CONCEPT OF FOOD CLUSTER IN FREE ECONOMIC ZONE "SUGHD"

Dushanbe 2012

BUSINESS CONSULTING GROUP

СУГД
Свободная экономическая зона

HILFSWERK AUSTRIA INTERNATIONAL

TABLE OF CONTENTS

Abbreviations and conventions

RT – Republic of Tajikistan

CIS – Commonwealth of independent states

RF – Russian Federation

EU – European Union

RRS – Rayons of Republican Subordination

FEZ – Free economic zone

SME – Small and medium enterprises

LLC – Limited liability company

PE – Private entrepreneur

kg – kilogram

mt – metric ton

mln. – million

thous. – thousand

pcs – pieces

TJS – Tajik Somoni

USD – US dollars

IFRS – International Financial Reporting Standards

HACCP – Food safety management program (*Hazard Analysis and Critical Control Points*)

ISO 22000 – International standard in the area of food safety management

INTRODUCTION

This research has been performed as part of the project “Integrated approach to promoting Central Asian SMEs processing nuts, dried fruit and honey” with financial support by the European Union, as part of the second phase of the program “Central Asia Invest”. The work has been performed by “Business Consulting Group” LLC, which won the tender to perform this research. The authors are thankful to “Hilfswerk Austria International” project staff in Sughd Region, Head of FEZ “Sughd” administration A.Sh.Yakubov, and other organizations and individuals for assistance provided in the process of this research.

The work has been performed by a team of authors, including A.H.Avezov, doctor of economics, professor – team leader; Sh. Rakhimi, A.A. Abdurazakov, A.A. Ibragimov – team members.

The content of this publication is the sole responsibility of “Business Consulting Group” LLC and **Hilfswerk Austria International**, and may not reflect the opinion of **the European Union**.

Austrian
Development Cooperation

Project co-financed by
the Austrian Development
Agency – **ADA**

METHODOLOGY

The work uses methods of situation analysis and strategic planning. The research was performed in the following order: analysis of the situation in the fruit and vegetable sector in Sughd Region, dried fruit sector, beekeeping products and in the main export markets. Based on the analysis of sectors in the economy of Sughd Region, using the method of pair correlation and calculating specialization, localization ratios and other indicators, “maturing” clusters were identified, among which was the food cluster. The work uses qualitative and quantitative methods, including SWOT analysis of fruit and vegetable sector in Sughd Region; analysis of statistical, secondary and expert information; organizing and conducting in-depth interviews and focus groups with experts in the area; express questionnaire survey of the exporters of canned food and dried fruit exporters; desk review; forecasting market development; situation modeling and other methods.

EXECUTIVE SUMMARY

Unique geographic location and bio-climatic conditions form the basis of competitive advantage for Tajikistan’s fruit and vegetable product manufacturers in the markets of CIS countries and abroad. As of 2010, the country has 9.3% of all apricot gardens in the world. Tajikistan occupies 37.4% of the Russian market of imported dried fruit, ahead of Turkey and Uzbekistan. Mountainous parts of the country are favorable for producing organic honey – the most valuable beekeeping product in the market.

Analysis shows that the economy of Sughd Region has “matured” for four clusters: food, canning fruit and vegetables, textile and construction. Food cluster is the most promising of the four. However, due to lack of investment and outdated production organization process, the capacity of this unique sector is underused. Agro-technological norms are not and rules for growing fruit and vegetable are not followed, existing processing equipment and technologies are obsolete, modern storage facilities are not available, production infrastructure is worn out and competitiveness of the enterprises is significantly impaired. This results in lower yield of fruit, high crop losses, degrading quality of products and lower revenue for the processing enterprises.

At the same time, the research shows that in the long run (up to 2020), organizing new gardens and following agro-technological norms for growing apricots will allow increasing yield from existing 3-5 tons per hectare to 15-20 tons. Availability of inputs of sustainably high quality will allow producing dried fruit priced at 6-8 thousand dollars per ton, as opposed to the current 2,000. Replacing current juice production technology to produce concentrates, deepening processing of nuts and peanuts, expanding production of organic honey and beekeeping products will significantly increase the competitiveness of local products in the domestic and export markets.

The project has two distinguishing features that will help increase competitiveness of the products:

1) It suggests establishing a food cluster to organize mutually beneficial cooperation among all

production companies listed above and specializing in processing fruit, vegetables, nuts and honey;

2) The food cluster will use the benefits of FEZ “Sughd”, which is exempted from main types of taxes and customs duties on imported technological equipment and inputs.

The cluster approach provides its participants a radically new logic of competition. Unlike the traditional competitive environment, where competition factors are methods of management, marketing and cost management, the cluster uses institutional factors. In particular, the synergy effect, provided by institutional interaction of enterprises, academic institutions and the state. Within a cluster, competition is modified towards cooperative interaction of its participants, providing additional benefit to each member. Therefore, each participant in a cluster ends up in a better competitive situation than if it would operate outside the cluster.

A special role in the cluster is paid by the government, represented by the local governance bodies, which determine the institutional and legal conditions of the cluster, organize dialog and coordinate the participants’ interests, and provide financial support to individual initiatives.

The growth of production capacity and competitiveness of the cluster will help increase production by processing inputs grown within the country, in neighboring parts of Kyrgyzstan and Uzbekistan, as well as in Afghanistan. This will help promote the regional brand.

Implementing the project requires an investment of 37 million USD over five years. These funds will be spent on the following activities: gradual establishment of new gardens with improved varieties of apricots (higher yield, taller trees, better resistance to diseases); construction of modern enterprises processing dried fruit; upgrading fruit and vegetable processing lines; establishing specialized labs, introducing international product quality control systems; organizing research, improving human resources training, professional development courses for employees, etc. Calculations show that food clusters are a highly profitable investment. The project will generate profit starting from year two, and ROI will be around four years.

1. CAPACITY AND ISSUES OF ESTABLISHING A FOOD CLUSTER IN SUGHD REGION

1.1. Food cluster capacity

Sughd Region has a great capacity for growing and processing fruit and vegetables, honey and nuts. The region has over 85% of the apricot gardens in Tajikistan. In the Soviet period, it was producing about 200,000 tons of fruit and vegetables a year, including: 100,000 tons of fruit, 60,000 tons of vegetables, and up to 40,000 tons of canned fruit and vegetables. Substantial amount of fruit and vegetables is grown in the southern and central parts of the country, which can also be processed at factories in Sughd Region. It is also possible to process inputs grown in neighboring parts of Kyrgyzstan and Uzbekistan. Inputs from these areas can be transported to processing enterprises in Sughd Region with minimum costs.

Afghanistan is another prospective supplier of inputs for processing. This country has a great capacity to produce fruit and vegetables, which was disorganized during the military activities. Afghan raisins are still famous in the Asian countries.

The infrastructure for processing fruit and vegetables in Sughd Region is in relatively good shape. There is an extensive road infrastructure to export the finished products into the CIS countries and further abroad. Storage facilities, specialized laboratories and educational institutions training specialists in fruit and vegetable processing are partially functioning. There are five specialized farms growing saplings here, along with a branch of the Gardening and Vegetable Farming Institute of the Academy of Agricultural Sciences.

As of January 1, 2012, there were 26 enterprises in Sughd Region processing 32 types of inputs (vegetables, fruit, berries, nuts, melons), with the total processing capacity of 98,400 tons, or 246 million conventional jars. This allows processing about 13,000 tons of fruit, 3,000 tons of grapes, and 60,000 of other fruit and vegetables. Eight enterprises have (at least partially) modern equipment. The current status of the sector for growing, processing and exporting fruit and vegetable products and dried fruit is analyzed in Annex 1.

1.2. Key issues of cluster formation

There are a number of organizational and production issues that can form obstacles to building a food cluster in Sughd Region. To solve these issues, it is necessary to design a new concept of fruit and vegetable business, identify prospective participants, develop an organizational and production structure of the connections among the participants, develop the management concept and structure. The process can be significantly expedited by organizing interaction of the state and private sector in this area.

The issues of organizational nature include:

- Lack of a business concept for cluster establishment and development in the region;
- Lack of a cluster management concept;
- Lack of vision for the cluster’s financing mechanisms;
- Uncertainty of the state’s role in the process of cluster establishment and development;
- Lack of proven methods to evaluate the efficiency of the cluster operation;
- Low investment activity in the region.

To overcome these issues, the following objectives need to be met:

- Identify a business concept and determine the feasibility of establishing a cluster in the region. The internal and external effects the region gets with the establishment of a cluster need to be identified;
- Design a cluster establishment algorithm, which includes a step-by-step process of cluster formation, from purchasing the resources to selling the finished products;
- Determine the main types of activity and production specialization of the cluster;
- Identify possible motivation of the prospective cluster participants. As other countries’ experience shows, company managers are cautious and wary about joining a cluster, afraid of losing their company. It is important to explain the advantages of the cluster to its prospective participants;
- Identify possible composition of the cluster. In Sughd Region there are a lot of organizations and enterprises; therefore, one of the main goals is to determine the criteria by which the participants will be determined;

- Design norms and regulations for the cluster operation. There are currently no rules in Sughd Region based on which the participants can operate within a cluster.

An important goal in the formation of a cluster is to identify a vision on the cluster management. This requires answering such questions as membership and distribution of management functions, role of the state, management mechanisms, etc.

The next group of issues requiring solution are those of production nature. Annexes 2 to 4 show the results of SWOT analysis for such sectors as canned fruit and vegetables, dried fruit processing and export, which was performed together with experts and specialists in the respective sectors. The SWOT analysis has identified the following production-related gaps:

- Lack of a common sales and brand strategy for Tajik producers’ goods in the export markets. Small batches and irregular supplies. Unstable product quality, sluggish reaction to dynamic changes of demand in the market, narrow range of products ultimately impair competitiveness;
- Lack of coordination between producers, processors and exporters of fruit and vegetable products with regards to pricing, advertising, delivery; numerous obstacles to export, which reduce revenue;
- Non-uniform or irregular quality of inputs, for example, apricots, etc., supplied by dekhkan farmers, which results in additional costs for sorting and prevents formation of large batches;
- Lack of GOST (state standards) compliant with international standards, which makes it more difficult selling the produce directly to large customers;
- Up to 90% of the dried fruit exported is shipped to the market without industrial processing, without meeting the standards, which results in lower quality and image of the products;
- Tajik enterprises do not take part in international fairs and exhibitions, therefore large customers are unaware about Tajik products.

The research has shown low profitability of the existing technologies for producing fruit juices – a product that can potentially be extremely valuable – close to directly squeezed juices. The production is organized using outdated equipment and morally obsolete technologies. The existing business concept does not meet the market requirements. Products containing about 90% water and packed in fragile glass jars are transported over 3500 km (see Fig. 1.1). Apparently, the current business concept is vulnerable.

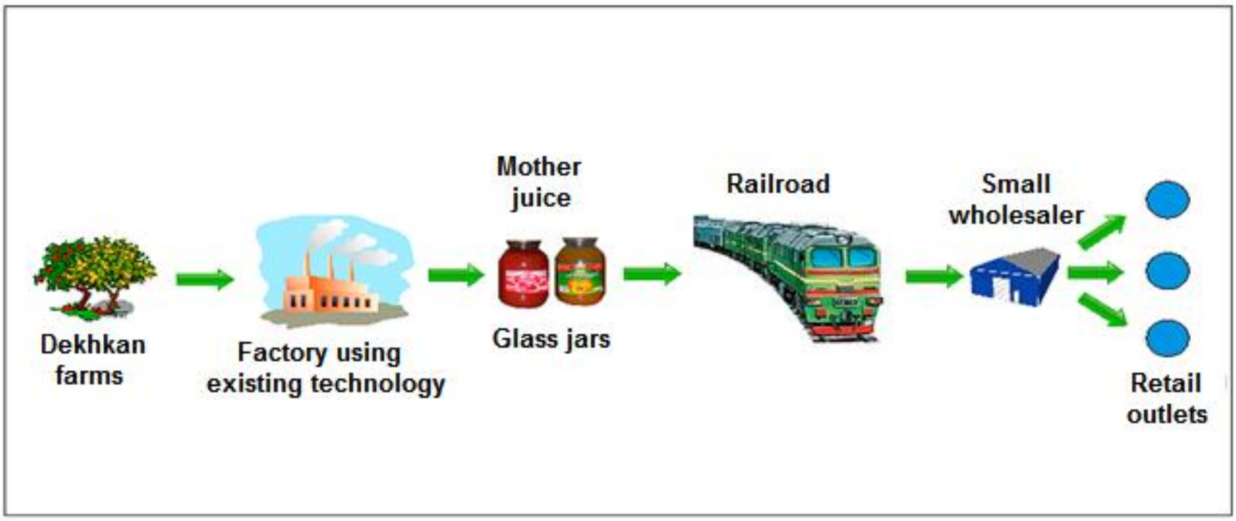


Figure 1.1. Business concept of the existing production

At the same time, most leaders in the fruit juice markets in Russia and Kazakhstan have moved on to production of juice concentrates. It is necessary to change the current business concept of juice production. Producing concentrated juice packed in aseptic bags, transported to the sales location and producing reconstituted juice at a Tajik-Russian joint venture located close to the sales markets would significantly increase the competitiveness and profitability of Tajik producers (Figure 1.2).

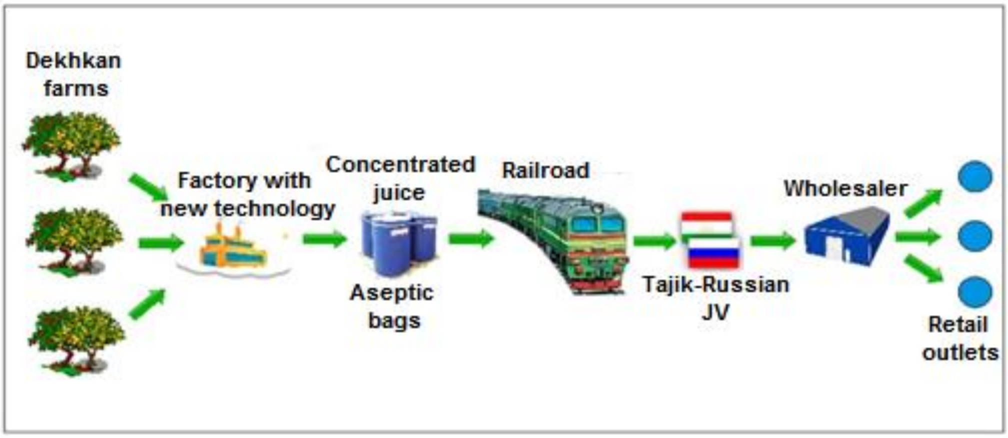


Figure 1.2. Business concept of concentrated juice production

1.3. Advantages of locating the food cluster in FEZ “Sughd”

1.3.1. General information on FEZ “Sughd”

The food cluster is to be established on the territory of FEZ “Sughd”, established by Decree of the Government of the Republic of Tajikistan of May 2, 2008. Free Economic Zone “Sughd” is a specific territory within the Republic of Tajikistan, which has special customs and tax regimes, as well as a simplified procedure for registering enterprises, so called FEZ “Sughd” residents. The residents are exempted from main taxes and customs duties on imported technological equipment and inputs. This will improve the competitiveness of the cluster’s products.

General information on FEZ “Sughd”:

- Full name: Free Economic Zone “Sughd”;
- Location: South-West industrial area, Khujand, Tajikistan;
- Total area: 320 hectares;
- Type: industrial and innovative zone;
- Management body: Administration FEZ “Sughd”;
- Established for: 25 years.

According to the new legislation on licensing and free economic zones in the Republic of Tajikistan, in order to become a subject of FEZ "Sughd" is necessary to pay about $ 30. This amount includes the cost of the consideration of an application, reception of the certificate and others. Certificate as a subject of FEZ "Sughd" is issued for following periods:

- Certificate for commercial operation – for 10 years;
- Certificate for production operation – for 15 years.

Annual fee for operation within FEZ “Sughd” is:

1. $1 USD per square meter of area used;
2. $0.25 USD per square meter for 7 years (starting October 2008) for enterprises that existed

in FEZ “Sughd” territory before its establishment.

FEZ “Sughd” provides the following guarantees to its residents (in accordance with the legislation of the Republic of Tajikistan and norms of international law):

- Legal protection of investment;
- Copyright protection for FEZ residents;
- Equality of legal regime for foreign and internal investment;
- Non-discrimination of organizations with foreign investment.

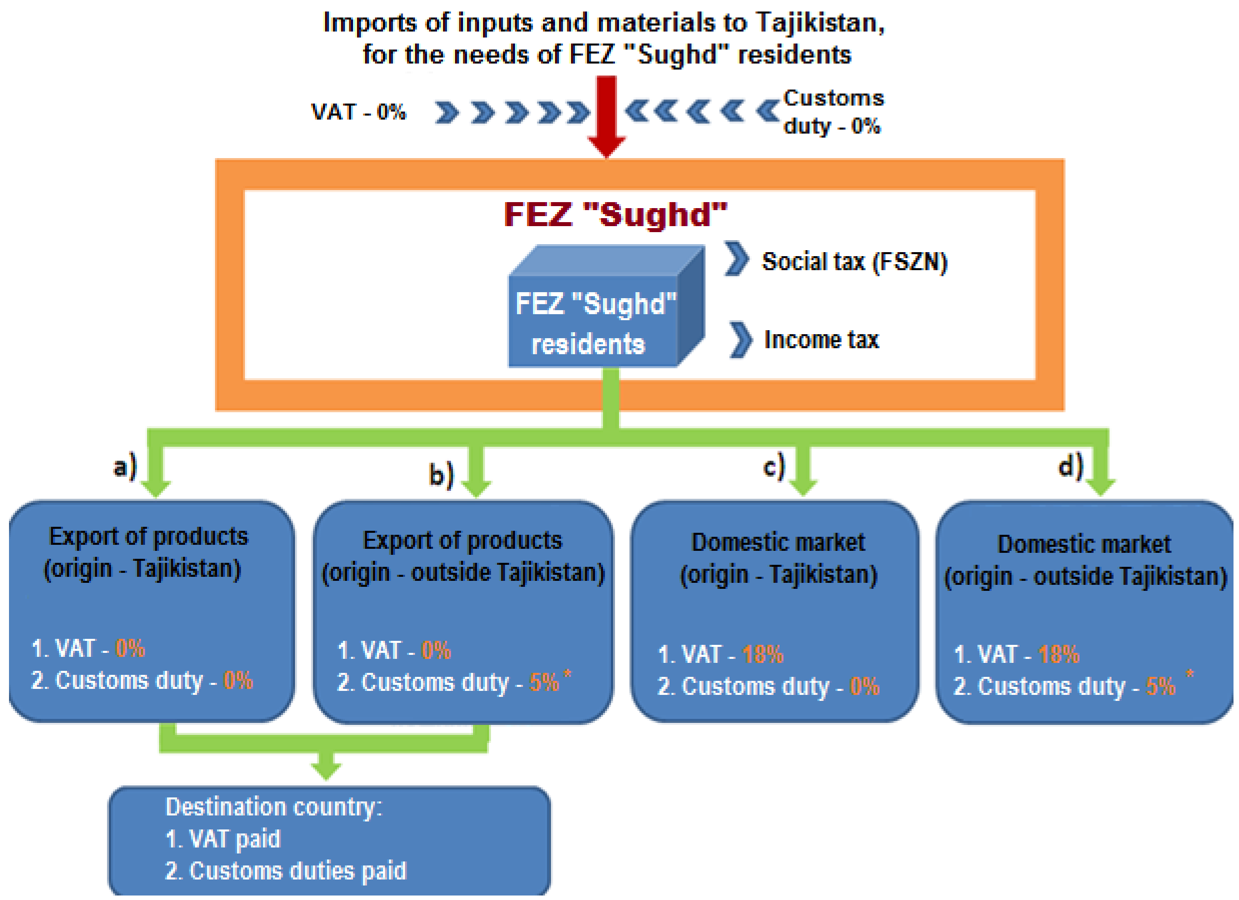
1.3.2. Infrastructure

Khujand international airport – Tajikistan’s second largest in terms of passenger and cargo transportation volumes, is located 12 km away from FEZ “Sughd”. All conditions are present for building enterprise infrastructure – electricity, water supply and sewage. Two power transforming stations with the total capacity of 60 MW, can supply energy for all production needs of enterprises in FEZ “Sughd”. Fiber optic line provides access to the Internet and telephone access. FEZ “Sughd” is connected to the central roads, including a new bridge across the Sir Daria river, connecting left-bank and right-bank parts of the city.

The General Plan for Developing Production and Commercial Infrastructure in the Region provides for building a railroad branch to the right bank of the Sir Daria, connecting large industrial centers in the right-bank area to the main railroad. Thus, the existing infrastructure and its prospective development allow establishing a food cluster on the basis of FEZ “Sughd”.

1.3.3. Tax and customs preferences

According to the Law of the Republic of Tajikistan “On Free Economic Zones” and the Regulation on FEZ “Sughd”, the scheme of taxation and customs duties of enterprises that are located within the FEZ "Sughd" looks as follows, figure 1.3.



*minimum customs duty rate; may vary depending on the type of product

Figure 1.3. Taxation and customs regime for FEZ "Sughd" residents

As can be seen from Figure 1.3, inputs and materials imported by FEZ "Sughd" residents are exempted from VAT and customs duties, and inside the Free Economic Zone, the companies only pay two types of taxes: social tax (FSZN) and income tax on individuals. When selling the products, the companies have four options, depending on the case:

a) Export of products (origin – Tajikistan.): if the resident exports its products outside Tajikistan, and the products have been produced in Tajikistan, both customs duty and VAT rate equal 0 (see Figure 1.3).

b) Export of products (origin outside Tajikistan): if the resident exports its products outside Tajikistan, and the products originate outside Tajikistan, the customs duty is charged in full, while value-added tax (VAT) rate equals 0 (see Figure 1.3).

c) Domestic market (origin – Tajikistan.): if the resident company sells its products within Tajikistan, and the products have been produced in Tajikistan, VAT is charged at 18% of the sales prices, while customs duty equals 0 (see Figure 1.3).

d) Domestic market (origin outside Tajikistan): if the resident sells its products within Tajikistan, and the products originate outside Tajikistan, VAT is charged at 18% of the sales prices and the customs duty is also charged in full, depending on the nature of product (see Figure 1.3).

1.3.4. Comparative analysis of taxation for enterprises in and out of FEZ “Sughd”

Table 1.1 below shows an analysis of the taxation of FEZ “Sughd” residents compared to other enterprises in Tajikistan. Comparative analysis has been performed using the following assumptions:

- All products are shipped for export;
- Country of origin is Tajikistan.

Table 1.1. Analysis of taxation on FEZ “Sughd” residents and enterprises functioning in usual regime

#	Name of the tax	Within FEZ “Sughd”	Outside FEZ
1.	VAT		
1.1.	VAT on import of inputs	-	18% of cost
1.2.	VAT on sale of products	-	-*
2.	Tax on corporate profit	-	15% of profit
3.	Tax on road users	-	2% of all current costs
4.	Land tax	-	375 Somoni per hectare
5.	Tax on vehicle owners	-	Paid**
6.	Social tax	25% of wages	25% of wages
7.	Real estate tax	-	Paid

8.	Income tax	8-13% of wages	8-13% of wages
9.	Tax on retail sales	-	3% of revenue
10.	Tax on minimum corporate revenue	-	1% of revenue
11.	Tax on sale of cotton fiber	-	10% of revenue
12.	Simplified tax	-	4% of revenue
13.	Excise tax	-	3-10% of revenue
14.	Common tax for agricultural producers	-	100-150 Somoni per hectare
15.	Customs duty	-	5-15% of cost

*ordinarily, with the exception of some goods are zero rated

** For each brake horse power

Companies operating within FEZ “Sughd” and exporting their products, only pay two types of taxes as opposed to 15 types of ordinary enterprises.

2. THE CONCEPT OF ESTABLISHING A FOOD CLUSTER IN SUGHD REGION

The idea of this concept is to establish a vertical cluster in Sughd Region, based on the formation of a modern production system to grow, process, package and export fruit and vegetables, as well as nuts and honey, to be sold in foreign markets, using preferences offered by FEZ “Sughd”. The cluster effect is intended to increase the competitiveness of the enterprises. Besides, preferential taxation regime in FEZ “Sughd” will allow reducing costs and increasing revenues for cluster participants. Thus, revenue growth will be provided by:

- Increasing the volume of fruit and vegetables, nuts and honey processed;
- Increasing the value of the products by improving their quality;
- Deeper processing of agricultural produce;
- Increasing enterprise competitiveness by utilizing the cluster effect;
- Reducing costs thanks to the tax preferences offered by FEZ “Sughd” and cluster effect.

Processing volume will be increased by establishing new fruit gardens, with more efficient varieties of apricots and other fruit, and upgrading the existing gardens.

Value of the products will be increased by improving their quality thanks to more efficient drying, washing, calibration and better packaging of the dried fruit using advanced equipment, implementing international quality standards.

Deeper processing will be offered by production of semi-finished products for confectionary, dairy, culinary and other sectors of food industry. Concentrated fruit and vegetable juices will be produced using new technology, instead of the production of directly squeezed juices. In addition to exporting honey, production of other beekeeping products will be organized.

Figure 2.1 shows the interaction between food cluster participants.

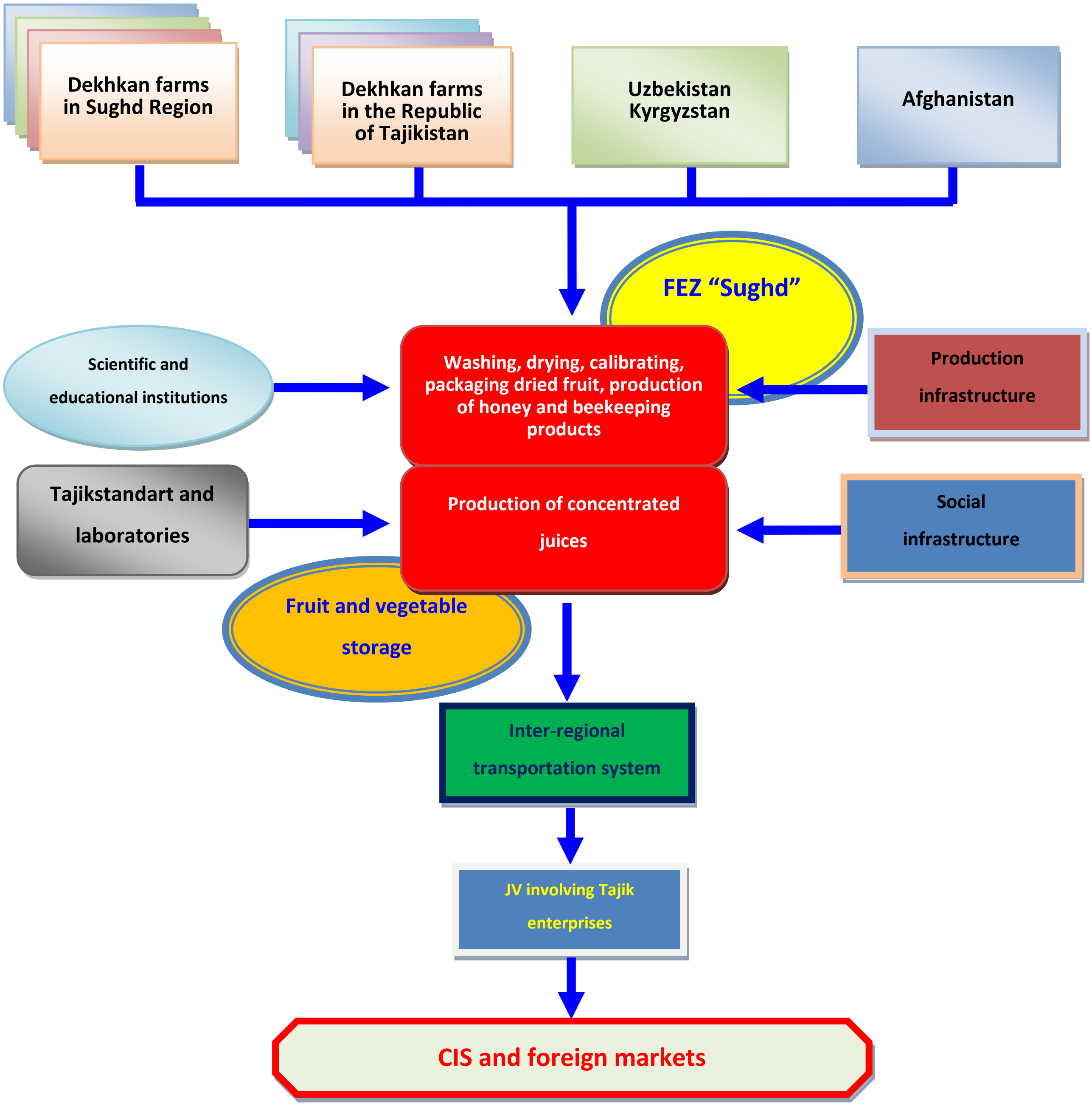


Figure 2.1. Interaction between food cluster participants

Implementing this business concept requires investment, to be used on expanding and improving gardens and fields, purchasing equipment for processing and packaging fruit and vegetables, building storage facilities, improving the skills of management and operational staff, organizing labs, purchasing vehicles, etc.

3. BASIC STEPS FOR ESTABLISHING A FOOD CLUSTER IN FEZ “SUGHD”

The process of organizing a food cluster consists of several steps, including: establishment of a coordination council (or expert council), which can include representatives of Sughd Region Khukumat, suppliers and processors of inputs, representatives of FEZ “Sughd”, other stakeholders. Some members of the expert council can eventually join the coordination council or a network body responsible for the cluster coordination and management. Next, it is necessary to perform a feasibility study of the cluster organization, evaluate its capacity and specialization, establish a coordination council, develop a motivation system for the participants, determine the cluster composition, formulate goals and objectives, develop the principles of operation and model of the cluster, implement cluster development program in the region. At the final stage, it is necessary to evaluate the efficiency of the cluster operation and fine-tune its development program (see Table 3.1).

Table 3.1. Main steps of cluster formation

Step #	Content of the step	Responsible bodies
1	Evaluate the efficiency of cluster organization	Structural units of the Executive body of state power in Sughd Region; Expert council (coordination council); consultancy agencies
2	Evaluate the cluster capacity and specialization	Expert council; prospective cluster participants; consultancy agencies
3	Establish the cluster management structure	Structural units of the Executive body of state power in Sughd Region; Expert council
4	Develop a motivation system for the participants	Expert council; prospective cluster participants
5	Identify cluster goals and objectives	Expert council; prospective cluster participants
6	Determine the composition of the food cluster	Prospective cluster participants; initiative workgroup
7	Evaluate resource capacity to stimulate key development points in the region	Prospective cluster participants; Expert council

8	Establish regulatory provisions for the cluster establishment	Structural units of the Executive body of state power in Sughd Region; Prospective cluster participants
9	Feasibility study of the cluster organization project	Expert council; consultancy agencies
10	Distribute organizational responsibilities among the cluster participants	Prospective cluster participants
11	Determine the effect of the cluster operation	Structural units of the Executive body of state power in Sughd Region
12	Establish a mechanism for the cluster's interaction with the regional administration	Structural units of the Executive body of state power in Sughd Region; prospective cluster participants
13	Expert examination and conclusion by the anti-monopoly body	Structural units of the Executive body of state power in Sughd Region
14	Develop and sign an agreement on the food cluster establishment	Structural units of the Executive body of state power in Sughd Region; prospective cluster participants

Figure 3.1 shows the sequence of steps and procedures required to establish a food cluster in Sughd Region.

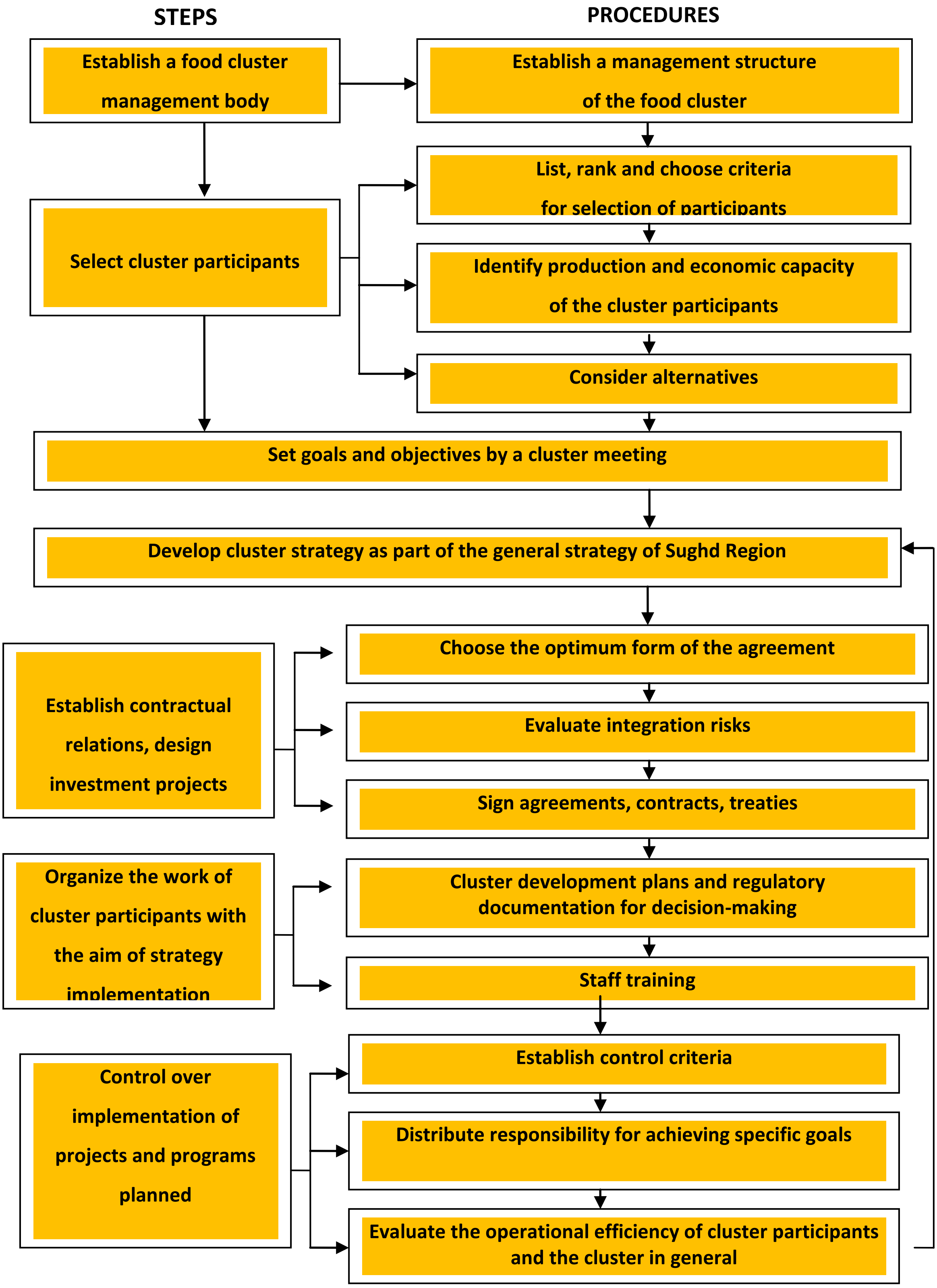


Figure 3.1. Steps and procedures of establishing a food cluster in Sughd Region

4. PROSPECTIVE COMPOSTION OF FOOD CLUSTER IN SUGHD REGION

Prospective composition of food cluster consists of several target groups:

I. Farmers' associations, including beekeepers' associations
II. Processors;
III. Associations, commercial and specialized organizations;
IV. Scientific and educational institutions, centers for standardization, metrology and certification, laboratories;
V. Freight forwarders;
VI. Exporters;
VII. Government institutions, agencies.

The tables below show contact information on prospective participants of the food cluster as of January 2011.

I. Farmers' associations, including beekeepers' associations

#	Organization name	Organizational legal form	Contact person	Address (country, region, district, jamoat)	Telephone
1	Chilgazi	Production cooperative	A. Boboev	Jamoat Chilgazi, Isfara, Sughd Region, RT	(+992 918) 99-93-16
2	Chorkuh	PCOH	N. Olimov	Jamoat Chorkuh, Isfara, Sughd Region, RT	(+992 92) 780-33-21
3	D. Sultonov	Production cooperative	U. Madibragimov	Jamoat Kulkent, Isfara, Sughd Region, RT	(+992 98) 100-29-64
4	J. Rasulov	Production cooperative	D. Jabborov	Bobojon Gafurov district, Sughd Region, RT	(+992 92) 717-88-88
5	A. Jumaev	LLC	A. Abdumanonov	Bobojon Gafurov district, Sughd Region, RT	(+992 92) 780-23-93
6	R. Nabiev	ADH	B. Boturov	Bobojon Gafurov district, Sughd Region, RT	(+992 92) 777-23-47
7	A. Rahimboev	ADH	M. Ahedov	Bobojon Gafurov district, Sughd Region, RT	(+992 92) 773-02-54
8	Beekeeper Rustam Hoshimov	Private entrepreneur	R. Hoshimov	Bobojon Gafurov district, Sughd Region, RT	(+992 918) 89-37-36

9	Beekeeper Sharif Ermatov	Private entrepreneur	Sh. Ermatov	Khujand, Sughd Region, RT	(+992 92) 770-47-82 (+992 92) 777-69-65
10	Beekeeper Mamurjan Bobojanov	Private entrepreneur	M. Bobojanov	Bobojon Gafurov district, Sughd Region, RT	(+992 918) 66-56-71
11	Beekeeper Khakim Khakimov	Private entrepreneur	Kh. Khakimov	Khujand, Sughd Region, RT	(+992 92) 756-05-88
12	Beekeeper Abdumanon Oripov	Private entrepreneur	A. Oripov	Khujand, Sughd Region, RT	(+992 918) 62-16-90
13	Beekeeper Ochilboy Khabiboev	Private entrepreneur	O. Khabiboev	Bobojon Gafurov district, Sughd Region, RT	(+992 92) 783-53-74
14	Beekeeper Istam Islomov	Private entrepreneur	I. Islomov	Khujand, Sughd Region, RT	(+992 918) 84-87-47

II. Processors

#	Organization name	Organizational legal form	Contact person	Address (country, region, district, jamoat)	Telephone
1.	Foodservice	LLC	Valimardon Yusupov	FEZ "Sughd", South-West Industrial Zone, 3rd microdistrict, Khujand	(+992 48) 7014529
2.	Avis & Co.	OJSC	Mirzo Kosimov	Yakkatol village, Istaravshan, Sughd Region, RT	(+992 918) 63 98 45 (+992 3454) 2 14 10
3.	Asht canning factory	CJSC	Mirimuhammad Mirdodoev	30 Binokoron St., Shaydon, Asht district, Sughd Region, RT	(+992 92) 7505747
4.	Asht district OPP	Association	Ernazar Kadyrov	30 Binokoron St., Shaydon, Asht district, Sughd Region, RT	(+992 98) 5990055
5.	Badr	LLC	Aminjon Parpiev	85 Lenin St., Isfara	(+992 92) 7317219
6.	Ganchi canning factory	LLC branch	Tolib Abdujabborov	6 Somoni St., Ganchi	(+992 91) 9123959
7.	Isfara canning factory	LLC	Abdurashid Usmanov (ex-director)	74 I. Somoni St., Isfara	(+992 92) 7716421
8.	Kanibadam	LLC	Mirzokhalim Mirzokarimov	15 Madaniyat St., Kanibadam	(+992 92) 7774950

9.	Boymatova factory	JSC	Ravshan Ahmedov	A. Sharipov St., Kanibadam	(+992 92) 7680744
10.	Khasanov canning factory	CJSC	Mirzokhalim Mirzokarimov	37 Jomi St., Isfara	(+992 92) 7774950
11.	Kulkand	Small training and production association	Bakhodur Amonjanov	89/1 Lenin St., Jamoat Kulkand, Isfara	(+992 91) 8999895
12.	Market Plus	LLC	Ikrom Rabiev	Jamoat Khonobod, Isfara	(+992 92) 7070102
13.	Mevai Tojik	LLC	Afzaliddin Abdusamiev	28 Khojiboev St., Shaydon, Asht district	(+992 92) 7708820
14.	Nekruz	LLC	Azamjon Vakhobov	Kanibadam	(+992 91) 8626039
15.	Nur	CJSC	Nurullo Usmonov	2a Kadyrov St., Jamoat Rumon, Bobojon Gafurov	(+992 92) 7770515
16.	Obi Zulol	CJSC	Saadihon Umarov	1 Obi Zulol St., Nofarodj, Istaravshan	(+992 91) 892-35-02
17.	Onion	LLC	Firuz Rasulov	4a I. Somoni St., Khujand	(+992 92) 770-00-45
18.	Somgar	OJSC	Abdushukur Abdulhaev	Kuybyshev, D. Kholmatov, Bobojon Gafurov	(+992 92) 777-20-01
19.	Tajfruit	LLC	Zafar Abdullojonov	62 I. Somoni St., Isfara	(+992 92) 770-63-25
20.	Khujand canning factory	OJSC	Abdurabi Sanginov	252 Lenin St., Khujand	(+992 92) 770-42-87
21.	Khujand Packaging	JV	Munir Masumov	252 Lenin St., Khujand	(+992 92) 780-33-46
22.	Sharbati Vorukh	OJSC	Mahbub Mahmudov	Ozodi, Vorukh, Isfara	962,207,975
23.	Elite Istaravshan	LLC	Ihtier Abrorov	Yakkatol, Communism, Istaravshan	(+992 92) 780-30-28

III. Associations, commercial and specialized organizations

#	Organization name	Organizational legal form	Contact person	Address (country, region, district, jamoat)	Telephone
1	Sughd Region beekeepers’ association	LLC	Chairman Solijon Murodov	Khujand, Sughd Region, RT	(992) 92 770 71 41

2	Association of natural goods producers of Tajikistan	Association	Chairman Maysara Boboeva	Isfara, Sughd Region, RT	(992) 92 776 29 06
3	Association of dekhkan (farming) households "Zardolu parvaroni Asht"	Association	Chairman Ernazar Kodirov	Shaydon, Asht district, Sughd Region, RT	(992) 98 599 00 55
4	"R. Nabiev" Association of dekhkan farms	Association	Chairman Bakhtier Boturov	Bobojon Gafurov district, Sughd Region, RT	(992) 92 777 23 47
5	"A. Rakhimboev" Association of dekhkan farms	Association	Chairman M. Akhmedov	Bobojon Gafurov district, Sughd Region, RT	(992) 92 773 02 54
6	Association of agricultural businessmen of Tajikistan	Public organization	Director Rauf Shorakhmatov	43 Lenin St., Khujand, Apt.18	(+992 3422) 6-31-23
7	Association of beekeepers of Sughd Region	Public organization	Director Solijon Murodov	Lenin St., Khujand, AGROPROM building	(+992 92) 7707141
8	"Agribusiness Consulting"	LLC	Director Mavzuna Khakimova (ex)	166 Kamoli Khujandi St., Khujand	(+992 3422) 6-13-65, (+992 92) 771-70-14
9	Quality Management Center	Public organization	Director Mirzoravshan Kobilov	183a Lenin St., Khujand	(+992 92) 777 38 76

IV. Centers, scientific institutions, Universities, laboratories

#	Organization name	Organizational legal form	Contact person	Address (country, region, district, jamoat)	Telephone
1	Sughd Region center for standardization, metrology, certification and trading inspection	Agency	Director Ayub Boboev	47 Lenin St., Khujand, Sughd Region RT	Tel.: (+9923422) 40873 Fax: (+9923422) 65692

2	Food and agricultural products testing lab	Agency	Lab chief Ravshan Bakaev	215 Lenin St., Khujand, Sughd Region RT	(+9923422) 46179
3	Regional testing center in Isfara	Regional center	Director Abdumavlon Rakhimov	27a Navobod St., Isfara, Sughd Region RT	(+9923462) 22639
4	Regional testing center in Kanibadam	Regional center	Director Faridun Mamadov	204 Lenin St., Kanibadam, Sughd Region RT	(+9923467) 35421
5	Regional testing center in Istaravshan	Regional center	Director Soli Abdujabborov	7 Rakhimjanovs St., Istaravshan, Sughd Region RT	(+9923454) 23879
6	State phytosanitary inspection and plant quarantine service under the Ministry of Agriculture of the Republic of Tajikistan	Plant quarantine and protection organization	Director V.P. Khomidov	10 Kayrakkum turn St., Bobojon Gafurov district, Sughd Region RT	(+9923442) 31758, 31714
7	Scientific research institute “Bogparvar”	LLC	Director Abdullojon Soliboev	Bobojon Gafurov District, Sughd Region RT	(992) 918 29 04 17

V. Freight forwarders

#	Organization name	Organizational legal form	Contact person	Address (country, region, district, jamoat)	Telephone
1	Euroroof	LLC	Foteh Masumov	6 Rakhmon Nabiev St., Khujand, Sughd Region RT	Tel.: +992 927775903 Fax: +992 (3422) 40492
2	Abar-Tarabar	LLC	Director Usmon Ochilov	112/2 Kamoli Khujandi St., Khujand, Sughd Region RT	(+992 3422)6-46-17 (+992 3422)4-02-25
3	Nekroh	LLC	Director Khayrullo Saidov	87a Lenin St., Khujand, Sughd Region RT	(+992 3422)4-55-33 (+992 92)778-55-55

VI. Exporters

#	Organization name	Organizational legal form	Contact person	Address (country, region, district, jamoat)	Telephone
1	“Zardolu & Co.”	OJSC	Pulot Ashurov	Shaydon, Asht district, Sughd Region RT	тел: 9188880555 e-mail: apricot-export@mail.ru

2	“Dovud LLC”	LLC	Abdurakhim Dadoboev	3 Aziz Karimov St., Khujand, Sughd Region RT	(992 92) 777-34-75
3	“Mukaramov” seeds production company	OJSC	Soli Boltaev	Kulkand, Isfara district	(+992 3462)2-40-37
4	Shafaq Communication	OJSC	Sami Sanginov (ex)	10 Chapaev St., Chkalovsk, Sughd Region	(992 92) 777-34-75

VII. Government institutions

#	Organization name	Organizational legal form	Contact person	Address (country, region, district, jamoat)	Telephone
1	FEZ “Sughd” administration	Government institution	Chairman Anvar Yakubov	Khujand, Sughd Region, RT	(92) 777 85 72

5. CONCEPT OF THE ORGANIZATIONAL AND PRODUCTION STRUCTURE OF THE FOOD CLUSTER IN FEZ “SUGHD”

The difference between an economic cluster and other forms of territorial associations is that within a cluster, the companies do not merge fully, instead creating a mechanism for interaction that allows them to preserve their status of a legal entity while cooperating with other economic agents. That is, the cluster is based on a sort of combination between competition and cooperation.

While considering economic clusters as a form of a modern association of enterprises at a regional level, we should mention networked interaction among its participants. An important sign of networked form of management of the economic activity within a cluster is the presence of direct links between all its participants. Establishing such links requires geographic concentration of the enterprises, in order to minimize transaction costs. When organizing networks, there is a migration from vertical hierarchy of a bureaucratic organization to horizontal linkages. Independent economic agents are used instead of functional structures. Therefore, administrative relations are replaced with contractual ones. The cluster forms a network in two aspects:

1. Smaller companies – suppliers uniting around a large company (which forms the cluster kernel);
2. Concentration of competitive relations between companies that are similar in size, legally independent and supporting one another’s sustainability.

Figure 5.1 shows organizational and production structure of a food cluster:

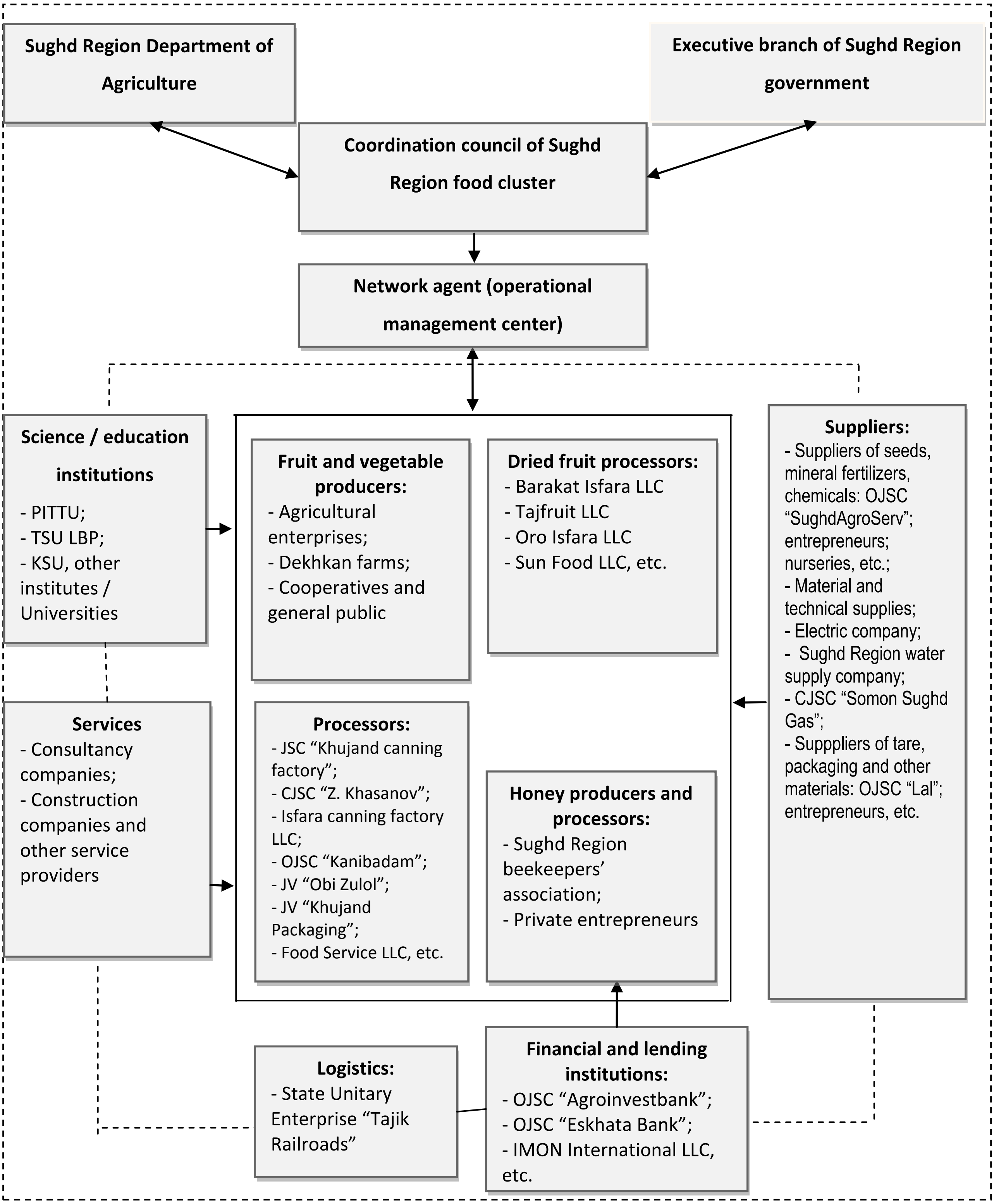


Figure 5.1. Organizational and production structure of the food cluster

6. FOOD CLUSTER MANAGEMENT CONCEPT

Several options are potentially available to manage the food cluster. These include: establishing a specialized Association, rotating the management functions among the leading enterprises of the cluster, establishing a special management body, etc. However, the research has shown that managing an economic cluster is most advisable when performed by a network agent. The composition, structure and functions of the network agent would depend on the specific management objective assigned to it. The network agent can be staffed by representatives of the cluster participants performing similar functions in their enterprises. Some of the network agent’s major functions would include:

- **Coordinating the participants;**
- **Forecasting and strategy design;**
- **Financial and production planning;**
- **Performance control;**
- **Analysis of the results.**

Depending on the situation, some function can be either limited or expanded and complemented with other objectives (e.g., to perform centralized innovative programs, optimize finance, etc.). One possible option of building a cluster management system using a network agent is presented in Figure 6.1.

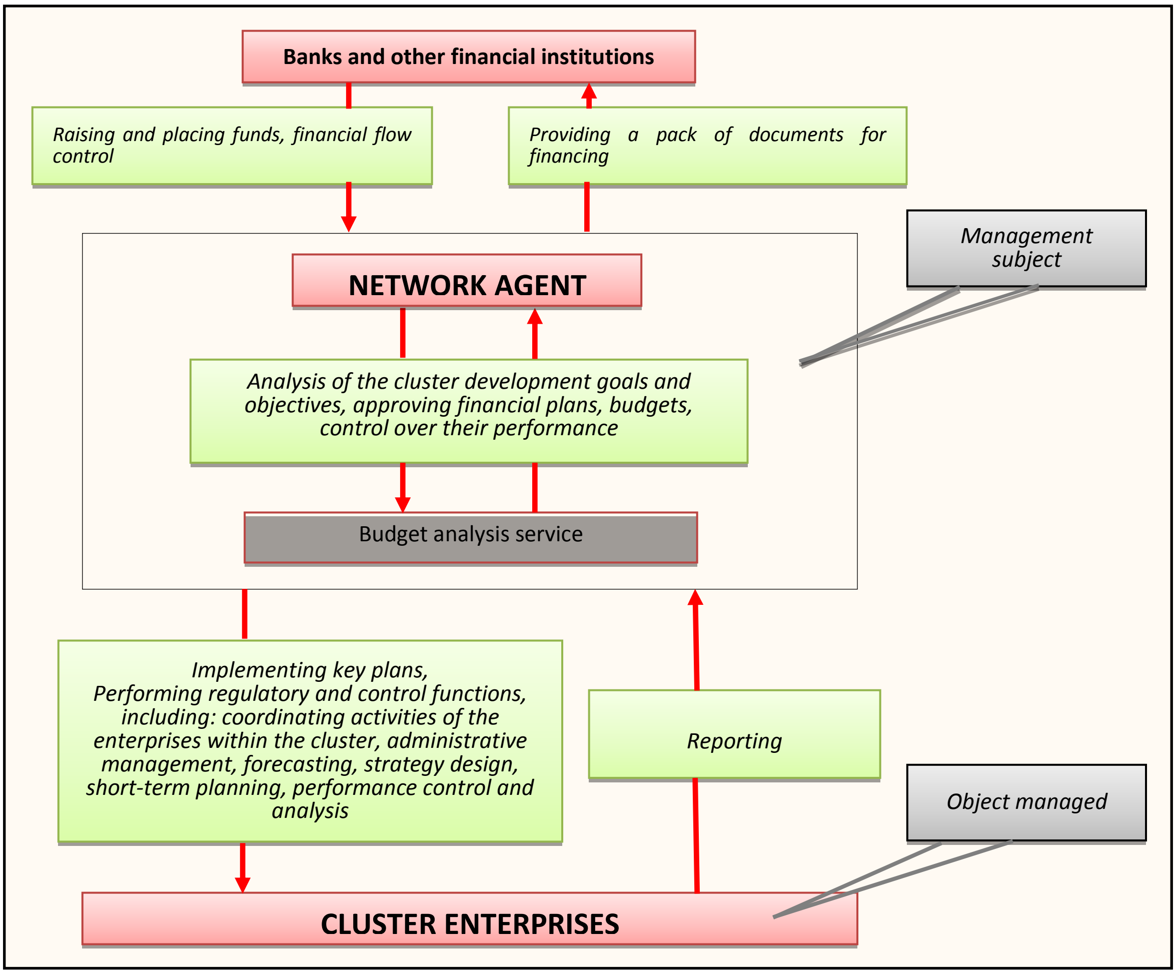


Figure 6.1. Food cluster management system

This management structure allows reducing commercial risks for the cluster while preserving optimum mobility level, as the network agent’s role is to work individually with all group participants. In this case the cluster’s success is largely determined by the qualifications of the network agent’s staff, honesty and loyalty of the enterprise management. Reducing management autonomy of the enterprises reduces commercial risks and increases sustainability of the system by activating a common management mechanism that allows to minimize chance of errors.

Depending on the degree of the network agent’s control over the operations of the cluster participants, the following strategies are differentiated: strategic planning, strategic control and financial control. The prevalent factor determining the choice of a specific cluster structure is the management strategy chosen by the cluster participants, their vision of the methods of organizing joint business.

When designing the cluster structure, it is necessary to determine the required degree of delegation of the authority and mobility of management, based on the goals and nature of the participants’ activity. The overall criteria of the cluster efficiency is maximizing the mobility of the group without affecting its manageability.

7. FORECAST OF FINANCIAL AND ECONOMIC INDICATORS OF THE FOOD CLUSTER IN FEZ "SUGHD" FOR THE PERIOD OF UP TO 2019

7.1. Total investment

Table 7.1 shows the basic list of investment required to establish food cluster enterprises in FEZ "Sughd".

Table 7.1. Total investment for establishing the food cluster for the period of up to 2018, USD

#		Total cost, USD	Investment by year:				
			2014	2015	2016	2017	2018
I	**Investment in long-term assets**	**20 654 343**	**7 626 714**	**6 702 629**	**1 375 000**	**3 575 000**	**1 375 000**
1	Gardens	9 886 598	4 943 299	4 943 299	-	-	-
2	Storage (for fresh fruit and vegetables)	1 500 000	-	375 000	375 000	375 000	375 000
3	Equipment for processing dried fruit	2 500 000	-	625 000	625 000	625 000	625 000
4	Equipment for producing concentrated juice	4 000 000	2 000 000	-	-	2 000 000	-
5	Honey processing and packaging line	100 000	100 000	-	-	-	-
6	Organizing laboratories	400 000	100 000	-	100 000	100 000	100 000
7	Improving qualifications of management and operational personnel	625 000	125 000	125 000	125 000	125 000	125 000
8	Implementing international quality standards	100 000	-	25 000	25 000	25 000	25 000
9	Other investment (10%)	1 542 745	358 415	609 330	125 000	325 000	125 000
II	**Investment in working capital**	**17 129 206**	**-**	**8 283 603**	**7 616 103**	**396 000**	**833 500**
1	Fresh fruit	14 440 206	-	7 220 103	7 220 103	-	-
2	Dried fruit	1 584 000	-	396 000	396 000	396 000	396 000
3	Nuts and peanuts	70 000	-	70 000	-	-	-
4	Concentrated juices	875 000	-	437 500	-	-	437 500
5	Honey	160 000	-	160 000	-	-	-
III	**Total investment**	**37 783 549**	**7 626 714**	**14 986 232**	**8 991 103**	**3 971 000**	**2 208 500**

The total investment is $37,783,549 USD. Of these, 55% (or $20,654,343 USD) is invested into long-term assets and 45% (or $17,129,206 USD) into working capital, as shown in Table 7.1.

Out of the total investment in long-term assets ($37,783,549 USD), the majority is spent on gardens – 48% (or $9,886,598 USD). The second largest item is investment in establishing two enterprises producing concentrated juices – 19% ($4,000,000) – see Figure 7.1.

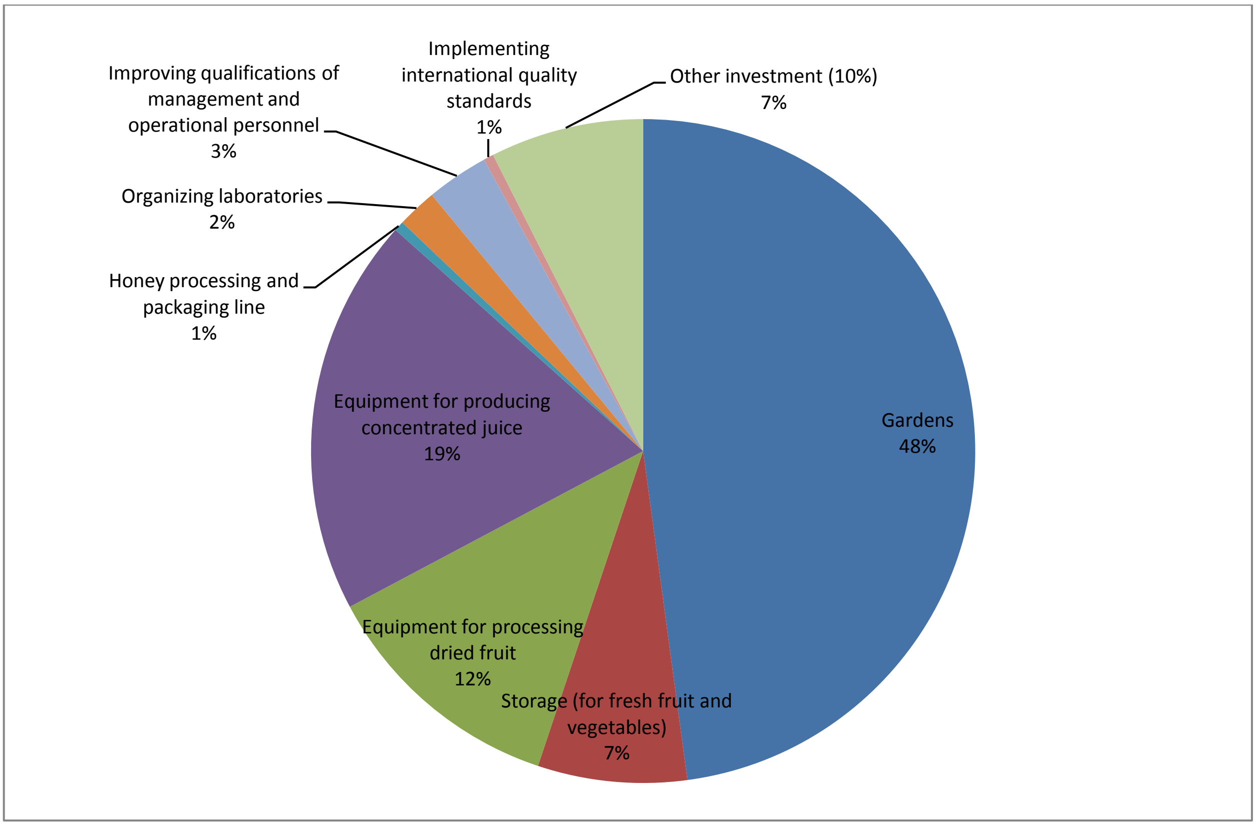


Figure 7.1. Structure of investment in long-term assets, %

7.2. Profit and loss statement forecast for the food cluster in FEZ “Sughd”, for the period of up to 2019

Table 7.2 shows a profit and loss statement forecast for the food cluster at FEZ “Sughd”, for up to 2019. Rows represent revenues, costs and profits, while columns show their annual totals.

Table 7.2. Profit and loss statement forecast for the food cluster in FEZ "Sughd", for the period of up to 2019, USD

	2015	2016	2017	2018	2019
Revenue from sales, total	**12 798 454**	**30 903 588**	**53 847 588**	**80 209 506**	**80 209 506**
Revenue from selling fresh fruit	4 948 454	17 319 588	32 164 948	44 536 082	44 536 082
Fresh fruit price, $/mt	619	619	619	619	619
Sales volume, mt/year	8 000	28 000	52 000	72 000	72 000
Revenue from selling dried fruit	3 300 000	8 800 000	16 500 000	26 400 000	26 400 000
Dried fruit price, $/mt	3 000	4 000	5 000	6 000	6 000
Sales volume, mt/year	1 100	2 200	3 300	4 400	4 400
Revenue from selling peanuts and nuts	400 000	484 000	585 640	708 624	708 624
Peanuts and nuts price, $/mt	1 000	1 100	1 210	1 332	1 332
Sales volume, mt/year	400	440	484	532	532
Revenue from selling concentrated juice	3 750 000	3 750 000	3 750 000	7 500 000	7 500 000
Juice price, $/c.j.	0,5	0,5	0,5	0,5	0,5
Sales volume, c.j./year	7 500 000	7 500 000	7 500 000	15 000 000	15 000 000
Revenue from selling honey	400 000	550 000	847 000	1 064 800	1 064 800
Honey price, $/mt	4 000	5 000	7 000	8 000	8 000
Sales volume, mt/year	100	110	121	133	133
Full cost of goods sold	**12 425 103**	**23 124 006**	**28 052 754**	**36 878 083**	**36 878 083**
Fresh fruit	7 220 103	14 440 206	14 440 206	14 440 206	14 440 206
Dried fruit	1 980 000	5 280 000	9 900 000	15 840 000	15 840 000
Peanuts and nuts	280 000	338 800	409 948	496 037	496 037
Concentrated juice	2 625 000	2 625 000	2 625 000	5 250 000	5 250 000
Honey	320 000	440 000	677 600	851 840	851 840
Net profit	**373 351**	**7 779 582**	**25 794 834**	**43 331 424**	**43 331 424**

In the first year (2015), after subtracting all current costs, the net profit of the food cluster will be positive – $373,351. In the second year (2016) – $7,779,581. Between 2017 and 2019 the profits will increase from $25,794,834 (2017) to $43,331,424 (see Table 7.2).

Accumulated profit from 2015 to 2019 will amount to $120,610,613 USD.

As production facilities are put into operation between 2015 and 2019, profitability ratio increases from 3% to 117%, according to Figure 7.2.

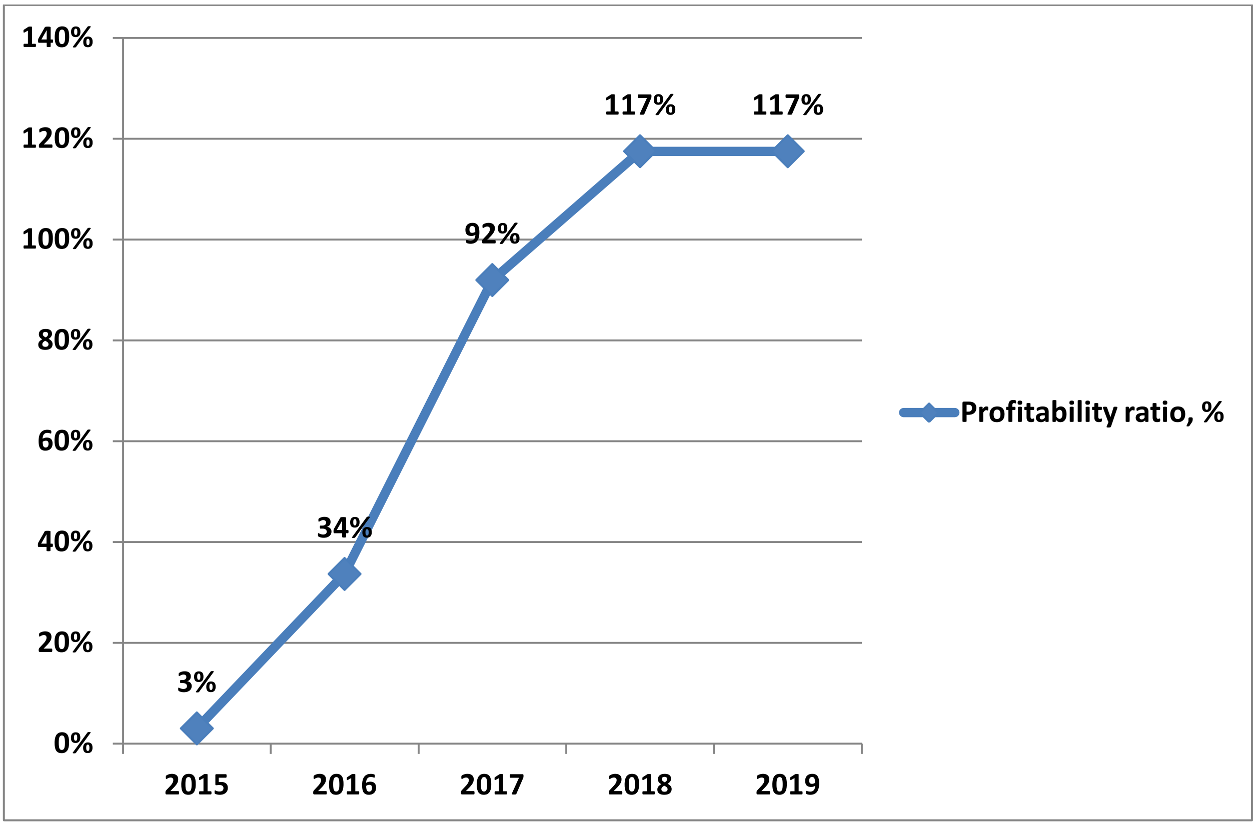


Figure 7.2. Profitability ratio

7.3. Evaluating the efficiency of investment into the food cluster

Table 7.3 below shows the key investment efficiency indicators: Net Present Value (NPV); Internal Rate of Return (IRR); Profitability Index (PI); Payback Period (PP); Discounted Payback Period (DPP) of the FEZ “Sughd” food cluster investment project. The values of NPV, IRR, PI indexes of the food cluster are:

- NPV > 0, equals $86,661,988 USD;
- IRR > rd (discount rate), equals 69% (69% > 15%);
- PI > 1, equals 3.2 (see Table 7.3).

Payback Period is four years, Discounted Payback Period is 4.3 years (see Table 7.3).

Table 7.3. Key performance indicators

	Value
Net Present Value (NPV), USD	86,661,988
Internal Rate of Return (IRR), %	69%
Profitability Index (PI), %	3.2
Payback Period (PBP), years	4.0
Discounted Payback Period (DPBP), years	4.3

Note:

1. Indicators are calculated with nominal annual discount rate (dr) = 15%
2. Project implementation period – 10 years

The indicators above were calculated using data from Table 7.4.

Table 7.4. Source data for calculating investment efficiency

1. Years of project implementation	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
	1	2	3	4	5	6	7	8	9	10
2. Discount ratio at 15%	0,87	0,756	0,658	0,572	0,497	0,432	0,376	0,327	0,284	0,247
3. Investment, USD	7 626 714	14 986 232	8 991 103	3 971 000	2 208 500	-	-	-	-	-
4. Discounted investment, USD	6 631 925	11 331 744	5 911 796	2 270 432	1 098 015	-	-	-	-	-
5. Operating revenue, USD	0,00	12 798 454	30 903 588	53 847 588	80 209 506	80 209 506	80 209 506	80 209 506	80 209 506	80 209 506
6. Operating costs, USD	0,00	12 425 103	23 124 006	28 052 754	36 878 083	36 878 083	36 878 083	36 878 083	36 878 083	36 878 083
7. Net operating profit (5-6), USD	0,00	373 351	7 779 582	25 794 834	43 331 424	43 331 424	43 331 424	43 331 424	43 331 424	43 331 424
8. Discounted net profit (2*7), USD	0,00	282 307	5 115 201	14 748 280	21 543 376	18 733 370	16 289 887	14 165 119	12 317 495	10 710 865
9. Net accumulated cash flow, including investment, USD	-7 626 714	-22 239 595	-23 451 117	-1 627 282	39 495 641	82 827 065	126 158 488	169 489 912	212 821 336	256 152 759
10. Net accumulated discounted cash flow, including investment, USD	-6 631 925	-17 681 363	-18 477 958	-6 000 110	14 445 251	33 178 621	49 468 508	63 633 628	75 951 123	86 661 988

8. STATE ACTIONS TO STIMULATE DEVELOPMENT OF FOOD CLUSTER IN SUGHD REGION

Activities initiated by the state can play an important role in the establishment and development of the food cluster in Sughd Region. The government, as represented by regional authorities and specialized institutions that create institutional and legal conditions for the cluster development, organizes dialog and coordination of the participants’ interests, provides financial support to specific cluster initiatives.

The state, represented by regional authorities, brings together the stakeholders, organizes exhibitions and fairs, provides consultations, offers legal protection, eliminates barriers, creates infrastructure, assists promotion of the goods and provides subsidies.

Specialists say that the government’s economic strategy must be based on the following four principles:

- Maintaining sustainable macroeconomic structure and freedom of trade;
- Radical improvement of economic situation, which forms the basis for improving investment climate;
- Focusing on assistance to reforming the economy and facilitating access to the markets for all private entities (horizontal industrial policy);
- Managing the implementation of sector initiatives in the area of industrial policy.

Table 8.1 shows the main instruments available to the government in order to assist development of clusters and innovations.

Table 8.1. Instruments of assistance to the development of clusters and innovations

Instrument	Goal	Assumptions and key risks
Assistance to establishment of business incubators, asset management companies	Assistance to the establishment of new companies by: - pushing market demand; - improving material and technical supply and economic environment in a managed workspace	Requires developing and supporting entrepreneurial activities with the help of special structures.

Organizing mixed government-private funds for investment and start-up capital.	Providing start-up capital and management knowledge to new enterprises	Availability of local entrepreneurs with interesting projects. Interests by Tajik diasporas in the CIS countries.
Matching grants by the government	Speeding up the beginning of export activities	An important issue to consider – whether matching grants result in new sectors of activity turning up, or would the areas subsidized emerge in any case.
Assistance to developing information and consultancy centers	Improving accessibility of business information (prices and commercial opportunities) and assistance in providing local information	Operation of the center would depend on the demand (otherwise it will turn into a room full of computers); it must be commercially sustainable even after state subsidies dry out.
Organizing partnership funds supporting enterprises' joint initiatives	Forming enterprise support infrastructure by designing and implementing joint initiatives	The fund can be overrun/raided by existing business entities.

The government can also stimulate development of clusters by performing a variety of activities:

- Establishing free economic zones, which promote cluster development, *inter alia*;
- Building confidence between the business and authorities by means of government-private partnership at regional and local levels, including cooperation in implementation of infrastructure projects, establishing and developing special economic zones and technical innovation parks;
- Establishing a platform for dialog between various cluster participants;
- Identifying and monitoring the development of economic clusters at a territorial level, including identification of cluster structure;
- Establishing communication grounds for prospective participants of territorial clusters, including through their integration into the development and discussion of regional development strategies, fostering exchange of experiences among regions on forming cluster policy;
- Assistance in consolidation of cluster participants (including in the form of associations), implementing programs to assist cluster enterprises in getting to the foreign markets, conducting joint marketing research and advertising events, implementing educational policies agreed with the key representatives of the cluster, facilitating communication and cooperation between the enterprises and educational institutions;

- Diversification of local demand by placing government orders with the local companies;
- Improving the qualifications of the local labor force by implementing additional education and professional improvement programs;
- Creating a “brand” of the region, in order to attract foreign investment;
- Improving the state management system in the economy and social sector in the region;
- Improving the efficiency of using public funding;
- Creating regional development agencies (institutes), whose main functions would include monitoring and analysis of economic development;
- Improving the regulatory base (strategic management system for the region, supporting innovations and investment activities, labor and land relations, social infrastructure, etc.).

Annex 1. Analysis of the current state of the fruit and vegetable growing, processing and exporting sector in Sughd Region

For a long time, production of canned fruit and vegetables was one of the leading sectors of the economy in Tajikistan. From 2000 to 2010, production of canned fruit and vegetables in Tajikistan varied from 107.4 million conventional jars (42,960 tons) to 49.4 million conventional jars (19,760 tons), exceeding the production level reached in the Soviet period in 2002. In the total production volume of canned fruit and vegetable products, the main share is occupied by fruit juices (68%) and canned vegetables (19%) – see Figure 1.1.

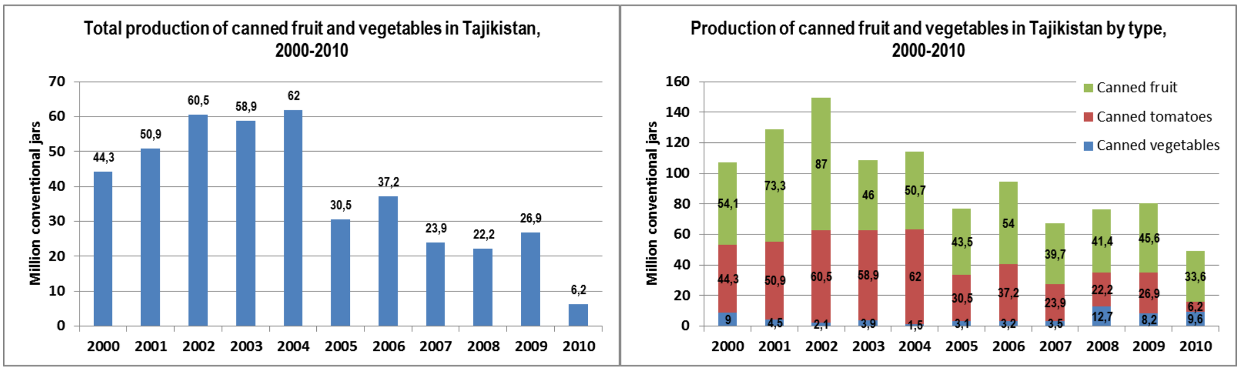


Figure 1.1. Dynamics and structure of canned fruit and vegetables production in Tajikistan

Source: "Industry in the Republic of Tajikistan 2011" reference book, pp. 219-221

Export of canned fruit and vegetables from Tajikistan in 2010 reached 5,780 tons, as opposed to 20,510 tons in 2000. The main products exported are fruit juices (66%) and canned tomatoes (15%) – see Figure 1.2.

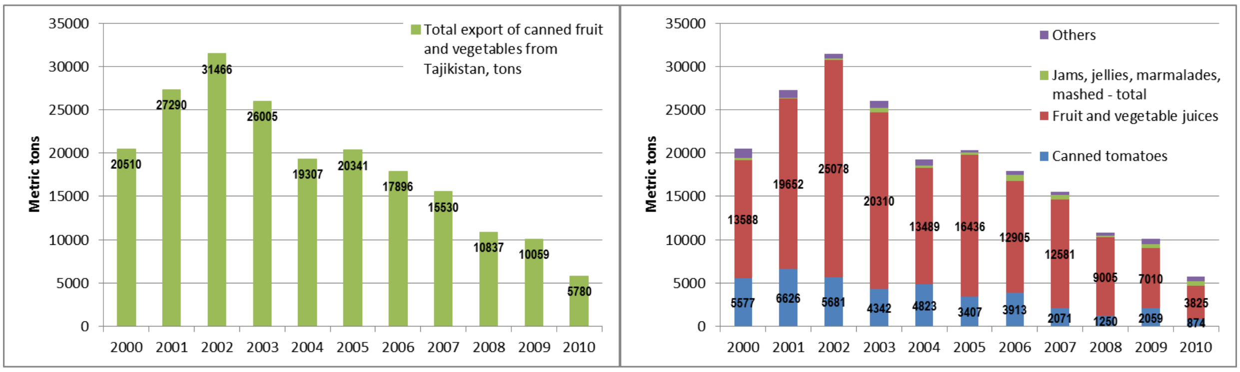


Figure 1.2. Dynamics and structure of canned fruit and vegetables export from Tajikistan

Sources: 1. "Foreign Economic Activity of the Republic of Tajikistan" reference book, Statistics Agency under the President of Tajikistan
2. www.customs.tj, Web site of the Customs Service under the Government of the Republic of Tajikistan

The majority of canned fruit and vegetables exported from the Republic of Tajikistan are shipped to Russia and Kazakhstan – in 2010, these two countries accounted for 98.6% of the total export volume (see Figure 1.3). However, according to experts surveyed during the in-depth interview, most of the fruit and vegetable products exported to Kazakhstan are later re-exported to Russia.

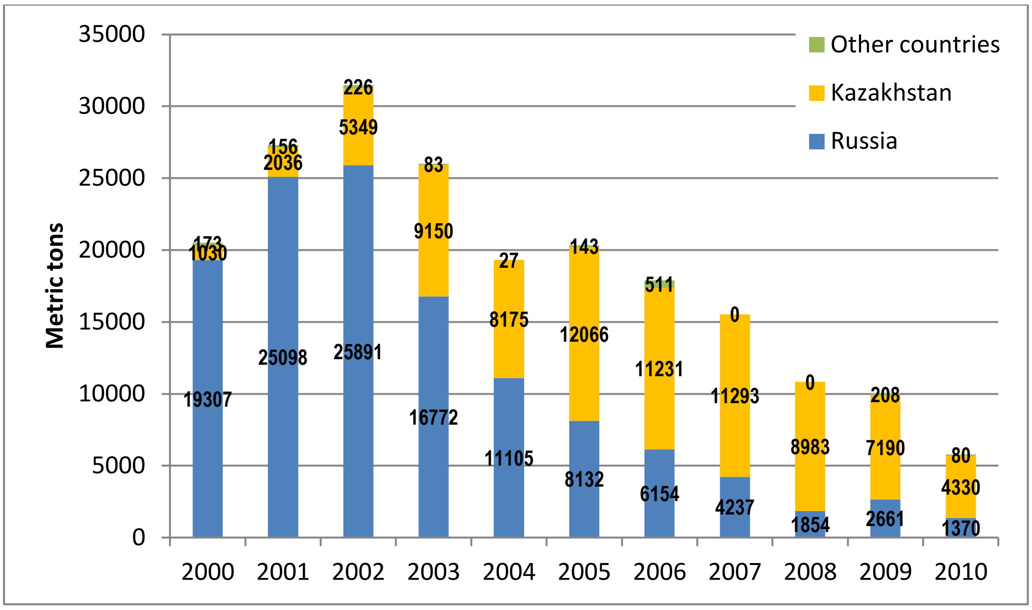


Figure 1.3. Export of canned fruit and vegetables from Tajikistan by country, 2000-2010

Sources: 1. “Foreign Economic Activity of the Republic of Tajikistan” reference book, Statistics Agency under the President of Tajikistan
2. www.customs.tj, Web site of the Customs Service under the Government of the Republic of Tajikistan

About 95% of dried fruit are exported from the territory of Sughd Region. Most of the output from dried fruit sector is shipped to Russia and Kazakhstan, with exports declining over the last three years. While in 2009 the annual dried fruit exports were 81,760 tons, in 2011 this figure dropped to 65,759 tons – 19% down from the 2009 level (see Figure 1.4).

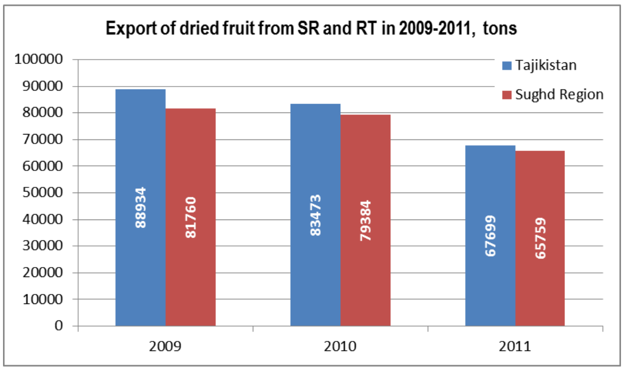


Figure 1.4. Dynamics of dried fruit exports from Sughd Region and Tajikistan in 2009-2011

Sources: 1. Report: Analysis of the situation, conclusions and recommendations for developing the fruit and vegetable processing sector and improving the capacity of Sughd Region, RGP, GIZ. 2012

2. Foreign Economic Relations Statistics yearly

3. www.customs.tj, Web site of the Customs Service under the Government of the Republic of Tajikistan

According to studies conducted by foreign companies, in 2010 Tajikistan occupied 37.4% of the Russian market for dried fruit. Turkey came second, with 18%, and Uzbekistan third, with 6.4% (see Figure 1.5). The most commonly exported commodities are dried apricots and dried fruit mixes (jointly making up about 90% of the dried fruit exported).

There are several facilities and enterprises engaged in full cycle of dried fruit processing in Sughd Region. These include "Isfara Barakat", "Tajfruit", "Oro", "Sun Food", etc. New companies are turning up that supply products to foreign companies and have made significant steps towards improving the quality of produce and meeting the market requirements.

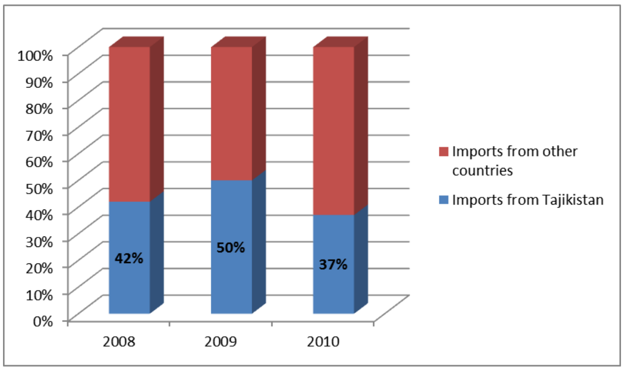


Figure 1.6. Tajikistan's share in the import of dried fruit to the Russian Federation, %

Source: Report: Rapid evaluation of the market for fruit and vegetable products in Russia and Kazakhstan, GIZ, M-Vector, 2011

Annex 2. SWOT analysis of the canned fruit and vegetables sector

Strengths (S)	Weaknesses (W)
1. Unique climatic conditions for growing fruit and vegetables, abundance of inputs (fruit and vegetables).	1. Morally and physically obsolete equipment, outdated technologies
2. Canned fruit and vegetables from Sughd Region have a good image and loyal customers in the markets of Russia, Kazakhstan, and other countries they have been exported to for decades.	2. No permanent links between producers of inputs and exporters
3. Using mother juice technology. This results in a premium product, made without adding concentrates, dyes or flavors.	3. Long time from making the products to returning the money into production cycle
4. The region has excess production capacity for organizing a full cycle of production, processing, packaging and export of products. The necessary infrastructure, human resources and logistics are in place.	4. Lack of experienced personnel, exodus of skilled specialists, unstable product quality, weak quality control
5. There are skills and experience of exporting products to Russia, Kazakhstan and other countries, organizing wholesale and retail sales networks.	5. High cost of inputs due to low yield of fruit and vegetables, low quality seeds and disregard for agricultural technology
6. Presence of the State Program for support of export capacity of the fruit and vegetable processing sector for 2010-2012.	6. Lack of funds for operating capital and for upgrading equipment and technology
7. Availability of technical support by international projects – GIZ, UNDP, Hilfswerk Austria International, Helvetas, etc.	7. Low usage of existing production facilities
	8. The look and packaging of canned fruit and vegetables do not meet the requirements of internal and export markets
	9. Irregular participation in specialized fairs and exhibitions
	10. Insufficient skills of strategic and business planning, marketing, financial management, promotion among the staff of respective departments at the enterprises.
	11. Lack of a regional brand, lack of information on the situation in the export markets (no market research in place).

Opportunities (O)	Threats (T)
1. Opportunity to expand production of concentrated juices, pastes and mashed vegetables. 2. Establishing partner relations with priority regions in Russia and Kazakhstan to promote the sales of goods from Sughd Region. 3. Joining the Customs Union will lower administrative barriers. 4. Improving product quality and meeting international standards will raise the product image and give higher margin to the processors. 5. Entering Afghan market. 6. Increasing demand for natural products in the export markets, promoting healthy lifestyle.	1. Growing cost of inputs, energy resources, materials, transportation 2. Increasing competition in the export markets 3. Threat of ban on imports of fruit and vegetable products to the Russian Federation 4. Slow and irregular supply of products to the export markets 5. Shortage of energy resources (electricity, natural gas) 6. Administrative barriers (taxation, excessive certifications and permissions required) 7. Appearance of local competing products in the export markets (made using concentrates, dyes, artificial flavors)

Annex 3. SWOT analysis of the dried fruit processing sector

Strengths (S)	**Weaknesses (W)**
1. Ready availability of inputs (fruit) and favorable climate for growing fruit, naturally high sugar content in the fruit. 2. Growing demand for dried fruit in the export markets 3. Trading relations have been set up with Russia and Kazakhstan, where Tajik dried fruit have found their niche in the market 4. Well established sales channels in the export markets (presence of partners or registered companies) 5. Dried fruit have the image of a healthy and natural product 6. Presence of the State Program for support of export capacity of the fruit and vegetable processing sector for 2010-2012 7. Availability of technical support by international projects – GIZ, UNDP, Hilfswerk Austria International, Helvetas, etc.	1. Irregular quality of inputs (apricots, etc.) supplied by dekhkan farms results in additional costs for sorting, prevents formation of large batches and reduces the prices. 2. High cost of inputs due to low yield of fruit and vegetables, low quality seeds and disregard for agricultural technology have resulted in a break-up between producers and processors 3. Lack of marketing skills to promote the goods in the export markets 4. Lack of a regional brand. Dried fruit are often sold under a third-party brand

Opportunities (O)	**Threats (T)**
1. Increasing industrial processing of dried fruit 2. Joining the Customs Union with Russia will reduce administrative barriers 3. Establishing partner relations with priority regions in Russia and Kazakhstan will promote the sales of products from Sughd Region 4. Bringing the quality up to international standards will boost the image of the products 5. The processing sector is in growth stage (infrastructure, human resources, technology), with much space for growth 6. Direct supplies to industrial consumers on a long-term basis	1. Increasing cost of inputs, energy resources, transportation services 2. Increasing competition with other exporters at the foreign markets 3. Emergence of new similar, competing products, such as concentrates, that can be cheaper and more affordable for the buyers 4. Ban on imports of fruit and vegetable products (dried fruit) to Russia 5. Shortage of energy resources (electricity); 6. Administrative barriers (taxes, customs handling, etc.)

Annex 4. SWOT analysis of export of dried fruit and juices

Strengths (S)	Weaknesses (W)
1. Commercial relations have been set up with Russia and Kazakhstan, where Tajik dried fruit have found their niche in the market 2. Well established sales channels in the export markets (presence of partners or registered companies) 3. Dried fruit have the image of a healthy and natural product 4. Growing volume of dried fruit exports 5. Presence of the State Program for support of export capacity of the fruit and vegetable processing sector for 2010-2012 6. Availability of technical support by international projects – GIZ, UNDP, Hilfswerk Austria International, Helvetas, etc.	1. The look and packaging of canned fruit and vegetables do not meet the requirements of the foreign and domestic market 2. Emergence of competing local products in the export markets (based on concentrates, dyes, artificial flavors) 3. Lack of marketing skills to promote the goods in the export markets 4. No market research, lack of information on the situation and conditions at the current and prospective export markets 5. Irregular participation in specialized fairs and exhibitions 6. Absence of a regional brand for canned goods and dried fruit, lack of information about Tajik products in the export markets 7. There are competing products in the domestic market: imported juices, tomato products (tomato paste, ketchups and sauces), marinades, canned baby food products

Opportunities (O)	Threats (T)
1. Joining the Customs Union with Russia will reduce administrative barriers 2. Bringing the quality up to international standards will boost the image of the products 3. Canned fruit and vegetable products have the image of a healthy and natural product in the export markets; with proper promotion, quality and packaging meeting the market requirements, it is possible to win a substantial market share 4. Establishing partner relations with priority regions in Russia and Kazakhstan will promote the sales of products from Sughd Region	1. Ban on imports of fruit and vegetable products (dried fruit) to Russia 2. Slow and unreliable supply of the products to the export markets 3. Increasing competition with other exporters at the foreign markets 4. Emergence of new similar, competing products, such as concentrates, that can be cheaper and more affordable for the buyers

Annex 5. Current state of the economy in Sughd Region and perspectives for development of the fruit and vegetable products and dried fruit sector

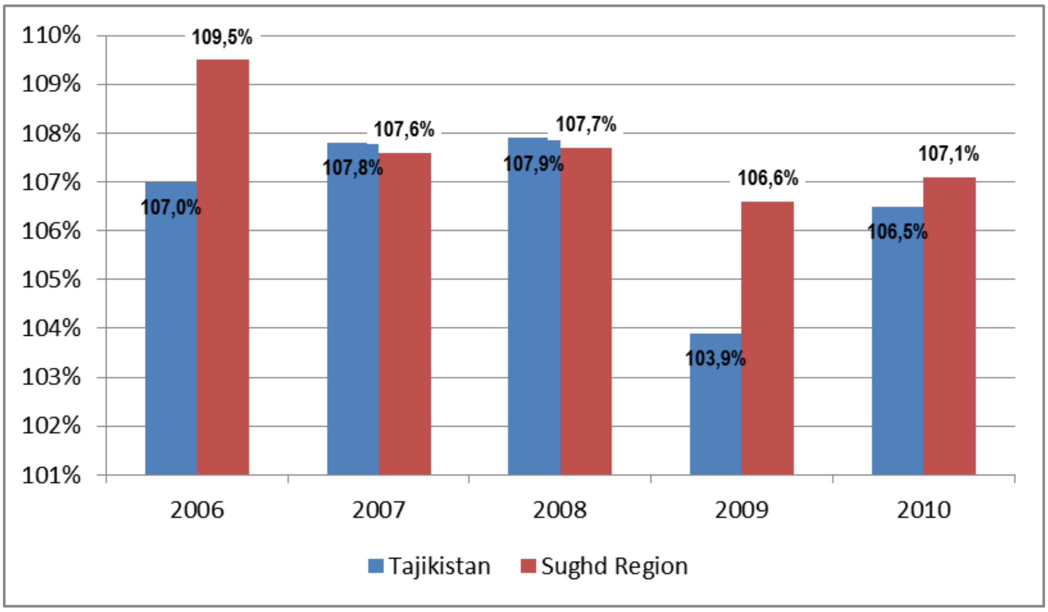


Figure 5.1. Dynamics of gross regional product in 2006-2010 compared to last year, %

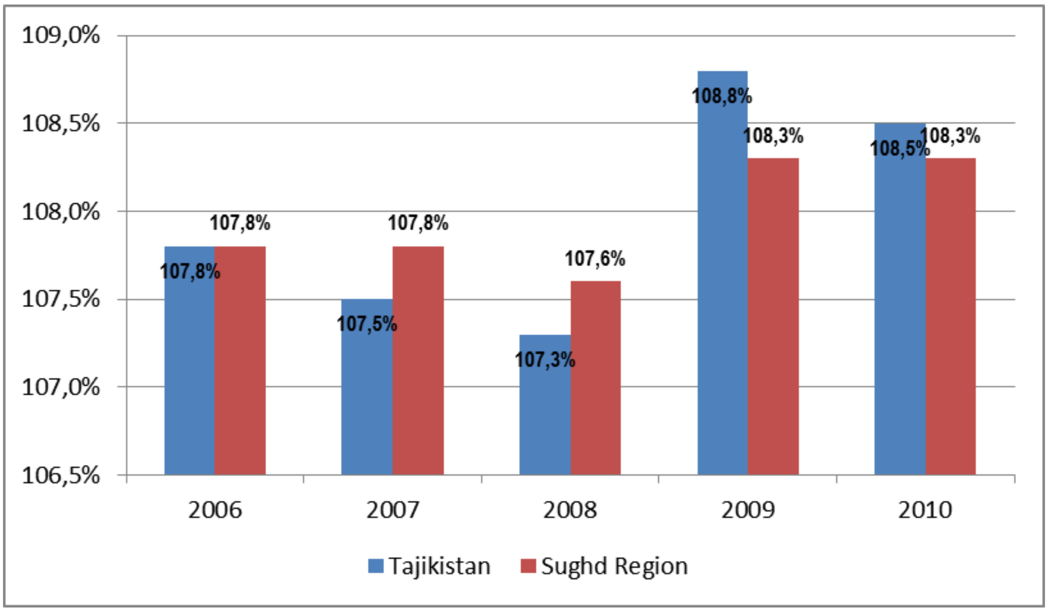


Figure 5.2. Dynamics of gross regional product per capita in 2006-2010 compared to last year, %

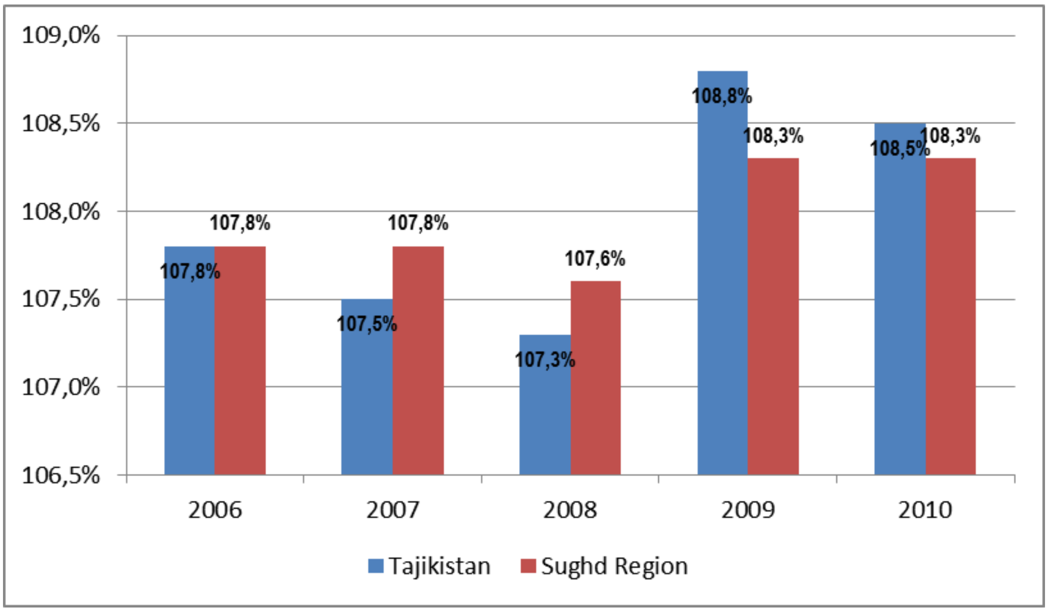


Figure 5.3. Dynamics of the industry and agriculture structure

Table 5.1. Characteristics of the industry structure by sector in Sughd Region, 2010, %

Sector	Production volume	Investment	Number of enterprises
Entire industry	100	100	100
Electric energy	3.8		8.4
Fuel industry	2.4	1.7	8.5
Non-ferrous metal industry	23.0	46.7	9.5
Chemical, oil and gas	2.1	1.4	0.2
Machine building and metal working	0.9	0.07	8.1
Timber and wood-working	0.7		0.5
Construction materials	2.4		8.2
Glass industry	0.0		2.1
Light industry	25.4	40.4	26.0
Food industry	37.6	1.13	24.2
Milling and fodder industry	1.2		1.2
Other sectors	0.5	8.6	3.1

Calculated from the data in the annual publication "Industry in the Republic of Tajikistan". Statistics Agency under the President of Tajikistan / Dushanbe – 2011, page 91

Table 5.2. Foreign trade in Sughd Region in 2000-2010

Years	Turnover		Export			Import			Balance	
	Million USD	% of previous year	Million USD	% of previous year	Share of export to WTO, %	Million USD	% of previous year	Share of import from WTO, %	Million USD	% of previous year
1	2	3	4	5	6	7	8	9	10	11
2000	417.5	--	126.2		30	291.3		70	-165.1	
2003	397.4	95.2	150.2	119.0	37.8	247.2	84.9	62.2	-97	58.8
2004	388.5	97.8	140.2	93.3	36	248.3	100.4	64	-108.1	111.4
2005	388.6	100.1	139.4	99.4	35.9	249.2	100.4	64.1	-109.8	101.6
2006	544.5	140.1	155.6	111.6	29	388.9	156.1	71	-233.3	212.5
2007	765.1	140.5	168.9	108.5	22	596.2	153.3	78	-427.3	183.2
2008	1067.2	139.5	161.5	95.6	15.1	905.7	151.9	84.9	-744.2	174.2
2009	809.3	75.8	150.3	93.1	18.6	659.0	72.8	81.4	-508.7	68.4
2010	944.6	116.7	207.8	138.3	22	736.8	111.8	78	-529	103.9

Calculated from the data in Sughd Region annual publication (official issue) by the Statistics Agency under the President of Tajikistan in Sughd Region / Khujand – 2011, page 165

Table 5.3. Structure of imports to Sughd Region in 2000-2010 (% of total)

#	Type of product	Year								
		2000	2003	2004	2005	2006	2007	2008	2009	2010
	Total, including:	100	100	100	100	100	100	100	100	100
1.	Cars	2.0	4.0	6.7	8.2	7.5	11.5	10.2	9.5	9.4
2.	Batteries	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.06
3.	Molybdenum ore	-	-	-	0.7	-	0.4	0.8	-	-
4.	Timber	-	2.3	3.7	0.1	4.5	5.0	4.9	6.4	7.4
5.	Oil and products	3.0	6.7	9.9	5.4	10.2	8.6	8.5	11.6	14.2
6.	Electric energy	52.3	29.7	14.5	15.0	9.1	5.6	4.0	5.5	1.7
7.	Natural gas	3.8	3.0	2.5	2.2	2.1	2.2	2.1	2.2	1.2
8.	Portland cement	0.4	0.3	-	0.4	0.3	0.5	0.7	0.2	0.7
9.	Phosphorous fertilizers	0.2	0.6	0.4	-	0.1	-	-	-	-
10.	Nitrogen fertilizers	1.6	1.7	2.0	2.2	1.7	1.2	0.1	0.7	0.4
11.	Chemical threads	-	0.3	0.3	0.3	0.1	0.1	0.1	0.1	-
12.	Chemical fibers	0.1	0.2	0.2	-	-	-	-	-	-
13.	Flour	1.8	6.5	4.7	6.3	4.6	3.4	3.8	4.2	4.3

14.	Food oil	0.5	1.5	2.6	2.5	1.9	1.1	1.5	1.9	1.8
15.	Sugar	1.3	2.9	2.9	3.4	4.4	4.2	1.9	2.4	2.7
16.	Tea	-	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.05
17.	Wheat	5.0	2.2	2.5	6.0	3.6	3.8	3.9	8.1	7.9
18.	Others	28.0	38.0	46.9	47.1	49.7	52.3	57.6	46.9	47.5

Calculated from the data in Sughd Region annual publication (official issue) by the Statistics Agency under the President of Tajikistan in Sughd Region / Khujand – 2011, page 165

Table 5.4. Structure of exports from Sughd Region in 2000-2010 (% of the total)

#	Type of product	Year								
		2000	2003	2004	2005	2006	2007	2008	2009	2010
	Total, including:	100	100	100	100	100	100	100	100	100
1.	Cotton fiber	13.3	40.0	33.3	32.1	32.5	39.7	27.8	22.2	30.7
2.	Cotton yarn	3.8	4.4	5.3	4.0	1.6	2.0	0.6	0.1	0.3
3.	Cotton fabrics	18.3	9.8	7.6	6.5	5.6	1.8	0.2	0.1	0.07
4.	Raw silk	0.9	0.9	1.1	0.8	0.9	0.7	0.5	0.3	0.1
5.	Carpets and carpet goods	0.2	0.1	0.2	0.2	0.1	-	-	0.1	-
6.	Canned tomatoes	1.9	1.1	1.3	0.9	0.2	0.5	0.5	0.9	0.3
7.	Fruit juices	2.7	2.9	2.4	3.4	2.4	2.4	2.1	1.8	0.8
8.	Tobacco and tobacco products	4.9	0.6	0.4	0.4	0.1	0.1	0.1	0.1	0.04
9.	Oil and products	-	-	-	0.8	0.8	0.6	0.4	0.0	0.0
10.	Other ores and concentrates	-	-	-	0.1	1.9	1.2	1.7	3.9	5.5
11.	Onions	0.7	2.5	2.5	2.1	3.0	8.2	4.9	5.4	7.7
12.	Fruit	3.3	1.1	1.6	1.6	1.9	1.7	2.3	2.2	1.9
13.	Dried fruit	8.3	4.9	6.3	7.4	8.4	8.8	13.8	16.0	11.6
14.	Peanuts	1.4	1.2	1.3	1.0	1.2	0.8	1.1	1.4	0.6
15.	Others	40.2	30.4	36.7	38.9	39.6	31.3	44.0	45.5	40.3

Calculated from the data in Sughd Region annual publication (official issue) by the Statistics Agency under the President of Tajikistan in Sughd Region / Khujand – 2011, page 165

Annex 6. Production volumes from various types of economic activity, in volume and money terms, 2007-2010

#	Type of economic activity	Region/country	Production volumes by year							
			2007		2008		2009		2010	
			In volume terms	In money terms	In volume terms	In money terms	In volume terms	In money terms	In volume terms	In money terms
1	2	3	4	5	6	7	8	9	10	11
I	Other sectors of the mining industry									
1	Mining and processing salt, tons	SR	13350	1689748	13512	2306085	13253	3211367	11080	3191512
		RT	47462	6007401	47446	8097581	49772	12060375	50365	14507266
II	Food products									
1	Cheeses, tons	SR	28	392000	4	64000	3	54000	8	176000
		RT	88	1232000	24	384000	19	342000	17	374000
2	Whole milk, 000 tons	SR	0.7	1820000	0.8	2240000	0.5	1500000	0.2	640000
		RT	5.1	13260000	3.9	10920000	4.0	12000000	4.1	13120000
3	Ice cream, tons	SR	361	984438	304	2437908	351	3590730	487	6155490
		RT	601	1640730	506	4063180	585	5984550	811	10259150
4	Canned fruit and vegetables, million conventional jars	SR	60.4	16832	64.7	17077	67.3	18355	31.6	8937
		RT	67.2	18727	76.4	20165	83.0	22637	51.0	14424
III	Agricultural products									
1	Dried fruit exports, tons/USD	SR	55992	14855	69425	23165.4	78485	24439.9	76021	25378.7
		RT	57824	15341	69488	23186	78492	24463	76316	25536
	Nuts exports, tons/USD	SR			3607	3115579	3778	3482873	2517	2395946
		RT			3607	3115579	3856	3514513	2517	2395946
22	Peanuts exports, tons/USD	SR			4179	1855095	5910	2120328	3397	1261459
		RT			4179	1855095	6031	2133275	3350	1284367
4	Vegetables, tons/TJS	SR	299613		299798	354046	324657	417382	329538	1263045
		RT	835131		908225	1072567	1046859	1345851	1142624	4379421
5	Fruit, tons/TJS	SR	28233		103442	275523	65461	184753	69741	386813
		RT	157183		262382	698868	213915	603740	225383	1250069
6	Honey, tons/000 TJS	SR	1055		1059	19416	1063.2	19646	1158.1	24849
		RT	1975		2060	37769	2704.2	49969	2968.6	63696
7	Wool, tons	SR	1045		1046	2453	1112	2626	1185	5547
		RT	5063		5178	12143	5434	12832	5771	27014
8	Cocoons, tons	SR	841		1301	3512	919	2482	396	1185
		RT	2343		2749	7421	1850	4996	1080	3232
IV	Textile and sewing industry									
1	Cotton fiber, 000 tons	SR	48.2	57236	36.3	47641	27.9	31292	28.8	65593
		RT	153.2	181922	115.7	151849	92.2	103411	95.2	216822
2	Cotton yarn, tons	SR	5469	65081100	2382	28345800	2144	25513600	2493	36148500
		RT	12732	151510800	9674	115120600	8228	97913200	6149	89160500
3	Cotton fabrics, million sq.m.	SR	2.2	11000000	0.6	3000000	0.7	3500000	1.6	9280000
		RT	26.2	131000000	27.7	138500000	36.6	183000000	25.6	148480000
4	Finished silk fabrics, 000 sq.m.	SR	28.1	424798	60	961622	60	936031	66	997943
		RT	28.1	424798	60	961622	60	936031	66	997943
5	Non-woven fabrics, 000 sq.m.	SR	675	2487308	267	978181	366	1703382	197	923142
		RT	1733	6385932	1179	4319384	1229	5719827	1041	4878126
6	Hosiery, 000 pairs/TJS	SR	845	391369	17	8053	-		-	

		RT	6243	2891501	5462	2587540	5658	2709291.6	5735	3005665
7	Knitwear goods, 000 pcs	SR	112.2	12587	46	13380	37	12838	6.8	2359
		RT	112.2	12587	46	13380	37	12838	6.8	2359
8	Carpets and carpet goods, 000 sq.m.	SR	941	9.301	764.9	9.4	548.6	5.6	600	5.5
		RT	941.7	9.308	764.9	9.4	548.6	5.6	600	5.5
V	Construction goods									
1	Reinforced plastic goods (plastic doors, windows, 000 sq.m.	SR	-	-	-	-	0.1	32600	0.4	132400
		RT	36.9	9446400	47.4	17158800	52.4	17082400	61.7	20422700
2	Cement, 000 tons	SR	1.9	475000	3.5	3115000	0.3	201000	22.1	9945000
		RT	313.1	78275000	190.4	90958000	195.4	115310000	288.2	177588000
3	Construction lime, 000 tons	SR	0.4	80000	0.2	74000	-	-	32.7	12744349
		RT	4.1	820000	5.7	2109000	4.4	1804000	38.7	15082762
4	Marble tiles, 000 sq.m.	SR	4.7	95410	3.8	108680	3.1	105400	1.6	75000
		RT	15.3	1462810	6.1	635380	8.8	1410700	3.2	510860
VI	Glass jars, million pcs.	SR	69.8	10.4	68.4	12.5	68.5	16.6	13.2	3.5
		RT	69.8	10.4	68.4	12.5	68.5	16.6	13.2	3.5

Annex 7. Specialization ratios by types of economic activity in Sughd Region

Type of economic activity	Years				
	2007	2008	2009	2010	2011
Salt mining and processing	1.20	1.25	1.10	0.95	1.2
Cheeses	1.36	0.73	0.65	0.89	1
Whole-milk products	0.58	0.90	0.52	0.21	0.2
Ice cream	2.57	2.63	2.48	2.59	2.6
Canned fruit and vegetables	3.85	3.71	3.35	2.68	3.0
Dried fruit exports	4.14	4.38	4.13	4.29	4.3
Nuts exports	-	4.38	4.10	4.32	4.3
Peanuts exports	-	4.38	4.11	4.25	4.3
Vegetables	1.53	1.45	1.28	1.23	-
Fruit	0.77	1.72	1.27	1.34	1.3
Honey	2.29	2.25	1.62	1.68	-
Wool	0.88	0.88	0.84	0.88	-
Cocoons	1.54	2.07	2.05	1.58	-
Cotton fiber	1.35	1.38	1.25	1.3	1.4
Cotton yarn	1.84	1.08	1.08	1.75	2.5
Cotton fabrics	0.36	0.10	0.10	0.27	0.3
Finished silk fabrics	4.27	4.38	4.13	4.32	4.3
Non-woven fabrics	1.67	0.99	1.23	0.82	0.9
Hosiery goods	0.58	0.01	-	-	0.0002
Knitwear goods	4.28	4.39	4.13	4.32	0.0
Carpets and carpet goods	4.28	4.39	4.13	4.32	4.3
Reinforced plastic goods	-	-	0.07	0.24	0.01
Cement	0.03	0.15	0.07	0.24	0.28
Construction lime	0.42	0.16	-	0.34	0.3
Marble tiles	0.28	0.75	0.30	0.63	2.4
Glass jars	4.28	4.39	4.14	4.32	4.3

Annex 8. Localization ratios by types of economic activity in Sughd Region

Type of economic activity	Years				
	2007	2008	2009	2010	2011
1	2	3	4	5	6
Salt mining and processing	1.87	1.76	1.46	1.07	0.9
Cheeses	2.12	1.03	0.87	2.30	0.7
Whole-milk products	0.91	1.26	0.69	0.24	0.1
Ice cream	3.99	3.70	3.29	2.93	1.9
Canned fruit and vegetables	5.98	5.221	4.46	3.2	2.2
Dried fruit exports	6.45	6.16	5.49	4.85	3.1
Nuts exports	-	6.16	5.44	4.89	3.1
Peanuts exports	-	6.16	5.46	4.80	3.1
Vegetables	2.39	2.03	0.52	1.40	-
Fruit	1.19	2.42	1.68	1.52	1.0
Honey	3.56	3.17	2.17	1.90	-
Wool	1.38	1.25	1.12	1.00	-
Cocoons	2.39	2.92	2.73	1.79	-
Cotton fiber	2.10	1.93	1.66	1.48	1.0
Cotton yarn	2.87	1.52	1.43	1.98	1.8
Cotton fabrics	0.56	0.13	0.10	0.30	0.2
Finished silk fabrics	6.66	6.16	5.50	4.89	3.1
Non-woven fabrics	2.59	1.39	1.64	0.92	0.7
Hosiery goods	0.90	0.19	-	-	0.0001
Knitwear goods	6.66	6.16	5.49	4.88	0.0
Carpets and carpet goods	6.65	6.16	5.49	4.89	3.11
Reinforced plastic goods	-	-	0.01	0.03	0.01
Cement	0.04	0.21	0.09	0.27	0.2
Construction lime	0.64	0.21	-	4.13	0.2
Marble tiles	0.43	1.05	0.41	0.71	1.8
Glass jars	6.66	6.16	5.49	4.89	3.1

Annex 9. Per capita production ratios by types of economic activity in Sughd Region

Type of economic activity	Years				
	2007	2008	2009	2010	2011
1	2	3	4	5	6
Salt mining and processing	0.95	0.96	0.90	0.74	0.9
Cheeses	1.07	0.56	0.53	1.59	0.8
Whole-milk products	0.46	0.69	0.42	0.16	0.2
Ice cream	2.03	2.03	2.03	2.02	2.0
Canned fruit and vegetables	3.04	2.87	2.75	2.09	2.4
Dried fruit exports	3.27	3.39	3.39	3.36	3.4
Nuts exports	-	3.39	3.36	3.38	3.4
Peanuts exports	-	3.39	3.37	3.32	3.4
Vegetables	1.21	1.12	1.05	0.97	-
Fruit	0.60	1.33	1.33	1.04	1.0
Honey	1.80	1.74	1.33	1.31	-
Wool	0.69	0.68	0.69	0.69	-
Cocoons	1.21	1.60	1.68	1.24	-
Cotton fiber	1.06	1.06	1.02	1.02	1.1
Cotton yarn	1.45	0.83	0.88	1.37	2.0
Cotton fabrics	0.28	0.07	0.06	1.37	0.3
Finished silk fabrics	3.38	3.39	3.39	3.38	3.4
Non-woven fabrics	1.31	0.76	1.01	0.64	0.7
Hosiery goods	0.45	0.01	-	-	0.0001
Knitwear goods	3.38	3.39	3.39	3.38	0.0
Carpets and carpet goods	3.38	3.39	3.39	3.38	3.4
Reinforced plastic goods	-	-	0.006	0.02	0.01
Cement	0.02	0.11	0.005	0.18	0.32
Construction lime	0.33	0.11	-	2.85	0.3
Marble tiles	0.22	0.58	0.25	0.49	2.6
Glass jars	3.38	3.39	3.39	3.38	3.4

Annex 10. Competitive types of economic activity in Sughd Region

#	Types of economic activity	Average ratio values in 2007-2011			Integral competitiveness ratio
		Specialization	Localization	Per	
I. Other sectors of mining industry					
1	Salt mining and processing	1.1	1.1	0.9	1.0
II. Food production					
2	Cheeses	1.2	1.3	1	1.2
3	Ice cream	2.5	2.7	2	2.5
4	Canned fruit and vegetables	3.0	3.2	2.4	2.9
5	Dried fruit exports	4.2	4.5	3.4	4.1
6	Nuts exports	4.2	4.5	3.4	4.1
7	Peanuts exports	4.2	4.5	3.4	4.1
III. Agricultural production					
8	Vegetables	1.3	1.6	1.0	1.3
9	Fruit	1.3	1.4	1.0	1.3
10	Honey	1.7	2.0	1.3	1.7
11	Cocoons	1.8	2.3	1.5	1.9
IV. Textile and sewing production					
12	Cotton fiber	1.3	1.4	1.1	1.3
13	Cotton yarn	1.8	1.7	1.4	1.7
14	Finished silk fabrics	4.2	4.5	3.4	4.0
15	Non-woven fabrics	1.0	1.1	0.8	1.0
16	Knitwear goods	2.8	3.5	2.3	3.0
17	Carpets and carpet goods	4.2	4.5	3.4	4.1
V. Production of other non-metal mineral products					
18	Construction lime	1.3	1.5	1.0	1.3
19	Marble tiles	1.1	1.0	1.9	1.3
20	Glass jars. 0.5 l	4.2	4.5	3.4	4.1

The following four specialization areas can be singled out in Sughd Region, which, according to the calculations, have the highest capacity for cluster establishment. The main ones are: food products, agricultural products, textile and sewing industry, and construction materials (all ratio values for these types of economic activities are close to 1 or above).

Annex 11. The costs of operating an apricot garden

Planting grid 8 x 8 meters = 156 trees per hectare, yield – 15 tons per hectare

#	Description of work	Unit of measurement	Volume	Price per unit (TJS)	Costs (TJS)
1	Transporting organic fertilizers	Tons	40	50	2000
2	Purchasing organic fertilizers	Tons	40	30	1200
3	Plowing (20-25 cm)	Hectares	1	150	150
4	Inter-row plowing	Hectare	1	100	150
5	Leveling (by hand)	Are	5	5	25
6	Cultivation (twice)	Hectare	2	75	150
7	Manual irrigation – 10 times (10,000 cubic meters)	Hectare	10	30	300
8	Water cost	Cubic meter	10,000	0.18	1800
9	Loosening soil around the trees (twice), 624 sq.m., by hand	Pcs	156 x 2	3	936
10	Purchasing mineral fertilizers	Kg	850	1.56	1326
11	Transporting mineral fertilizers				100
12	Applying mineral fertilizer	Kg	850	0.12	102
13	Garden security	Month	12	100	1200
14	Apricot pest and disease control measures	Hectare	1	300	300
15	Trimming and shaping trees	Pcs	156	3	468
16	Harvesting	Pcs	156	20	3120
17	Transporting the harvest				500
	Common agricultural tax				180
	Total (excluding social security and pension tax)				**14007**

Note: Compiled by A. Mukhamedov, Candidate of Biological Sciences