</li> <li>3. Establishment of standard operation procedure (SOP).</li> <li>4. Improvement of test validity.</li> <li>5. Construction of laboratory management system.</li> </ol>

Inputs	<p>Long-term Experts: Leader (Laboratory accuracy management) Operational coordination Short-term Experts: Chemical analysis, Microbiological testing, TR System Acceptance of Trainee: Lab. Training (Russia, Japan or other abroad) Provision: Laboratory equipment and consumables</p>
Image of project	<pre> graph TD     subgraph Inputs         A[Equipment Maintenance]         B[Accuracy Control Vlidation]     end     subgraph Processes         C[Inspection Equipments]         D[Method]         E[Chemist's Skill]         F[Laboratory Management]     end     subgraph Outputs         G[High Reliability Data]         H[International Certification Acquisition (ISO17025)]     end     A --&gt; C     B --&gt; D     C --&gt; E     D --&gt; F     E --&gt; G     F --&gt; G     G --&gt; H     </pre> <p>The diagram illustrates the project's image through a flowchart. It begins with two input categories: 'Equipment Maintenance' and 'Accuracy Control Vlidation'. 'Equipment Maintenance' leads to 'Inspection Equipments', while 'Accuracy Control Vlidation' leads to 'Method'. 'Inspection Equipments' and 'Method' both lead to 'Chemist's Skill' and 'Laboratory Management'. 'Chemist's Skill' and 'Laboratory Management' both lead to 'High Reliability Data'. Finally, 'High Reliability Data' leads to 'International Certification Acquisition (ISO17025)'. 'Proficiency Test' and 'Reliability Management' are also associated with the process.</p>
CP	The Standardization and Metrology Center

**Recommendation No. 7: Human Resource Development for Food Certification System**

Name of project	Human Resource Development for Food Certification System
Target commodity and area	Target commodities : Food (Raw materials and Processed) Target area: Bishkek, Osh
Background / Objective	The Customs Union requests food quality and safety certification, and ISO22000 and HACCP can be used as the certification. However there are only few companies that can clearly understand those systems and control manufacturing process according to them. Therefore training for those systems is required for establishment of the purposes of the project, which are “Capacity development of food sanitation trainers and administrators” and “Training and administration system for the certification to food business operators”. The verification study will be conducted by pilot project in prioritized sector in Kyrgyz.
Beneficiary	Beneficiary : (Direct beneficiaries) The Standardization and Metrology Center (MoE), Testing and Certification Centre (MoE), MoA, KSTU, Kyrgyz Turkish Manas University, ABCC (Indirect beneficiaries) Food Manufacturer, Manufacturing Company, Transporter/ Exporter
Supporting scheme	Project-type technical cooperation (3~4years)
Budget	4~500Millon Yen (3~4years)
Components of project	
Overall Goal	1. ISO 22000 and HACCP will be installed to private company. 2. Kyrgyztan will increase exports to neighboring countries.
Project Purpose	The project will improve food product’s quality and reliability in Kyrgyztan.
Expecting outcome	1. Hygiene management and process control system are established in Kyrgyz food companies. 2. Hygiene management trainer and supervisor, and international certificate trainer are trained.

<p>Activities</p>	<ol style="list-style-type: none"> <li>3. Clarification of detail requirements of TR of the Customs Union.</li> <li>4. Provision of necessary equipment and operation training.</li> <li>5. Provision of food safety system training, such as ISO, HACCP, traceability and GAP.</li> <li>6. Establishment of human resources cultivation system.</li> <li>7. Provision of overseas training.</li> </ol> <p>Necessary things to make certification and inspection system for export promotion to members of the Customs Union are clarified. Then capacity development plan for certification training and administration is established. The plan should be undertaken with Kyrgyz accreditation and certification body, university, ABCC and other bodies. Subsequently raw material safety control system (GAP, Traceability etc.) and processed food safety control system (Food Sanitary Control, HACCP) should be done step by step for credibility enhancement.</p>
<p>Inputs</p>	<p>Long-term Experts: Leader/food certification system, Operational Coordination Short-term Experts: Management Raw materials and Product Safety, TR System Acceptance of Trainee: Certification Training (Russia, Japan or other abroad)</p>
<p>Image project of</p>	<pre> graph TD     subgraph "1. Harmonize with TR-CU"         GOSTR[GOST-R] --&gt; TRRussia[TR of Russia]         GOSTR --&gt; TRCU[TR of Customs Union]         TRRussia --&gt; TRCU     end      subgraph "2. Organize Certification Standards"         S1[Set Target Product (Ex. Dairy Products)]         S2[Reorganize Product Inspection Items]         S3[Organize Process Management System]     end      subgraph "3. Quality Control in Each Section"         S4[Train Hygiene Management for Raw Materials]         S5[Improve Factory Hygiene]         S6[Improve Testing Skill]     end      subgraph "4. Support System"         S7[Develop Hygiene Management Trainer]         S8[Develop Hygiene Management Supervisor]         S9[Develop Chemist]     end                 </pre>
<p>CP</p>	<p>Management: KCA (MoE), MoA Training Body: KSTU, Kyrgyz Turkish Manas University, ABCC</p>

# Appendix



## Consumer Awareness Survey for Gene Modified Organisms (GMO) and Food Safety

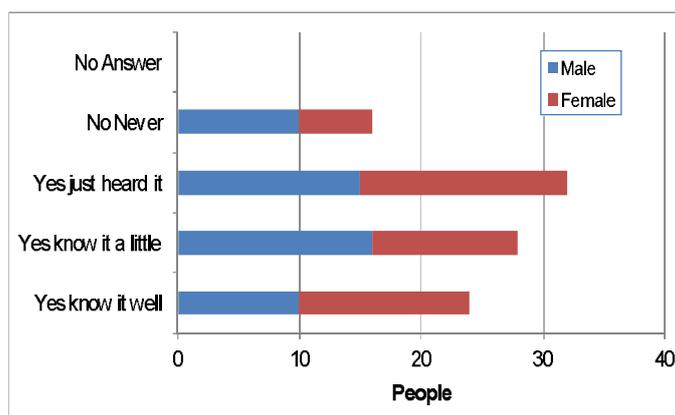
### 1. Awareness survey for GMO

#### (Survey Conditions)

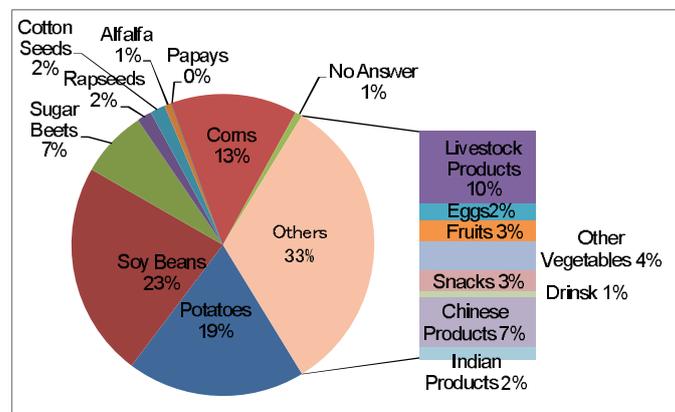
- Questionnaire Surveyor: IG Consultant Firm
- Surveillance Period: 29/Feb./2013~1/Mar./2013
- Surveyed people: General consumers in Bishkek
- Sample Number: 100 people
- Survey Method: Ask their opinion individually in the city

#### (Awareness of GMO)

Figure 1 shows the awareness of GMO, and Figure 2 shows what kinds of GMO products the interviewees know. Over 80% of them know GMO from answers in Figure 1; it included “Yes, know it well” “Yes, know it” and “Yes, but just heard it”. Typical GMO crops, soy beans, potatoes, corns and sugar beets, are more well known than others. According to the result of a free answer question to interviewees who choose “Other”, some of them feel that “Livestock products” and “Processed Food” may contain GMO in Figure 2. It is suggested that such anxiousness has arisen from the possibility of using GMO ingredients and/or GMO feed.



**Figure 1: GMO Recognition**

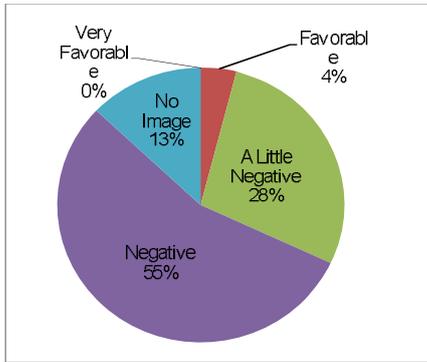


**Figure 2: Recognized GMO Products**

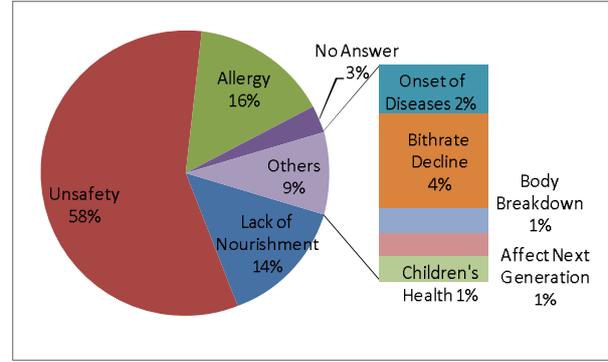
Source: JICA Survey Team

**(Images of GMO)**

Figure 3 shows over 80% people have a negative image of GMO. In Figure 4, almost 60% people feel that GMO is not safe enough. According to the results of free answer questions to interviewees who choose “Other”, the people feel that there are bad effects on the body by eating GMO products, such as ” Onset of Diseases” “Birthrate Decline”. Those bad impressions can be classified as “Unsafe”. Therefore over 60% of them feel GMO food products are unsafe in this survey.



**Figure 3: Impression of GMO products**

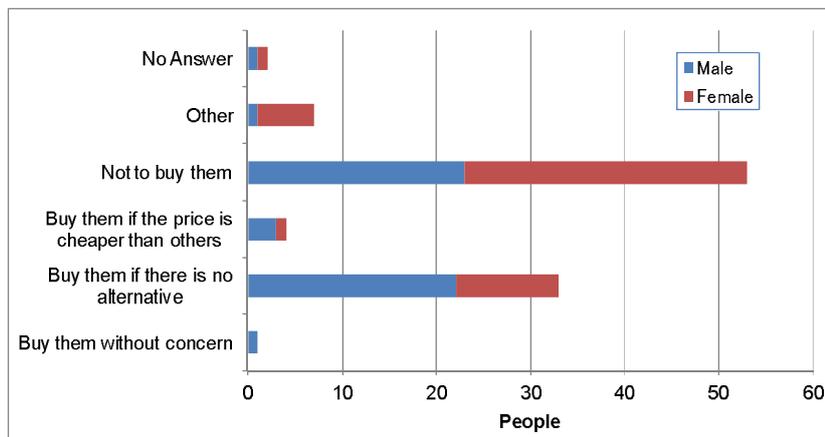


**Figure 4: Critical Feeling of GMO**

Source: JICA Survey Team

**(Purchase Intention of GMO Products)**

According to the survey about purchase intention of GMO products in Figure5, over 50% answered “Not to buy them”; over 30% selected “Buy them if there is no alternative”. In other words, certain people would not like to buy GMO products, when possible. Meanwhile some people can buy GMO products, when there is no alternative. In this survey, there is no question asking purchase intention with cost. Therefore people might buy them, when GMO products are much cheaper than others.



**Figure5: Purchase Intention of GMO**

Source: JICA Survey Team

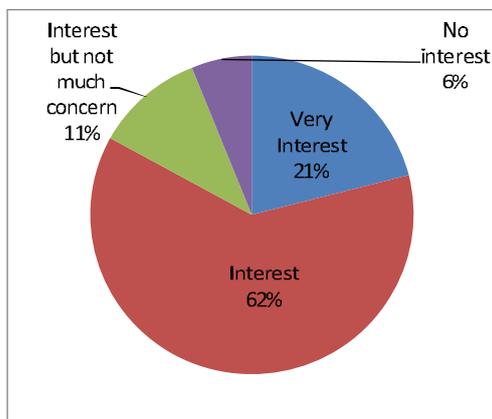
## 2. Awareness Survey for Food Safety

### (Survey Conditions)

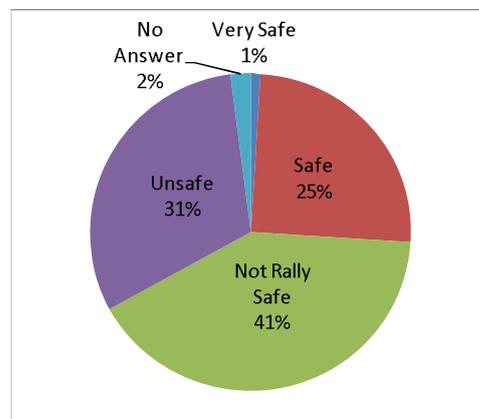
This survey was conducted under the same conditions as GMO opinion survey in same conditions.

### (Interest in Food Safety)

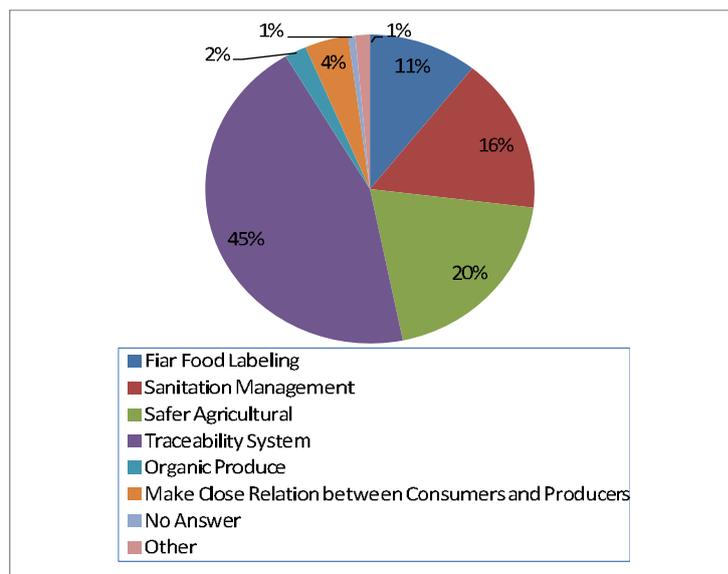
Figure 6 shows that 80% of interviewees are interested in Food Safety. And Figure 7 shows that over 70% of them feel that food products made in Kyrgyz do not reach a high enough level in food safety. Moreover, over 30% answered “Unsafe”. 45% think that traceability is effective for the problem solution in Figure 8. It is suggested that indistinct distribution and production sites are causing consumer fear.



**Figure 6: Interest in Food Safety**



**Figure 7: Safety Image of Kyrgyz food**



**Figure 8: Problem Solution for Food Safe**

**Source: JICA Survey Team**

**Photograph**



2013-02-10  
Suburbs of Bishkek  
Sheep grazing



2013-02-10  
Suburbs of Bishkek  
Shepherd (horse riding)



2013-02-10  
Suburbs of Bishkek  
Sheepfold



2013-02-12  
The Government of Chuy Province  
(Tokmok)



2013-02-12  
BULL'S KG  
Entrance



2013-02-12  
BULL'S KG  
Processing Room



2013-02-12  
BULL'S KG  
BULL'S KG TMR



2013-02-12  
BULL'S KG  
The site of Kolkhoz



2013-02-12  
BULL'S KG  
Paddock



2013-02-12  
BULL'S KG  
Breeding cattle



2013-02-12  
BULL'S KG  
Cowshed under construction



2013-02-12  
BULL'S KG  
Horse paddok



2013-02-12  
BULL'S KG  
Cawshed



2013-02-12  
BULL'S KG  
Panoramic view of farm



2013-02-12  
BULL'S KG  
Panoramic view of farm



2013-02-12  
BULL'S KG  
Raising turkeys with lost roughage



2013-02-12  
BULL'S KG  
Turkeys



2013-02-12  
BULL'S KG  
Storage condition of roughage in winter



2013-02-12  
BULL'S KG  
Slaughterhouse machinery



2013-02-12  
BULL'S KG  
Inside of the slaughterhouse



2013-02-12  
BULL'S KG  
Processing factory under



2013-02-12  
BULL'S KG's member



2013-02-12  
TOKMOK  
Strawberry field channel



2013-02-12  
TOKMOK  
Strawberry field



2013-02-12  
TOKMOK  
Panoramic view of strawberry field



2013-02-13  
Bishkek  
Shop of One Village one Product



2013-02-13  
Bishkek  
Shop of One Village one Product



2013-02-13  
BIOKG, BIOMART  
Exchanging of opinions



2013-02-14  
Ministry of Agriculture



2013-02-15  
Ministry of Agriculture



2013-02-16  
Cultivated field



2013-02-16  
Boundary between Kazakhstan  
Blocked



2013-02-16  
Issyk-Kul region  
Shepherd



2013-02-16  
Tong District  
Farmer  
House made apple and jam



2013-02-16  
Tong District  
Panoramic View of general farm



2013-02-16  
Tong District  
Water supply



2013-02-16  
Tong District  
House building of farmer



2013-02-16  
Tong District  
Farmer, Poultry farming (Pasture)



2013-02-16  
Tong District  
Farmer, Cattle Breeding



2013-02-16  
Tong District  
Place for cattle breeding



2013-02-16  
Tong District  
Irrigating Pump



2013-02-16  
Tong District  
Farmer



2013-02-16  
Lake Issyk-Kul  
Condition of Water pollution



2013-02-16  
Lake Issyk-Kul



2013-02-16  
Lake Issyk-Kul  
Factory beside Lake



2013-02-16  
Lake Issyk-Kul  
Entrance of Bazaar



2013-02-16  
Lake Issyk-Kul  
Bazaar, dried fruits



2013-02-16  
Lake Issyk-Kul  
Bazaar, fruits



2013-02-16  
Lake Issyk-Kul  
Bazaar, vegetables



2013-02-16  
Lake Issyk-Kul  
Bazaar, root vegetables



2013-02-16  
Lake Issyk-Kul  
Bazaar, herb and fruits



2013-02-16  
Lake Issyk-Kul  
Bazaar



2013-02-16  
Lake Issyk-Kul  
Direct sales store on the road



2013-02-16  
Chuy Province  
an irrigation channel



2013-02-16  
Chuy Province  
Market of livestock



2013-02-16  
Chuy Province  
Market of livestock



2013-02-16  
Chuy Province  
Market of livestock, horses



2013-02-16  
Chuy Province Chuy Province



2013-04-20  
Kazakhstan, Kok-Tobe National Park  
Cable Car



2013-04-20  
Kazakhstan, Kok-Tobe National Park  
View of Almaty



2013-04-20  
Kazakhstan, Kok-Tobe National Park



2013-04-20  
Kazakhstan, Kok-Tobe National Park



2013-04-20  
Kazakhstan, Kok-Tobe National Park



2013-04-20  
Kazakhstan, Bakanas Farm



2013-04-20  
Kazakhstan, Bakanas Farm



2013-04-20  
Kazakhstan, Bakanas Farm



2013-04-20  
Kazakhstan, Bakanas Farm



2013-04-20  
Kazakhstan, Bakanas Farm



2013-04-20  
Kazakhstan, Bakanas Farm



2013-04-20  
Kazakhstan, Bakanas Farm



2013-04-20  
Kazakhstan, Bakanas Farm



2013-04-20  
Kazakhstan, Bakanas Farm



2013-04-20  
Kazakhstan BakanasFarm



2013-04-20  
Kazakhstan BakanasFarm



2013-04-20  
Kazakhstan BakanasFarm



2013-04-20  
Kazakhstan BakanasFarm



2013-04-20  
Kazakhstan BakanasFarm



2013-04-20  
Kazakhstan BakanasFarm



2013-04-20  
Kazakhstan BakanasFarm



2013-04-20  
Kazakhstan BakanasFarm



2013-04-20  
Kazakhstan BakanasFarm



2013-04-20  
Kazakhstan Bakanas Farm



2013-04-20  
Kazakhstan Bakanas Farm



2013-04-20  
Kazakhstan Bakanas Farm



2013-04-20  
Kazakhstan BakanasFarm



2013-04-20  
Kazakhstan BakanasFarm



2013-04-20  
Kazakhstan BakanasFarm



2013-04-20  
Kazakhstan Bakanas Farm



2013-04-20  
Kazakhstan Bakanas Farm



2013-04-20  
Kazakhstan Bakanas Farm



2013-04-20  
Kazakhstan Bakanas Farm



2013-04-20  
Kazakhstan Bakanas Farm



2013-04-20  
Kazakhstan Bakanas Farm  
MEDICAGO



2013-04-20  
Kazakhstan Bakanas Farm



2013-04-20  
Kazakhstan Bakanas Farm



2013-04-21  
Kazakhstan, Kok-Tobe National Park  
Parking



2013-04-21  
Kazakhstan, Kok-Tobe National



2013-04-21  
Kazakhstan, Kok-Tobe National Park



2013-04-21  
Kazakhstan, Kok-Tobe National Park



2013-04-21  
Kazakhstan, Kok-Tobe National Park



2013-04-21  
Kazakhstan, Central Market of Almaty



2013-04-21  
Kazakhstan, Central Market of Almaty



2013-04-21  
Kazakhstan, Central Market of Almaty  
Potatoes from Kyrgyz



2013-04-21  
Kazakhstan, Central Market of Almaty  
Sausages from Kyrgyz



2013-04-21  
Kazakhstan, Central Market of Almaty



2013-04-25  
Shop of Bishkek



2013-04-25  
Shop of Bishkek



2013-04-25  
Issyk-Kul  
Condition of Road



2013-04-25  
Issyk-Kul  
Farmer Organization, Zarya



2013-04-25  
Issyk-Kul  
Farmer Organization, Zarya



2013-04-25  
Issyk-Kul Province  
Government



2013-04-25  
Issyk-Kul Province  
Government



2013-04-25  
Issyk-Kul Province



2013-04-25  
Issyk-Kul Province  
Farmer's Restaurant



2013-04-25  
Karakol  
Shop for one village one product



2013-04-25  
Issyk-Kul  
Flowers of Apples



2013-04-26  
Issyk-Kul  
Trees of Apples



2013-04-26  
Issyk-Kul, Kredbak  
Storehouse for fruits



2013-04-26  
Issyk-Kul, Kredbak  
Storehouse for fruits



2013-04-26  
Issyk-Kul, Kredbak  
Storehouse for fruits



2013-04-26  
Issyk-Kul, Kredbak



2013-04-26  
Issyk-Kul, Kredbak



2013-04-26  
Issyk-Kul, Kredbak  
President and others



2013-04-26  
Lakeside of Lake Issyk-Kul  
Sheep grazing



2013-04-26  
Lakeside of Lake Issyk-Kul  
Sheep of Kyrgyz



2013-04-26  
Lakeside of Lake Issyk-Kul  
Sheep grazing



2013-04-26  
Lakeside of Lake Issyk-Kul



2013-04-26  
Lakeside of Lake Issyk-Kul I  
Soil



2013-04-26  
Lakeside of Lake Issyk-Kul  
Soil



2013-04-26  
Lake of Issyk-Kul



2013-04-26  
Lakeside of Lake Issyk-Kul I  
goat



2013-04-26  
Lakeside of Lake Issyk-Kul  
Cow grazing



2013-04-26  
Lakeside of Lake Issyk-Kul  
Cow grazing



2013-04-26  
Issyk-Kul, mirang-ton



2013-04-26  
Issyk-Kul, mirang-ton



2013-04-26  
Issyk-Kul, mirang-ton



2013-04-26  
Issyk-Kul, Apricot



2013-04-27  
Issyk-Kul, mukai



2013-04-27  
Issyk-Kul, mukai



2013-04-27  
Issyk-Kul, mukai  
President



2013-04-27  
Issyk-Kul, mukai



2013-04-27  
Issyk-Kul, mukai



2013-04-27  
Issyk-Kul, mukai  
filed



2013-04-27  
Issyk-Kul, mukai  
Sheep grazing inside the farm



2013-04-27  
Issyk-Kul, mukai



2013-04-27  
Issyk-Kul, mukai



2013-04-27  
Issyk-Kul, mukai  
Condition of soil



2013-04-27  
Issyk-Kul, mukai  
Water Channel of farm



2013-04-27  
Issyk-Kul, mukai  
Water Channel of farm



2013-04-27  
Issyk-Kul, mukai  
Water pool of farm



2013-04-27  
Issyk-Kul, mukai  
plowing



2013-04-27  
Issyk-Kul, mukai  
plowing



2013-04-27  
Issyk-Kul, mukai  
fertilizer



2013-04-27  
Issyk-Kul, mukai  
Handmade harrow rake



2013-04-27  
Issyk-Kul, mukai  
Chinese Tractor



2013-04-27  
Issyk-Kul, mukai  
Condition of soil



2013-04-27  
Issyk-Kul, mukai



2013-04-27  
Issyk-Kul, mukai



2013-04-27  
Issyk-Kul, agroleader



2013-04-28  
Issyk-Kul, Tup District  
Government



2013-04-28  
Issyk-Kul, Tup District  
grazing



2013-04-28  
Issyk-Kul, Tup District  
Wheat planted in Autumn



2013-04-28  
Issyk-Kul, Tup District  
The place held the Seminar



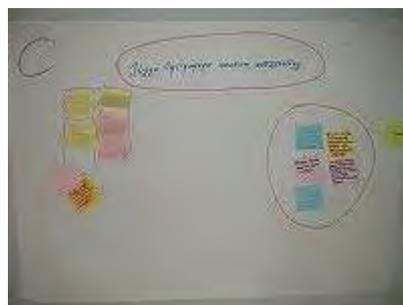
2013-04-28  
Issyk-Kul, Tup District  
Seminar



2013-04-28  
Issyk-Kul, Tup District  
Seminar



2013-04-28  
Issyk-Kul, Tup District  
Group A



2013-04-28  
Issyk-Kul, Tup District  
Group C



2013-04-28  
Issyk-Kul, Tup District  
Group D



2013-04-28  
Issyk-Kul, Tup District  
Group B



2013-04-28  
Issyk-Kul, Tup District  
Attendance of Seminar



2013-04-28  
Issyk-Kul, Tup District



2013-04-28  
Issyk-Kul, Tup District  
Condition of Road maitenace



2013-04-29  
Issyk-Kul, inside of guest house  
Store for one village one product



2013-04-29  
Issyk-Kul, Bagrentsevo  
Condition of Machineries



2013-04-29  
Issyk-Kul, Bagrentsevo  
Factory of grain mill



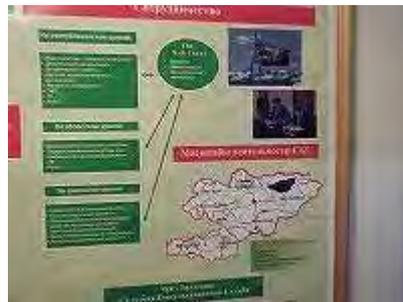
2013-04-29  
Issyk-Kul, member of Bagrentsevo



2013-05-06  
Bishkek, BIKG



2013-05-06  
Bishkek, RAS  
Organization Tree



2013-05-06  
Bishkek, RAS



2013-05-06  
Bishkek RAS



2013-05-06  
Bishkek RAS



2013-05-10  
Chuy Province (Southern Part)



2013-05-10  
Chuy Province  
Water Channel



2013-05-10  
Talas Province



2013-05-10  
Talas Province  
Store of dairy product on the road



2013-05-10  
Talas Province  
Dairy products (cheese)



2013-05-10  
Talas Province  
Dairy products (Kumis)



2013-05-10  
Talas Province  
Village Office



2013-05-10  
Talas Province Lerpzig-taras  
Member of Village Office



2013-05-10  
Talas Province Lerpzig-taras  
members



2013-05-10  
Talas Province Lerpzig-taras  
grassland



2013-05-10  
Talas Province Lerpzig-taras  
Farmland for beans



2013-05-10  
Talas ProvinceLerpzig-taras  
beans



2013-05-10  
Talas ProvinceLerpzig-taras  
beans



2013-05-10  
Talas ProvinceLerpzig-taras  
beans



2013-05-10  
Talas ProvinceLerpzig-taras



2013-05-10  
Talas ProvinceLerpzig-taras



2013-05-10  
Talas ProvinceLerpzig-taras  
Condition of soil



2013-05-10  
Talas ProvinceLerpzig-taras  
Condition of soil



2013-05-10  
Talas ProvinceLerpzig-taras  
Condition of Water Channel



2013-05-10  
Talas ProvinceLerpzig-taras  
Plantaion



2013-05-10  
Talas ProvinceLerpzig-taras  
farmland



2013-05-10  
Talas ProvinceLerpzig-taras



2013-05-10  
Talas ProvinceLerpzig-taras  
grazing



2013-05-10  
Talas ProvinceLerpzig-taras  
Sheep



2013-05-10  
Talas ProvinceLerpzig-taras  
Storehouse of Potatoes



2013-05-10  
Talas ProvinceLerpzig-taras  
Storehouse of Potatoes



2013-05-10  
Talas City,  
Entrance of Cheese Factory



2013-05-10  
Talas City,  
Direct Store of Cheese Factory



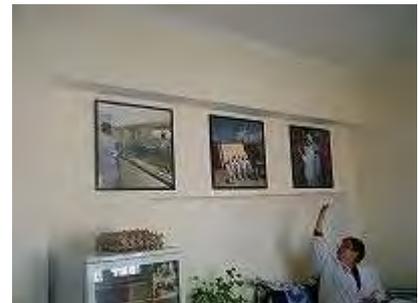
2013-05-10  
Talas City,  
Cheese



2013-05-10  
Talas City,  
Cheese



2013-05-10  
Talas City,  
Cheese



2013-05-10  
Talas City,  
Cheese Factory



2013-05-10  
Talas City,  
Cheese Factory



2013-05-10  
Talas City



2013-05-11  
Talas City



2013-05-11  
Talas Province



2013-05-11  
Talas Province



2013-05-11  
Talas Province



2013-05-11  
Talas Province



2013-05-11  
Talas Province



2013-05-11  
Talas Province



2013-05-11  
Talas Province



2013-05-11  
Talas Province



2013-05-11  
Talas Province



2013-05-11  
Talas Province



2013-05-11  
Talas Province



2013-05-11  
Talas Province



2013-05-12  
Boundary of Kyrgyz and Kazakhstan  
Kazakhstan side



2013-05-13  
Farm in Astana neighboring



2013-05-13  
Farm in Astana neighboring



2013-05-13  
Farm in Astana neighboring



2013-05-13  
Farm in Astana neighboring  
Condition of soil



2013-05-13  
Farm in Astana neighboring



2013-05-13  
Farm in Astana neighboring



2013-05-14  
Farm in Astana neighboring



2013-05-15  
Astana, Bazaar



2013-05-15  
Astana, Bazaar  
Entrance



2013-05-15  
Astana, Bazaar  
Dried fruits



2013-05-15  
Astana, Bazaar  
Dried fruits



2013-05-15  
Astana, Bazaar



2013-05-15  
Astana, Bazaar  
Rice



2013-05-15  
Astana, Bazaar  
Fruits



2013-05-15  
Astana, Bazaar  
Vegetables



2013-05-15  
Astana, Bazaar  
Store of owner from Kyrgyz



2013-05-15  
Astana, Bazaar  
Signboard



2013-05-15  
Astana, Indoor Bazaar



2013-05-15  
Astana, Indoor Bazaar