

**The Kyrgyz Republic  
State Agency for Environmental Protection  
and Forestry (SAEPF)**

**The Kyrgyz Republic**

**Project for Development of Rural  
Business with Forest Products**

**Project Completion Report**

**November 2019**

**Japan International Cooperation Agency  
(JICA)**

**JIN Corporation  
Hokkaido Intellect Tank**

GE
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- ANNEX 2 List of Products Produced by the Project
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ANNEX 5 Summary of Forest Product Business Plan (Forestry Enterprise Business Sub-Plans)

ANNEX 6 Summary of Handbooks

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## Photos of project activities



Briefings on proposals regarding business activities with forest products (Chui province)



Identifying target plots for investment tenders with FE staff



Biotics pesticide training



Processing dog rose by CBO members



Dried herb produced by forest users for supply to LLC EcoFloris



Experimental plot of Tup FE



Monthly visit to experimental plot



Third country training in Poland  
( dwarf apple orchard management )



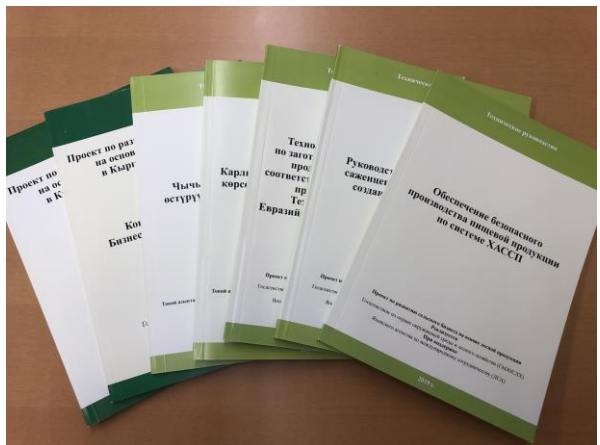
Training in Japan in 2018



1st seminar and study tour



National seminar in Naryn province



Handbook and case study in Russian and Kyrgyz languages

## List of Abbreviations

<b>BDS</b>	Business Development Service
<b>CBO</b>	Community-Based Organization
<b>C/Ps</b>	Counterpart(s)
<b>DFED</b>	Department of Forest Ecosystem Development
<b>EEU</b>	Eurasian Economic Union
<b>FE</b>	Forestry Enterprise
<b>FE-BSP(s)</b>	Forestry Enterprise Business Sub-Plan(s)
<b>FPBP</b>	Forest Products Business Plan
<b>GIZ</b>	Gesellschaft für Internationale Zusammenarbeit
<b>HACCP</b>	Hazard Analysis and Critical Control Points
<b>HIT</b>	Hokkaido Intellect Tank (HIT)
<b>JCC</b>	Joint Coordination Committee
<b>JFM</b>	Joint Forest Management
<b>JICA</b>	Japan International Cooperation Agency
<b>KAFLU</b>	Association of Forest and Land Users of Kyrgyzstan
<b>KGS</b>	Kyrgyz Som
<b>KNAS</b>	Kyrgyz National Academy of Science
<b>KNAU</b>	Kyrgyz National Agrarian University
<b>KR</b>	Kyrgyz Republic
<b>KRJC</b>	Kyrgyz Republic-Japan Center
<b>LLC</b>	Limited Liability Company
<b>NGO</b>	Nongovernmental organization
<b>NTFP</b>	Non-Timber Forest Products
<b>OVOP</b>	One Village One Product
<b>PDM</b>	Project Design Matrix
<b>RIA</b>	Regulatory Impact Analysis
<b>SAEPF</b>	State Agency for Environmental Protection and Forestry
<b>UNDP</b>	United Nations Development Programme
<b>USD</b>	US dollars





## **I. Basic Information of the Project**

### **1-1. Country**

The Kyrgyz Republic

### **1-2. Title of the Project**

Project for Development of Rural Business with Forest Products

### **1-3. Duration of the Project**

From September 2015 to November 2019

### **1-4. Background**

Aimed at efficient forest management, the Kyrgyz Republic has undertaken reforms including the privatization of productive activities in the forest. One of these reforms was introduction of the Joint Forest Management (hereinafter referred to as “JFM”) scheme where forest JFM tenants manage forests based on agreement among three parties, namely, Forest Enterprises (hereinafter referred to as “FE”), Ail-Okmotu (hereinafter referred to as “AO”) and the JFM tenants.

In this regard, JICA implemented a five-year technical cooperation project, the Project for the Support for Joint Forest Management, from January 2009 with the State Agency for Environmental Protection and Forestry (hereinafter referred to as “SAEPF”) and the State Agency for Local Self Governance and Interethnic Relations (hereinafter referred to as “SALGIR”) as counterpart agencies. Under the project, while JFM guidelines were developed pilot projects for promoting JFM were implemented at ten sites. As a result, success cases of increasing afforested areas by JFM as well as of obtaining higher income by selling apricots as forest products were observed. Moreover, SAEPF has started developing regulations on JFM based on JFM guidelines.

In such situations, the Government of the Kyrgyz Republic requested the Government of Japan for implementing another technical cooperation, the “Project for Development of Rural Business with Forest Products”, expecting that business models for increasing yield and sales of forest products including fruits would be developed through implementation of pilot projects and accordingly that understandings of the concerned parties including rural residents on JFM would be deepened and livelihood of rural residents would be enhanced.

### **1-5. Overall Goal and Project Purpose**

#### **(Original goal and purpose at the start of the project)**

#### **Overall Goal**

Business models with forest products through utilizing JFM are promoted nationwide.

#### **Project Purpose**

Systems for promoting business models with forest products through utilizing JFM are established in each target province and a nationwide business action plan with forest products is shared with stakeholders nationwide.

**(Goal and purpose in amended on September 4, 2018)**

**Overall Goal**

Activities to promote business with forest products are implemented nationwide.

**Project Purpose**

System of promoting forest product businesses is strengthened in the target FEs and their experiences are shared among SAEPF and national stakeholders.

**1-6. Implementing Agency**

State Agency for Environmental Protection and Forestry (SAEPF)

**1-7. Project Target Area**

Three Northern provinces (Chui, Talas, and Issyk-Kul) and Bishkek City

## II. Results of the Project

### 2-1. Results of the Project

#### 2-1-1. Input by the Japanese side (Planned and Actual)

Input by the Japanese side is as shown in Table 1.

**Table 1 Input by the Japanese side**

Planned (PDM ver. 8)	Actual
1. Dispatch of Experts <ul style="list-style-type: none"> <li>• Chief advisor</li> <li>• Business plan development</li> <li>• Forest management/Production of forest products</li> <li>• Marketing of forest products</li> <li>• Coordinator</li> <li>• Training</li> <li>• Fruits production</li> </ul>	1. Dispatch of Experts – <b>dispatched</b> <ul style="list-style-type: none"> <li>• Chief advisor -</li> <li>• Business plan development</li> <li>• Forest management/Production of forest products</li> <li>• Marketing of forest products</li> <li>• Coordinator</li> <li>• Training</li> <li>• Fruits production</li> </ul>
2. C/P training in Japan and/or third country	2. C/P training in Japan and/or third country – <b>implemented</b>
3. Equipment and Materials <ul style="list-style-type: none"> <li>• Equipment and materials relevant to the Project</li> </ul>	3. Equipment and Materials – <b>provided</b> <ul style="list-style-type: none"> <li>• Equipment and materials relevant to the Project</li> </ul>
4. Cost for project operation	4. Cost for project operation – <b>provided</b>

#### 2-1-2. Input by the Kyrgyz side (Planned and Actual)

Input by the Kyrgyz side is as shown in Table 2.

**Table 2 Input by the Kyrgyz side**

Planned	Actual
1. Arrangement of counterpart personnel (C/P) <ul style="list-style-type: none"> <li>• Project director (SAEPF)</li> <li>• Project manager (SAEPF)</li> <li>• Liaison officer (SAEPF)</li> <li>• Other counterparts from SAEPF/target FEs</li> </ul>	1. Arrangement of counterpart personnel (C/P) – <b>nominated</b> <ul style="list-style-type: none"> <li>• Project director (SAEPF)</li> <li>• Project manager (SAEPF)</li> <li>• Liaison officer (SAEPF)</li> <li>• Other counterparts from SAEPF/target FEs <ul style="list-style-type: none"> <li>1) Production of forest products</li> <li>2) Processing of forest products</li> </ul> </li> </ul>
2. Provision of facilities and equipment <ul style="list-style-type: none"> <li>• Project office and necessary facilities such as garage at SAEPF</li> </ul>	2. Provision of facilities and equipment – <b>provided</b> <ul style="list-style-type: none"> <li>• Project office and necessary facilities such as garage at SAEPF</li> </ul>
3. Administration cost shared by Kyrgyz side <ul style="list-style-type: none"> <li>• Travel and allowance for C/P personnel for implementing Project activities</li> </ul>	3. Administration cost shared by Kyrgyz side <ul style="list-style-type: none"> <li>• Travel and allowance for C/P personnel for implementing Project activities – <b>partially provided by SAEPF (provided by the project for study tours, 1st, 2nd, 3rd and national seminars)</b></li> </ul>
• Office running cost	• Office running cost – <b>provided</b>

## 2-1-3. Activities

### (1) Overview of planned and performed activities

The overview of Project activities is shown in Table 3.

**Table 3 Overview of planned and performed activities**

Planned	Performed
1-1 Review existing market surveys.	The existing market survey was reviewed.
1-2 Collect and compile baseline information of all FEs in the country (e.g. production and markets of promising forest products, socio-economic situations, situation of JFM practice, etc.).	A baseline survey was conducted by Central Asia International Consulting (CAI) as a sub-contractor from January 2016. The survey information collected was compiled and a baseline survey report was drawn up in August 2016.
1-3 Conduct briefings on submission of proposals regarding business activities with forest products to all FEs in 3 target provinces.	Meetings were held at the territorial offices of Chui, Talas and Issyk-Kul provinces in December 2015.
1-4 Support all the FEs in 3 Provinces to prepare proposals on business activities.	The project team instructed 14 FEs in three target provinces how to prepare proposals between January and April 2016.
1-5 Review proposals prepared by all FEs in 3 Provinces for selecting target FEs.	The proposals were submitted by 11 FEs. The project team helped them finalize it.
1-6 Select target FEs.	12 target FEs in three Provinces were selected and approved in JCC meetings.
1-7 Identify promising forest products and their markets.	Forest products such as apples, apricots, sea buckthorn, berries, pinecones and herb were identified as potential target forest products. The national and regional markets in Kazakhstan and Russia were determined as their potential markets.
2-1 Confirm utilization of forest lands in the target FEs based on the baseline information.	The target FEs determined how to use forest land in their territory.
2-2 The target FEs formulate Forest Products Business Plans (Forestry Enterprises Business Sub-plans) with forest products.	Forestry Enterprises Business Sub-plans were prepared by the target FEs as a part of Forest Products Business Plans with support from the project.
2-3 Conduct support activities for implementing Forest Products Business Plans (Forestry Enterprise Business Sub-plans) (e.g. strengthening production and support for marketing, etc.).	Activities for land lease through Joint Forest Management (JFM), forest product production business and forest product-processing and distribution business were conducted.
2-4 Monitor implementation of business activities with forest products in the target FEs.	Business activities with forest products in the target FEs were monitored by DFED and the project and reported to SAEPF and JICA every half a year.
3-1 Conduct training necessary to promote forest products business for the staff of the target FEs and SAEPF.	In-country training, third country training, training in Japan on forest product production and processing/distribution were conducted for the staff of the target FEs, SAEPF and forest users.
3-2 Develop handbooks for forest products business promotion.	Six titles of technical handbooks for forest product production and processing business were prepared in both Russian and Kyrgyz languages.
3-3 Compile case of forest products business promotion.	Two titles of case studies of forest product production and processing business were prepared in Russian.
3-4 Conduct seminars and study tours for sharing	Three seminars, two study tours and one national

the handbooks and cases of business promotion with FE staff and stakeholders nationwide.	seminar were implemented for FE staff and stakeholders to share technical information on forest product business promotion and the experience of the target FEs.
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The details of the Project activities are described in 2-1-3.

## (2) Activities for Output 1

Following the project launch, first of all, activities to achieve the Output 1 (“*current national situation of FEs with forest production and markets of forest products are clarified*”) were conducted. As described below these activities mainly included a baseline survey and a series of works for the selection of target FEs based on proposals from them.

### 1) Baseline survey

From January 2016 to August 2016 a baseline survey [Activity 1.2] including nationwide market survey review [Activity 1.1] was carried out by a local consultant firm, Central Asia International Consulting (CAI), selected and subcontracted by the project through competitive bidding in December 2015. The survey had the following four major objectives.

- To provide information necessary to demonstrate the feasibility of forest product business by Joint Forest Management (JFM), which would be attractive to existing and expected JFM tenants.
- To provide FEs with information necessary to develop Forest Products Business Plan, including a simplified assessment of forest product business resources in national forests.
- To provide SAEPF with the data and information necessary to establish JFM implementation guidelines and production targets included in the Nationwide Forest Products Business Action Plan.
- To collect information necessary to determine project target indicators such as the JFM tenant increase rate, number of JFM applications, JFM tenant’s income increase rate, etc.

This survey reviewed legislation relevant to state forest resource management, conducted social surveys in eight FEs located in all provinces nationwide except Batken and collected forest resources and financial information from almost all the FEs. In addition, a study was conducted on market conditions and technical regulations of forest products in the Kyrgyz Republic and other member countries of the Eurasian Economic Union (EEU) and a baseline survey report was developed and submitted to the project in August 2016. The table below shows the table of contents of the report.

**Table 4 Table of contents of the baseline survey report**

<b>Table of Contents</b>	
1.	Natural and social conditions
2.	Policies and public sector institutional arrangements regarding forest products and their markets
3.	Current situation of domestic and EEU forest products markets
4.	Quality requirement and standards of forest products
5.	Current business environment and tenants
6.	Management of the state forests
7.	Findings and recommendations
	Annexes

## **2) Briefings on and support for FE's proposal preparation**

To be selected as target FEs of the project, 14 FEs located in the three Northern provinces (Chui, Talas and Issyk-Kul) were requested to prepare proposals on the formulation of the Forest Products Business Plan (hereinafter referred to as "FEBP"), which presents their plan to promote forest product business through JFM.

In December 2015 the project held a meeting at the territorial office of each province for briefing those FEs on how to draft the proposals (Activity 1.3). During the briefing sessions the project explained that the project aims to promote several types of business models, particularly prioritizing private enterprises' fruit production and processing business. From January to April 2016, the project repeatedly visited 14 FEs to provide necessary instructions on their proposal drafting work.

## **3) Selection of the target FEs**

11 out of 14 FEs resulted in proposals being submitted to the project by the end of April 2016. However, most were incomplete or poorly presented and did not satisfy the minimum requirements of the project in terms of the volume and quality of information, mainly due to the lack of FEs' basic writing skills in Russian, poor understanding of the project concept, limited time and capacity to prepare proposals and weak leadership of the FE management.

The consultant team of the project therefore summarized the FE's proposals based on information additionally collected through interviews with the FE staff, field visits to proposed JFM sites for new leases and a review of secondary data.

In accordance with suggestion from the project, broadly speaking, promotion of the following four types of business models were proposed by the 11 FEs:

- A: Fruit business by local people (proposed by 2 FEs)
- B: Fruit business by private enterprises (proposed by 6 FEs)
- A+B: Development of fruit business clusters (proposed by 4 FEs)
- C: Non-timber forestry product business by local people (proposed by 6 FEs)

Regarding the fruit business, apples, apricots, plums, pears and almonds were proposed as potential target products. For the non-timber forest product business, sea buckthorn, pinecones, mushrooms and dog roses were included in the proposed potential products. As candidate sites for the state forest land to be leased or used to promote these businesses, a total of 21 sites were identified and proposed.

At the second Joint Coordinating Committee (JCC) meeting held in May 2016, all the 11 FEs having submitted the proposal were selected as target FEs of the project. In May 2017, Frunze FE was additionally included in the target FEs by the decision of the JCC. In 2019, due to the restructuring of FEs conducted by SAEPP, some of the target FEs of the project were integrated, leaving a total of 10 FEs left as target FEs.

## **(3) Activities for Output 2**

To achieve the Output 2 ("*Activities to promote business with forest products are practiced in the target FEs of three provinces*"), the project has undertaken the following activities:

### **1) Formulation of Forest Products Business Plans**

Each target FE formulated “Forestry Enterprise Business Sub-Plan (hereinafter referred to as FE-BSPs)” by early July 2016 with support from the consultant team (Activity 2.2) and all of them were approved in the third JCC meeting held in the same month.

The FE-BSP was prepared as a part of the “Forest Products Business Plan (FPBP)”, which is a three-year plan (2016-2019) to promote the forest product business through JFM at each FE area. This comprises two sub-plans, namely FE-BSP and the “JFM tenant business sub-plan” (hereinafter referred to as Tenant-BSP). At this time, each FE formulated FE-BSP only. The Tenant-BSP were expected to be developed additionally after identifying the target JFM tenants.

In the FE-BSP, each FE aimed to develop a potential business model at the target site and identify JFM tenants as well as supporting their forest product business. The target numbers such as total lease income and total areas for lease and target values related to an increase in the number of tenants have been also set in the FE-BSP.

ANNEX 5 gives an overview of the target site and the business of each FE as indicated in the FE-BSP.

Throughout the project, support activities were conducted to implement the FE-BSPs (Activity 2-3) and other additional activities subsequently proposed by DFED and the target FEs. As shown below, this support mainly covered areas of: land lease through Joint Forest Management (JFM); the forest product production business and forest product-processing and distribution business.

## **2) Support activities for land lease through Joint Forest Management (JFM)**

To promote private enterprises’ fruit production and processing business in the target FEs’ territories, the project first helped the FEs promote the lease of the land in the State Forest Fund to the private sector.

### **a) Business Forum**

In August 2016, a *Business Forum for Development of Rural Business of Non-Timber Forest Products* (hereinafter referred to as the “Business Forum”) was organized in Bishkek by SAEPF with support from the consultant team. There were approximately 70 participants, including those from the private sector and international aid agencies.

The forum aimed to attract attention to the project activities, particularly from private enterprises and individual entrepreneurs, and ensure state forest land was made ready for lease, forest product business plan of the 11 FEs and business practice by existing JFM tenants and private enterprises.

During the closing Q&A session, most of the questions from the floor centered on the lending scheme of the Ayil bank. While a fruit production business generally requires a certain number of years to begin product sales and make a profit from fruit-bearing trees, at that moment there was no lending service designed to fit such specific cash flow requirements from fruit growers. It was recognized that interest rates and collateral conditions offered from banks nationwide were not necessarily favorable to them.

The results of a questionnaire among forum participants also suggested that high initial investment costs were a major factor discouraging participants from leasing state forest land. This also implied that improving financial services for private enterprises and sole proprietors would be one of the challenges in promoting a forest product business.

### **b) Support for tender for the lease of the State Forest Fund (in Chui and Karakol)**



From May 2016 to April 2017 the project supported the planning and implementation of investment tenders at three state forest land sites for lease located in the territories of Chui FE and Karakol FE. The major purpose was to promote the involvement of private enterprises in Joint Forest Management (JFM) of state forest land and their investment in business with forest products, particularly fruit such as apple and apricots.

Table 5 shows the target sites and tender results.

**Table 5 Results of Investment Tenders conducted with support by the Project**

Forestry Enterprise	Target sites (area)	Target forest products	Period of tender	Tenant	Annual lease fee	Total investment amount (KGS, proposed by tenant)
1 Chui	Ak-Beshim (183 ha)	Fruits	Sep. 23, 2016 - Oct. 25, 2016	Private enterprise "SEZ group"	1,300 KGS/ha (19 USD)	152,313,570 KGS (2.2 million USD)
2 Chui	Shamshy (88 ha)	Fruits	Sep. 23, 2016 - Oct. 25, 2016	Private enterprise "DST mining"	1,300 KGS/ha (19 USD)	84,753,170 KGS (1.2 million USD)
3 Karakol	Jyrgalan (28 ha)	Fruits	Mar.22, 2017 - Apr.19, 2017	No bid	-	-

• **Tender for Ak-Beshim and Shamshy sites, in Chui Forestry Enterprise**

During the period from May to October 2016, the project helped Chui FE conduct investment tenders in two sites: Ak-Beshim and Shamshy. The support scope covered: identifying target plots and blocks by GPS survey; analyzing the soil of the leased land and financial analysis of the orchard development for tender applicants' information; determination of tender (lease) conditions and development of a tender document.

Following a consultation meeting held by Chui FE with the two local communities involved, the tender conditions were finalized and the tender to select tenants was conducted from the end of September to the end of October 2016. As a result, a private enterprise called "SEZ group" was selected as a tenant for the Ak-Beshim site (183 ha) and another company "DST mining" for the Shamshy site (88 ha).

Despite the huge investment proposed in the tender, however, neither of the tenants have made any physical investment to establish new orchards on the leased land.

• **Tender for the Jyrgalan site, in the Karakol Forestry Enterprise**

The project supported Karakol FE in conducting an investment tender in the Jyrgalan site (28 ha) similarly as was done for Chui FE.

Based on lessons learnt from the tender in Chui FE, however, a simpler tender document was developed to help tender applicants understand the tender condition and application forms more easily. To attract the attention of private enterprises to the tender, meanwhile, the project issued a tender announcement in both national and local newspapers and also opened its new website, making it possible for visitors to download the tender document with application forms.

Despite the efforts of Karakol FE and the Project, nonetheless, no application was submitted in

the time until the tender period closed in April 2017. So Karakol FE relaunched the tender in June 2017, easing the conditions for tender participants in terms of total investment and annual lease fee payment required but it remained unsuccessful.

**c) Support for developing a new regulation on forest use procedures**

In January 2017, DFED decided to revise the “regulation on the procedure to lease and use forest land” (hereinafter the “Lease Regulation”), as approved by decree of the Government of the Kyrgyz Republic No. 482 dated October 19, 2007 with technical support of GIZ.

In May 2017, following a request made by DFED, the project also supported DFED to conduct a Regulatory Impact Analysis (RIA) by deploying two local experts in the fields of environment assessment and economic analysis. RIA is a required legislative step to develop a bill of a new regulation before submission to the congress. The consultant team behind the project also made suggestions concerning the draft of the revised regulation prepared by DFED and supported it to convene two public consultation meetings in Issyk-Kul and Talas province to obtain comments and recommendations from citizens on the draft.

In April 2018, the decree of the Government of the Kyrgyz Republic No. 192 “On approval of the Procedure for the Use and Disposal of the State Forest Fund” was issued to enact the new regulation.

**3) Support activities for forest product production business**

Forest users, including tenants of the state forest land, require technical support to thrive in their business with forest products. FEs are expected to provide such business development services (BDS), including technical advice for forest users, but their knowledge and capacity remain limited, particularly in areas of fruit production, processing and marketing.

Accordingly, the project supported the efforts of target FEs to conduct training for forest users in the respective areas.

**a) Seasonal training for fruit production business**

To promote the apple and apricot production business in the target FE territories, the project conducted seasonal hands-on training encompassing both lectures and practice sessions in 11 FEs on an ongoing basis from November 2016 to May 2018.

The training was aimed not only tenants but also other local fruit growers (potential tenants) and FE staff themselves so that they could learn fruit tree growing techniques and thereby provide technical advice to fruit growers in leased forest land in future.

To meet demands from tenants and FE staff, the training covered four major subjects: cultivation techniques (pruning, grafting, etc.); disease and pesticide control; biotics pesticide and drip irrigation (see Table 6). In some cases it was organized as a joint training program conducted in a single place for participants from two or three FEs. In conducting the training the project mobilized experts in each technical subject from various organizations in Kyrgyzstan (see Table 7).

**Table 6 Seasonal training on fruit production**

	<b>Subject</b>	<b>Contents of the training</b>
1	Cultivation techniques	· In the lecture, basic information was provided on orchard management, including grafting of seedlings and rootstocks, pruning and workflow and

		<p>methods of annual orchard management.</p> <ul style="list-style-type: none"> <li>• In practice sessions, demonstrations were conducted for participants to learn methods of seeding, pruning, grafting, selection of apple cultivars for plantation and Bordeaux fungicide preparation, etc.</li> </ul>
2	Pest and disease control	<ul style="list-style-type: none"> <li>• In the lecture, information on characteristics and measures against four major diseases affecting apples and apricots in the Issyk-Kul region was provided by trainers. By watching video programs and participating in group work, participants deepened their understanding of the contents covered by the lecture.</li> </ul>
3	Biotics pesticide	<ul style="list-style-type: none"> <li>• “Biotic pesticide” is a generic term for biological control methods that reduce the occurrence of pests by introducing natural enemies and utilizing microbial products while making food products safer and easing the environmental burden.</li> <li>• Lectures and practical sessions were provided, focusing on the functions and uses of plant growth regulators and pesticides that use microorganisms such as Trichoderma and natural enemy insects of harmful pests.</li> </ul>
4	Drip irrigation	<ul style="list-style-type: none"> <li>• Indoor training sessions were provided in 2017 at 6 FEs, where participants learnt about installing irrigation facilities and the expense involved. Cost estimation practice was done by participants with a trainer.</li> <li>• Outdoor training sessions were provided in 2018 at 2 FEs, where the project supported efforts to establish drip irrigation facilities in their experimental plots. The methods of installing, maintaining, adjusting and cleaning the facilities were demonstrated by a trainer.</li> </ul>

**Table 7 List of trainers for seasonal training on fruits production**

Subject	Trainer	Affiliation
1 Cultivation techniques	Kubanychebek T. Turgunbaev	Kyrgyz National Agricultural University (KNAU)
	Sagynbek Aaliev	Kyrgyz National Agricultural University (KNAU)
	Azamat Kaseev	Agro lead
	Zaparova Maksat	Alma KG
2 Pest and disease control	Tair Esenaly Uulu	Manas University
	Makhabat Konurbaeva	Manas university
	Saikal Bobusheva	Manas university
	Jajshylyk Duishenaliev	Agro lead
3 Biotic pesticide	Zhanarkan Bakirova	Kyrgyz Biotics Center
4 Drip irrigation	Nasyr Kanatbekov	Kyrgyz Association of Forest and Land Users (KAFLU)

The number and participants of the training are reported later in ANNEX 1. In most cases, training participants in each FE showed a strong interest in the information provided and techniques demonstrated by trainers, participating actively in the sessions and asking numerous questions.

#### **4) Support activities for forest product-processing and distribution business**

According to FE-BSPs formulated in 2016, Ak-Suu, Balykchy and Talas aimed to promote forest product-processing by supporting a community-based organization (CBO)’s business or facilitating the establishment of a fruit processing plant by private investors. The project supported their activities with local consultants with expertise in food security, fruit processing and marketing.

**a) Support for community-based business with processed forest products (in Ak-Suu)**

From April 2017 to May 2019 the project supported the forest product-processing business via a community-based organization (CBO) “Ak-Suu Bailygy”.

During the initial stage, the CBO comprised 26 members from local communities, including the staff of the Ak-Suu Forestry Office (FO) and their families. It had an experience of growing tree-planting materials and collecting forest products in the state forest land in the territory of Ak-Suu FO. In 2016 the members decided to start business with processed non-timber forest products including fruit and berry jam and by obtaining a fund from a UNDP program procured equipment and machines necessary for processing and packaging products.

However the CBO members had no experience of jam production with such advanced equipment. Responding to a request from Ak-Suu FO for assistance and based on initial assessment of the CBO’s plan, capacity and challenges facing them, the project planned and provided various forms of support, including training (see Table 8), to help them start and manage business. In conducting the training the project mobilized experts in each technical subject from various organizations in Kyrgyzstan (see Table 9).

In addition, as shown in Table 11, representatives of CBO members, including the Director of the Ak-Suu FO, also attended third-country training in Kazakhstan in November 2017 to learn about product-processing and marketing. As one of the forms of support for their pilot activities to cultivate sample products in the first year, the project supplied approximately 4,100 jars for jams.

**Table 8 Training for community-based processing business in Ak-Suu**

	<b>Subject</b>	<b>Period</b>	<b>Contents of the training</b>
1	Jam production	May 2017	<ul style="list-style-type: none"> <li>• Production of sample jam products made from forest sub-products such as pinecone, dandelion and rhubarb.</li> <li>• Hands-on practice on hygiene management and production, packaging and storage of the product.</li> </ul>
2	Jam production	Jun 2017	<ul style="list-style-type: none"> <li>• Production of sample jam products (strawberry, cherry, walnuts and rose petal jam) with label samples.</li> </ul>
3	Business management & marketing	Jul 2017	<ul style="list-style-type: none"> <li>• Basic marketing knowledges such as 4P and 4C through understanding their own strongpoint and issues by using SWOT analysis</li> <li>• Lecture and workshop on basic marketing strategy</li> <li>• Inventory management</li> </ul>
4	Processing (study tour to Jalal-Abad)	Jul 2017	<ul style="list-style-type: none"> <li>• Learning case study of processed forest products</li> <li>• Exchanging opinions with staff in charge of technical and management matters with three processing companies there.</li> </ul>
5	Sales practice	Nov 2017	<ul style="list-style-type: none"> <li>• Sales promotion practice in Universal exhibition named “Bishkek 2017”.</li> </ul>
6	Business planning	Dec 2017	<ul style="list-style-type: none"> <li>• Making inventory control and equipment management plans, business and financial plans and work schedule of the next season</li> <li>• Training of sales promotion for following targets: processing company in Almaty, tourists visiting Ak-Suu area, local markets.</li> </ul>
7	Financial management	Apr 2018	<ul style="list-style-type: none"> <li>• Practice of accounting and bookkeeping,</li> <li>• Documentation for applying to membership of OVOP.</li> </ul>
8	Commercial Cooperative	Nov 2018	<ul style="list-style-type: none"> <li>• Lecture about activities, regulation and registration process of “commercial cooperative”</li> </ul>

			<ul style="list-style-type: none"> <li>• Introduction and analysis of success and failure story by cooperative</li> <li>• Instruction for the finalization of articles of “commercial cooperative”.</li> </ul>
9	Sales practice	May 2019	<ul style="list-style-type: none"> <li>• Sales promotion practice in KRJC Satsuki Festival.</li> </ul>

**Table 9 List of trainers for community-based processing business in Ak-Suu**

	Subject	Trainer	Affiliation
1	Food processing	Bermet Djurupova	Independent consultant
2	Business management	Ilyaz Pakirov	Kyrgyz Republic Japan Center (KRJC)
3	Financial management	Lyudmila Shulgina	Kyrgyz Republic Japan Center (KRJC)
4	Sales promotion	Aibek Kurenkeev	Kyrgyz Republic Japan Center (KRJC)
5	Formation of legal entities	Nargiza Abdraimova	Kyrgyz Republic Japan Center (KRJC)
6	Commercial cooperative	Kaiyrkul Kazylaeva	Association of cooperative

**Table 10 Third country training on forest products (fruits) processing & marketing (1<sup>st</sup>)**

	Subject & location	Period	Participants and contents of the training
1	Processing and marketing of forest products (1 <sup>st</sup> )  in Almaty, Kazakhstan	Nov. 1, 2017 - Nov. 3, 2017 (3 days)	<u>Participants :</u> <ul style="list-style-type: none"> <li>• 4 members of Ak-Suu CBO (including Director of Ak-Suu FE)</li> </ul> <u>Contents:</u> <ul style="list-style-type: none"> <li>• Market survey in Almaty</li> <li>• Studying the standards of products and packing material</li> <li>• Business meetings in Exhibition “World Food KZ”</li> <li>• Meeting with distributors in Kazakhstan</li> </ul>

During the period from 2017 to 2019, with technical instructions given by the project on the layout of their processing facilities, the CBO renovated its processing facility to ensure it could meet HACCP sanitary management standards. The CBO have produced ten types of jam products using locally available wild forest resources and sold them locally and at several exhibitions.

Supported by the project, it has also obtained official certification of EEU technical regulations on their products, paving the way to legally sell them at domestic and EEU markets.

Since Kyrgyz Republic legislation precludes a CBO from engaging in commercial activities as a legal entity, the members decided to reorganize themselves as a commercial cooperative by selecting its founder members. After learning the necessary application procedures and management system as part of the project training, in February 2019, it was officially registered as a commercial cooperative by the Ministry of Justice. To expand their market opportunity, it has also become a member of the “OVOP plus one”, the association of One Village One Product supported by another JICA technical cooperation project.

#### **b) Support for raw material marketing and sales activities**

During the period 2018 to 2019, the project provided support for raw material business-matching on a pilot basis for forest users in the Karakol FE, Jety-Oguz FE and Balykchy FE territories. The support is intended to boost frequencies and quantities of business

transaction between raw material providers and potential buyers (e.g. medium- and large-scale processing companies), which was also tested for FEs to provide such services for promoting their forest users' business in future.

In 2018, the project first identified seven potential buyers in the Bishkek and Karakol areas and Almaty City in Kazakhstan. Their trade terms and the technical specification information on raw materials (forest products, including fallen apricots and apples, sea buckthorn and dry herbs) were assembled and provided to potential raw material suppliers identified among forest users in the three FE territories. At the same time, in May and June 2018, the project provided introductory training on dried herb and fruit for those potential suppliers in 2 FEs (see Table 11).

Consequently, while the expected matching did not ensue for fallen apricot and apple trade due mainly to failure of price negotiation or shortage of fallen fruit available in the harvest season, approximately 380 kg of wild sea buckthorns harvested by tenants and forest users of Karakol FE were supplied to the abovementioned OVOP plus One and another private fruit juice processing company, LLC OSKO for test. 25 kg of dried herbs harvested by forest users in the territories of Jety-Oguz FE and Karakol FE were also supplied to a processing company, LLC EcoFloris, but the quality of the materials was not satisfactory. A few barberries and dog roses collected in Karakol FE territory were also supplied to another company, PE Adenova.

To enable these raw material suppliers to harvest these materials legitimately in the state forest land, the FEs issued forest tickets for them who made the payment of forest use fee.

**Table 11 Training on dried herb and fruits processing**

	<b>Subject</b>	<b>Period</b>	<b>Participants and contents of the training</b>
1	Dry herb processing (introductory)	May 2018	<u>Participants:</u> <ul style="list-style-type: none"> <li>• 9 people (including staff of Jety-Oguz &amp; Karakol FE )</li> </ul> <u>Contents</u> <ul style="list-style-type: none"> <li>• Conducted in the processing factory in Jety-Oguz, with a local food processing expert and attendance of the operators of the processing factory.</li> <li>• Harvest timing and method depending on herb species and sampling parts were explained. Technical specifications regarding herb drying, labeling, packing, transportation and storage were introduced.</li> </ul>
2	Dry fruits processing (introductory)	Jun 2018	<u>Participants:</u> <ul style="list-style-type: none"> <li>• 13 people (including staff of Jety-Oguz &amp; Karakol FE)</li> </ul> <u>Contents:</u> <ul style="list-style-type: none"> <li>• Conducted with a local food processing expert at Artemis Public Association in Kyzyl-Suu village of Jety-Oguz for members of dry fruit processing businesses.</li> <li>• Following the specialist's instruction on fruit-drying methodologies, drying equipment types, important features of HACCP standards, group works were organized to identify and discuss issues and their possible remedies.</li> </ul>
3	Dry herb processing	May 2019	<u>Participants:</u> <ul style="list-style-type: none"> <li>• 42 people (mainly forest users in 5 FEs' territories)</li> </ul> <u>Contents:</u> <ul style="list-style-type: none"> <li>• Conducted at four places under the territories of 5 FEs in Issyk-Kul Region with two local experts from academic filed and processing company, LLC EcoFloris.</li> <li>• Participants were mainly forest users who were to start</li> </ul>

			semi-processed dried herbs supply activities from current harvest season. <ul style="list-style-type: none"> <li>• Training was business-matching oriented and main objectives was to make clear definition of standards and quality required by buyers for the forest users to start dried herbs supply business.</li> </ul>
4	Dry fruits processing and raw material supply	Jun 2019	<u>Participants:</u> <ul style="list-style-type: none"> <li>• 38 people (mainly forest users in 5 FEs' territories)</li> </ul> <u>Contents:</u> <ul style="list-style-type: none"> <li>• Conducted at four places under the territories of 5 FEs in Issyk-Kul Region with two local experts from academic filed and a procurement manager of a processing company, LLC OSKO.</li> <li>• Participants were mainly forest users who were to start semi-processed dried herbs supply activities from current harvest season.</li> <li>• Drying berries requires quite a large investment in installation of equipment, therefore main topic of the training was to share information on harvesting, acceptance, storage, quality control of fresh fruits and berries according to requirements of buyers to promote raw material supply business.</li> </ul>

In 2019, based on the results of and issues identified in the transaction in the previous year, with support by the project LLC OSKO, LLC EcoFloris and OVOP plus One and these forest users in Karakol FE and Jety-Oguz FE agreed to continue their transactions of raw materials to help the forest users concerned understand more about the quality of their products required from buyers, the project repeated training on dry herbs and fruit in May and June 2019 in conjunction with these processing companies.

Before the harvest season of herbs and berries got started in 2019, with support from the project, the forest users and processing companies (LLC EcoFloris and LLC OSKO) concluded a written basic agreement on raw purchase materials, based on which forest users in Orto-Oruktu and Otradnoe villages supplied raw sea buckthorn and barberry materials to OSKO in August and September 2019. The results are as shown in Table 12.

**Table 12 Results of supply of raw materials to LLC OSKO in August and September 2019**

Village	Item	Unit price/kg (KGS)	Quantity (kg)	Price (KGS)	Sub-total (KGS)
Orto-Oruktu	Sea buckthorn	105	17.0	1,785	17,136
		110	65.0	7,150	
	Barberry	45	148.9	6,701	
		50	30.0	1,500	
Otradnoe	Sea buckthorn	105	230.4	24,192	24,192
Total amount					41,328

#### (4) Activities for Output 3

To achieve Output 3 (“*Handbooks and case studies are shared to promote business with forest products*”) the project has undertaken the following activities:

**1) Training for SAEPP and target FE staff to promote the forest product production business**

**a) Seasonal training for the fruit cultivation business**

As already reported as part of activities to achieve Output 2, seasonal training for the fruit cultivation business was conducted in 11 FEs on an ongoing basis from November 2016 to May 2018, not only for tenants but also for FE staff themselves, so that they could learn fruit tree growing techniques and thereby give technical advice to fruit growers in leased forest land in future.

**b) Support to establish and manage experimental plots**

Responding to increasing demand from target FEs, the Project helped them establish and manage experimental nursery plots, where new varieties (e.g. dwarf or semi-dwarf cultivar) and advanced cultivation techniques of fruit trees (apple, apricot, cherry, blackcurrant and black plum) and sea buckthorn were introduced for the following purposes: i) test growing; ii) analysis of the economic feasibility of production; iii) multiplication of seedlings and/or rootstocks for sale; iv) capacity-building of FE staff and v) demonstration of the varieties and techniques to existing and potential tenants.

Above all, the overall objective of the experiment involved promoting investment by private enterprises and/or local tenants into such varieties or cultivation methods with greater potential in terms of profitability or productivity. If production with the varieties or methods introduced proves feasible and profitable as a result of the experiment, tenants and local fruit growers will be encouraged to introduce them in and around the leased forest land of each FE, which, in the long run, should help establish a cluster of fruit production in the area.

In January 2017, based on information collected from 11 target FEs in terms of willingness, capacity and ideas to establish and manage the experimental plots, the project, in consultation with DFED, selected seven FEs (Chui, Bakai-Ata, Issyk-Kul, Karakol, Jety-Oguz, Balykchy and Tup) among them as target FEs to be supported for the experiment.

The project provided seedlings and rootstocks of apple, cherry, blackcurrant and black plum imported from Poland to nursery plots established by these FEs in April 2017 and sea buckthorn seedlings imported from Altai in Russia to six FEs in July 2017. Equipment such as tillers, gardening tools, root stimulators, fertilizers, chemicals and sprayers were also supplied to each FE for the experiment. Materials for constructing new trenches were provided to Balykchy FE who proposed them to developing nurseries as part of exploring how best to minimize the negative impact of the severe continental climate with strong winds and dried soil.

During the period from February 2017 to October 2019, the project conducted monthly visits to each of the seven FEs to provide necessary technical advice, by mobilizing local experts shown in Table 13.

Throughout the same period the project also provided E-training using social media called “WhatsApp”, via which FEs and project and target FEs shared information, photos and logbook records of the status of nursery management with each other as well as questions and answers. During the period 2018 to 2019, the project additionally supplied seedlings and rootstocks of apricots and sea buckthorn, farm inputs and materials necessary to install or improve irrigation facilities, greenhouse facilities or other forms of infrastructure to propagate in nurseries to the FEs.



Adopting techniques learnt from these activities and the third-country training mentioned below, the FEs carried out multiplication of seedlings and rootstocks of dwarf and semi-dwarf apple, cherry, black plum, blackcurrant, as well as sea buckthorn seedlings using hardwood or greenwood cuttings.

**Table 13 List of trainers for experimental plots**

Subject	Trainer	Affiliation
1 Dwarf and semi-dwarf fruits	Kubanychbek T. Turgunbaev	Kyrgyz National Agricultural University (KNAU)
	Ramazan E. Makeev	LLC Janart Agro Service
	Kanybek A. Soltnov	LLC Janart Agro Service
	Nurlan A. Isaev	LLC Janart Agro Service
2 Sea buckthorn	Kaiyrkul Shalpykov	Kyrgyz National Academy of Science (KNAS)

**c) Third-country training on fruit product production**

To build the technical capacity of FEs engaged in managing the experimental plots above, the project conducted third-country training programs on six occasions: three times to learn fruit production (propagation of fruit rootstocks and seedlings) in Kazakhstan; once for dwarf apple orchard management in Poland and twice for sea buckthorn production in Altai State, Russia. The participants, contents and results of each training program are summarized in Table 14 below.

**Table 14 Third Country Training on Forest Products (Fruits) Production**

	Subject & location	Period	Participants, contents and results of the training
1	Fruits production (1 <sup>st</sup> )  in Shymkent, Kazakhstan	May 31, 2017 - June 3, 2017 (4 days)	<u>Participants:</u> • 9 staff (8 from FEs and one from DFED) <u>Contents &amp; major results:</u> • Aimed at learning techniques of propagating and growing fruits seedlings. • By technical guidance on the cultivation of dwarf and semi-dwarf fruits seedlings provided by a fruits seedling supplier company, <i>Saryagash Jer Siy</i> , gained knowledge on the management of fruits nursery. • By visiting two intensive orchards (in Tulkibas district and nearby Kyrgyz border), observed practices including the use of supporting piles and trellises to fix the trunk vertically, drip irrigation and rootstock propagation.
2	Fruits production (2 <sup>nd</sup> )  In Merke district, Zhambyl province, Kazakhstan	August 29, 2017 (1 day)	<u>Participants:</u> • 9 staff (all from FEs) <u>Contents &amp; major results:</u> • In an apple orchard named "Jasyl Beles", received lectures and practical training on grafting techniques of dwarf and semi-dwarf apple trees and acquired a budding method called "T-shaped method" (a technique of cutting and opening the bark of a rootstock into a T-shape, to which a bud cut from scions is inserted and glued).
3	Fruits production (3 <sup>rd</sup> )	September 28, 2017	<u>Participants:</u> • 10 staff (9 from FEs, 1 from DFED)

	In Merke district, Zhambyl province, Kazakhstan	(1 day)	<p><u>Contents &amp; major results:</u></p> <ul style="list-style-type: none"> <li>• In an apple orchard named "Jasyl Beles", examined the results of budding exercises with dwarf and semi-dwarf fruit seedlings carried out in the previous training and received lectures and practical training how to propagate fruit rootstocks.</li> </ul>
4	<p>Fruits production (dwarf apple orchard management)</p> <p>In Newborow, Lowwicz and Lublin, Poland</p>	May 31, 2018 - June 6, 2018 (7 days)	<p><u>Participants:</u></p> <ul style="list-style-type: none"> <li>• 9 staff (7 from FEs, 2 from DFED)</li> </ul> <p><u>Contents &amp; major results:</u></p> <ul style="list-style-type: none"> <li>• Aimed at learning dwarf apple orchard management to be used for FEs' dwarf apple orchard development and their extension activities targeting tenants and other private sector players.</li> <li>• In Newborow and Lowwicz training was conducted at small- and medium-scale apple producers' orchards to acquire cultivation techniques and orchard management and marketing knowhow.</li> <li>• In Lublin, by visiting a private nursery called "Sulek" and an agriculture cooperative "Stryjno-Sad", learnt about large-scale seedling production procedures and technologies, management of cooperatives and current market trends.</li> </ul>
5	<p>Sea buckthorn production (1<sup>st</sup>)</p> <p>In Barnaul, Altai, Russia</p>	July 3, 2017 – July 8, 2017 (6 days)	<p><u>Participants:</u></p> <ul style="list-style-type: none"> <li>• 8 staff (7 from FEs, 1 from DFED)</li> </ul> <p><u>Contents &amp; major results:</u></p> <ul style="list-style-type: none"> <li>• Aimed at acquiring sea buckthorn's seedling propagation and growing skills at the Lisovenko Research Institute of Horticulture for Siberia.</li> <li>• Received technical advice on propagation and cultivation of sea buckthorns including the use of cuttings and root stimulators and visited several different model areas to observe various examples of sea buckthorn cultivation practices.</li> </ul>
6	<p>Sea buckthorn production (2<sup>nd</sup>)</p> <p>In Barnaul, Altai, Russia</p>	August 27, 2018 - September 1, 2018 (6 days)	<p><u>Participants:</u></p> <ul style="list-style-type: none"> <li>• 9 in total (8 from FEs, 1 from DFED)</li> </ul> <p><u>Contents &amp; major results:</u></p> <ul style="list-style-type: none"> <li>• At the Lisavenko Research Institute of Horticulture for Siberia, learnt mainly sea buckthorn breeding, seedling production and marketing, orchard development and fruits production business. Learnt fruit harvesting methods by hands-on practice.</li> <li>• In LLC ALSU, lectured about measures to receive sea buckthorn raw materials, working arrangements, processing procedures and quality control management. Observed and learnt how to operate and maintain sea buckthorn processing facilities.</li> </ul>

**2) Training for SAEPF and target FE staff to promote the forest product-processing and distribution business**

**a) Support for FE's investment promotion to establish a fruit processing plant (Balykchy and Talas)**

According to the FE-BSPs of Balykchy FE and Talas FE, they aimed to promote the

establishment of a fruit production and processing cluster in its territory by attracting private investors capable of establishing a fruit processing plant. As shown in Table 15, the project provided the support they needed to develop their plans and realize it.

For Balykchy FE, following discussion with the FE, the project developed a draft business plan to attract investors from both within and outside Kyrgyzstan and identified five private companies in Kazakhstan and the Kyrgyz Republic as potential investors. Following interviews with the five companies, however, it was confirmed that they did not yet have a plan to establish a plant but were keen to purchase raw materials from their areas to cultivate their processed products. The project thus supported matching between raw material suppliers and the potential investor as reported above.

For Talas FE, conversely, discussion with the FE revealed a lack of sufficient information to assess the feasibility of processed business in the territory, including the availability and accessibility of raw materials for processing. The FE expected door subsidies to establish and operate a processing plant with little attention to commercial payback and possible return on investment. The project therefore only conducted training on preparing a business plan for the FE staff in June 2017 and it was expected that the FE would independently create a plan and search for potential investors.

**Table 15 Support for FE’s investment promotion to establish a fruit processing plan**

	Target FE	Period	Support provided by the project
1	Balykchy	Feb 2017 Apr 2017 Aug 2017  Sep 2017 Oct 2017  2018	Checking the business plan of FE. Preliminary analysis of feasibility of business plan. Helping to develop a detailed business plan. Individual interviews and exchanged ideas with five company in Kyrgyz as candidate investors. Individual interview and exchanged idea of further collaboration with the company in Shymkent of Kazakhstan. FE decided to make LLC OSKO as counterpart for business. They decided to start with the raw material supply business as a preparation stage. The raw material business was not realized due to problems in Balykchy FE. LLC OSKO had started raw material business with other FE.
2	Talas	Mar 2017 May 2017 Jun 2017  Sep 2017	Checking the business plan of FE. Preliminary analysis of feasibility of business plan. Training of making model business plan for apple processing business. FE decided to create its own business plan.

**b) Third-country training on forest products (fruit) processing and marketing**

To help the staff of target FEs enhance their knowledge and capacity to promote forest product-processing and distribution business, the project conducted third-country training as shown in Table 16 in 2017 and 2018. One was conducted as part of support for Balykchy FE intending to establish a processing plant in its territory and another was for Karakol, Jetty-Oguz and Chui, which were planning to promote the abovementioned raw material-matching activities, dry fruit and herb business or forest product-processing business.

**Table 16 Third country training on forest products (fruits) processing & marketing**

	<b>Subject &amp; location</b>	<b>Period</b>	<b>Participants and contents of the training</b>
1	Processing and marketing of forest products (2 <sup>nd</sup> )  in Almaty, Kazakhstan	Nov. 24, 2017 - Nov. 25, 2017 (2 days)	<u>Participants:</u> • Director and Vice-director of Balykchy FS <u>Contents:</u> • Market survey in Almaty • Meeting with a fruits and vegetable processing company (LLC), “SD&CO”, Studying the possibility of supplying raw materials to Almaty
2	Fruit and herb processing in Tashkent, Uzbekistan & Samarkand, Kazakhstan	Jul.1, 2018 - Jul 5, 2018 (5 days)	<u>Participants:</u> • 5 staff of 3 FEs (Karakol, Jety-Oguz and Chui) and private dry fruit processors, <u>Contents:</u> 1) Tashkent, Uzbekistan • Zamona RANO company and its processing facility Observation of herb processing, finishing, facility management, quality control and raw material evaluation procedures • Zamona RANO company orchards Observation of herb drying facility and herb cultivation and harvesting techniques 2) Samarkand, Uzbekistan • Asror Ibrahimov company Observation of dry fruit processing and storage facility and its management procedure • Samarkand Agriculture University Observation of the experimental apple orchard supported by Hirosaki University, Japan • LLC SAFO BAKHSH Observation of middle-scale dry fruit process facilities Business discussion. 3). Shymkent, Kazakhstan • LLC Pesnya Leta company Observation of juice production, raw material supply and storage. Business discussion.

### 3) Training in Japan

To improve the knowledge and capacity of the staff of SAEPF and target FEs, the project conducted training in Japan three times from 2016 to 2018. The contents of the training are summarized in Table 17.

**Table 17 Training in Japan**

	<b>Subject &amp; location</b>	<b>Period</b>	<b>Participants and contents of the training</b>
1	<b>Subject:</b> • Forest management • Privatization • Non-timber forest products	Sep.26, 2016- Oct.7, 2016 (11days)	<u>Participants:</u> 3 (deputy) directors from Chui, Balykchy and Talas FE. <u>Contents:</u> • Aimed at learning advanced practices in Japan and find similarities and differences between both countries.

	<ul style="list-style-type: none"> <li>Alternative energy</li> </ul> <p><b>Location:</b> Hokkaido area</p>		<ul style="list-style-type: none"> <li>Five subjects were picked up from the interview conducted in advance with the Kyrgyz forest sector people.</li> <li>The training program was mainly constituted of field visit with lecture and discussion with Japanese experts and interim/final wrap-up sessions.</li> <li>The participants drafted and presented action plans reflecting their future activities in the Kyrgyz Republic.</li> </ul>
2	<p><b>Subject:</b> Fruits production</p> <p><b>Location:</b> Kanagawa, Tokyo, Iwate, Aomori and Miyagi prefecture</p>	Sep.25, 2017- Oct.6, 2017 (11days)	<p><u>Participants:</u></p> <ul style="list-style-type: none"> <li>3 directors from Frunze, Bakai-Ata, Issyk-Kul FE &amp; 1 national expert of the Project.</li> </ul> <p><u>Contents:</u></p> <ul style="list-style-type: none"> <li>The participants visited 18 sites in the five prefectures such as private companies, associations, unions and universities.</li> <li>They learnt practical techniques of fruits production (pruning, cutting, grafting, pest control, dwarf etc.), processing, selection/calibration, storage and activities of association/cooperative through lectures and on-site visits.</li> <li>They drafted and presented action plans reflecting their future activities in the Kyrgyz Republic.</li> </ul>
3	<p><b>Subject:</b> Fruits processing and marketing</p> <p><b>Location:</b> Tsukuba, Tokyo and Hokkaido</p>	Sep.3, 2018- Sep.14, 2018 (11days)	<p><u>Participants:</u></p> <ul style="list-style-type: none"> <li>2 people from Chui (director) and Ak-Suu (chief accountant) FE and national expert of the project.</li> </ul> <p><u>Contents:</u></p> <ul style="list-style-type: none"> <li>A training program constituted of lectures and visits covering the following three main topics selected according to needs assessment of the three participants. <ol style="list-style-type: none"> <li>1) Issues and remedies of fruit production businesses</li> <li>2) Issues and remedies of fruit processing and marketing</li> <li>3) Utilization of local resources for rural development</li> </ol> </li> <li>The participants drafted and presented their action plans to address FEs' policy, management and technical issues for improvement based on observations and analysis of Japanese experiences regarding technical development and management of processing and marketing.</li> </ul>

#### 4) Development of handbooks for forest product business promotion

In 2019, as presented in Table 18, the project developed six titles of technical handbooks in both Russian and Kyrgyz language as reference sources for FE staff, forest users and other stakeholders to help them learn more about subjects related to forest product production and processing business (Activity 3-2). A summary of each handbook is shown in ANNEX 6.

**Table 18 Handbooks developed for forest products business promotion**

	Title of handbook	Total No. of units for distribution	
		Russian	Kyrgyz
1	Dwarf apple seedling production, orchard establishment and maintenance	500	500
2	Sea buckthorn seedling production, orchard establishment and maintenance	500	500
3	Drip irrigation for fruits production in Kyrgyzstan	500	500
4	Application of HACCP system for Food Manufacturing Safety Management	500	500

5	Technical instruction for harvesting and processing of forest products and conformity of processed forest products with the requirement of Technical Regulation of the Eurasian Economic Union	500	500
6	Formation of a legal entity for forest product business	500	500
Total		3,000	3,000

#### 5) Development of case studies of forest product business promotion

In 2019, as presented in Table 19, the project also developed two titles of case studies of forest product business promotion in Russian to share lessons and experiences gained from the project's business promotion activities with FE staff, forest users and other stakeholders (Activity 3-3).

The first volume relates to the promotion of forest product production business and focuses on the financial feasibility of dwarf apple and sea buckthorn seedling production. The second volume centers on the forest product production and distribution business, covering community-based jam production, raw material supply and dried fruit and herb businesses. Each volume is summarized in ANNEX 7.

**Table 19 Case studies developed for forest products business promotion**

	Title of case study	Total No. of units for distribution (Russian)
1	Case study I: Forest product production business (financial analysis)	500
2	Case study II: Forest product-processing business	500
Total		1,000

#### 6) Seminars and study tours to share handbooks and business promotion cases

To share technical information related to forest product business promotion and the experience of target FEs and forest users supported under the project widely with stakeholders nationwide, the project conducted the following seminars and study tours in 2018 and 2019:

- i) Seminars and study tours for the three target provinces (Chui, Issyk-Kul, Talas):
  - 1<sup>st</sup> seminar and study tour on forest product production business (official title: seminar on apple, apricot and sea buckthorn cluster development: special focus on improving fruit production)
  - 2<sup>nd</sup> seminar and study tour on forest product-processing and distribution business (official title: seminar on promoting non-timber forest product business: special focus on the processing, marketing and distribution of fruit, berry and herb products)
  - 3<sup>rd</sup> seminar on procedures of the state forest land (official title: seminar on the procedure for using and disposing of the State Forest Fund: Special focus on the forest use for fruit production and collecting wild food resources).
- ii) National seminars in six provinces nationwide (title: National Seminars on promoting non-timber forest products (NTFP) business in the State Forest Fund)

The purpose, participants and results of these seminars and study tours are summarized in the tables below:

**Table 20 1st seminar and study tour on forest product production business**

<b>Official title:</b>
Seminar on apple, apricot and sea buckthorn cluster development: special focus on improving fruit production
<b>Period:</b> Sep 27 - 28, 2018 (2 days)
<b>Location:</b> Karakol, Issyk-Kul province
<b>Purpose:</b>
<ol style="list-style-type: none"> <li>(1) To identify areas of collaboration between public and private sector players to develop fruit clusters, particularly for better fruit production management and further orchard development.</li> <li>(2) To exchange views and information on lessons from orchard management, effective techniques and common issues regarding the cultivation of dwarf apple, apricot and sea buckthorn (fruit production business) through presentation, discussion and a study tour in Issyk-Kul Province</li> </ol>
<b>Participants:</b>
98 (1 <sup>st</sup> day: seminar) and 65 participants (2 <sup>nd</sup> day: study tour), from SAEPF, target FEs, the Ministry of Agriculture, the Ministry of Health, individual entrepreneurs, private companies, forest users, development partners, etc.
<b>Contents:</b>
<ul style="list-style-type: none"> <li>• Prior to the seminar, the agenda was determined in consultation with the private sector stakeholders who are members of the fruit production social network. The agenda focused on dwarf apple, apricot and sea buckthorn production business.</li> <li>• In terms of the dwarf apple production business, a tenant's experience in dwarf apple orchard development using a loan from Russian Kyrgyz Development Fund (RKDF) drew keen attention from participants. Fire blight control measures were also presented.</li> <li>• In terms of the sea buckthorn production business, by introducing FE's experimental activities, the project stressed the high potential of the sea buckthorn plantation business and wild sea buckthorn collection business. FEs received a number of inquiries from the private sector players on seedling supply.</li> <li>• According to a presentation on apricot production business by Balykchy FS, the lack of irrigation facilities may hinder further business development in the territory. The Integrated Forest Ecosystem Management Project financed by the World Bank reported plans to finance the same.</li> <li>• In the study tour followed by the seminar, participants visited and observed FE's experimental plots for dwarf fruit and sea buckthorn seedling production, dwarf apple orchards managed by FE's tenants and private companies.</li> </ul>

**Table 21 2nd seminar and study tour on forest product-processing and distribution business**

<b>Official title:</b>
Seminar to promote the non-timber forest product business: special focus on processing, marketing and distribution of fruit, berry and herb products
<b>Period:</b> Nov 13 - 14, 2018 (2 days).
<b>Location:</b> Karakol, Issyk-Kul province.
<b>Purpose:</b>
<ol style="list-style-type: none"> <li>(1) To share information on the development of NTFP business, particularly those related to the processing, marketing and distribution of fruit, berry and herb products.</li> <li>(2) To identify the potential advantages of Kyrgyz NTFPs in the export market and the issues to be</li> </ol>

<p>addressed by suppliers of fruit, berries and herbs (raw materials and processed products) to improve their product and value.</p> <p>(3) To enable each participant to gain an insight into the critical issues behind starting, practicing or promoting NTFP businesses.</p>
<p><b>Participants:</b></p> <p>82 (1<sup>st</sup> day: seminar) and 49 participants (2<sup>nd</sup> day: study tour), from SAEPF, target FEs, Issyk-Kul government, individual entrepreneurs, private companies, forest users, commercial cooperatives, development partners, etc.</p>
<p><b>Contents:</b></p> <ul style="list-style-type: none"> <li>• In a session on the potential advantages and issues of Kyrgyz NTFPs, four presenters from private processing companies or associations explained their processed product business and discussed their demands and issues on raw material collection.</li> <li>• In terms of improving the business environment and measures to enhance the added value of Kyrgyz NTFPS, food hygiene management conforming to EEU technical regulations was introduced. A private logistic center company made a presentation on its business that may help customers add value to their stored products and information on a new regulation concerning forest use procedures was provided by DFED.</li> <li>• In terms of the formation of business entities, the characteristics of various entities and taxations were presented and certain entities suitable for forest product business were introduced. The advantages and success stories of cooperatives were also shared with participants.</li> <li>• During a group discussion session, the participants were separated into four groups depending on the subjects that interested them and within each group, participants actively exchanged opinions, questions and answers. This session enabled NTFP business stakeholders to get to know each other and exchange information possibly leading to new business opportunities.</li> <li>• In the study tour followed by the seminar, participants visited and observed the forest product-processing facility of the CBO in Ak-Suu, OVOP, a fruit-drying plant in Karakol and fruit storage in Balykchy.</li> </ul>

**Table 22 3<sup>rd</sup> seminar on the procedures of the state forest land**

<p><b>Official title:</b></p> <p>Seminar on the procedure for using and disposing of the State Forest Fund: Special focus on the forest use for fruit production and collecting wild food resources</p>
<p><b>Period:</b> Jul. 19, 2019 (1 day).</p>
<p><b>Location:</b> Bishkek.</p>
<p><b>Purpose:</b></p> <p>To promote the fruit plantation business and/or business with wild food resources in the State Forest Fund (SFF):</p> <ol style="list-style-type: none"> <li>(1) To enable DFED, Forest Enterprises and Development Partners to jointly review the new procedures for using and disposing of the SFF, as approved by decree of the Government of Kyrgyz Republic of April 10, 2018 No. 192 and other relevant SAEPF orders issued in 2018;</li> <li>(2) To identify the challenges faced by Forest Enterprises in practicing new procedures to promote fruit production and the use of wild food resources and have a common view on countermeasures to address the same.</li> </ol>
<p><b>Participants:</b></p> <p>21 from SAEPF, target FEs and development partners.</p>
<p><b>Contents:</b></p> <ul style="list-style-type: none"> <li>• Information was provided to the participants on the new tender procedures for forest use, forest lease</li> </ul>



<p>agreements, forest use fees, permission for forest use, forest management plans and community-based management following a review of related regulations done by the JICA consultant team.</p> <ul style="list-style-type: none"> <li>• In terms of the tender procedure, participants from FEs proposed that the conditions of tender commission formation be revised so that FEs could comprise most commission members. Now only 20 percent of the commission members can comprise representatives from FEs, while the rest are from local government and non-government organizations.</li> <li>• The consultant team explained the necessary procedures after the tender process to the participants, including forest use agreements, forest use fees, forest tickets and certificates for forest resource extraction. In doing so the team also pointed out discrepancies and challenges to be addressed in the regulation. Participants from FEs stated that the procedures were excessively demanding and complicated to be handled by FEs with limited human resources.</li> <li>• As for the format of the forest lease agreement, the team suggested that it should be further revised. Although SAEPF intends to use it as a standard template for any types of forest use, the current format includes many articles which are only applicable to forest leases.</li> <li>• The consultant team also explained details of the documents to be prepared by FEs and forest users to participants, including the forest management plan and suggested to SAEPF that much must be done to address the discrepancies and challenges identified in the current regulation.</li> </ul>
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**Table 23 National Seminars on promoting non-timber forest products (NTFP) business in the State Forest Fund**

	<b>Target province</b>	<b>Date</b>	<b>Results</b>
1	Issyk-Kul	Sep 18, 2019	<ul style="list-style-type: none"> <li>• 17 participants (including nine females, mainly from Community-Based Organizations)</li> <li>• Most of the participants appreciated the outputs of the JICA project (introduction of dwarf apple trees and Altai varieties of sea buckthorn in the Issyk-Kul region)</li> <li>• Everyone is aware of the scale of business opportunities with NTFPs in the region, yet institutional and technical supports like this seminar are crucial to materialize the NTFP business in future.</li> </ul>
2	Naryn	Sep 20, 2019	<ul style="list-style-type: none"> <li>• 23 participants (including one female). About 80% were from FEs, 10% tenants and 10% development partners.</li> <li>• The participants expressed considerable interest in producing sea buckthorn and dwarf apples, where, according to the questionnaires collected after the seminar, 100 and 58% of participants were interested, respectively.</li> <li>• As for the new regulations on forest use procedures, although most participants acknowledged improvement, they still considered the approval procedures excessively complicated and lengthy.</li> <li>• Considerable interest but a lack of discussion ensued when processing dried herb and fruit and jams.</li> </ul>
3	Osh	Sep 23, 2019	<ul style="list-style-type: none"> <li>• 19 participants (all male). Almost all from FEs (except one tenant).</li> <li>• Many FE staff are very familiar with orchard operations such as apples and apricots in the region and showed their interest in advanced technologies such as grafting methods for dwarf apple trees, the Tall Spindle Training System and pest and disease management in the regions (Osh and Batken).</li> <li>• Most expressed gratitude with this seminar and hoped the JICA project would expand to cover the southern part of Kyrgyzstan.</li> <li>• In the Osh and Batken regions, several good business models for NTFP processing already exist such as walnuts and dried medical plants, although there is a need for upgrading and mainstreaming.</li> </ul>

4	Jalal-Abad (Batken)	Sep 25, 2019	<ul style="list-style-type: none"> <li>• 41 participants (all males) including , persons from the private sector and associations. FE staff participated in it, not only from Jalal-Abad but also from Batken.</li> <li>• Since 65% of the State Forest Fund is concentrated in Jalal-Abad, the participants were very keen about the outcome of forest related projects conducted in collaboration with donors.</li> <li>• Tenants are familiar with the orchard operation of apples and expressed great interest in the introduction of the dwarf apple. An active discussion ensued regarding technical issues and financial aspects of the cultivation of dwarf apples.</li> <li>• FE staff demonstrated great interest in supply of seedlings including sea buckthorn from target FEs of the Project.</li> </ul>
5	Talas	Sep. 27, 2019	<ul style="list-style-type: none"> <li>• 14 participants (including 1 female). 6 participants were FE tenants.</li> <li>• Most of the participants highly appreciated this seminar, receiving new knowledge such as dwarf apple production and new varieties of sea buckthorn.</li> <li>• The CBO session was very useful and practical.</li> <li>• Two tenants are leasing approximately 10 ha of FE land for apple production and are eager to know how to manage them properly for maximum profit and accelerated recovery on investment.</li> </ul>
6	Chui	Oct. 1, 2019	<ul style="list-style-type: none"> <li>• 50 participants (including 19 females). About 48% were from SAEPF and FEs, 8% tenants, 3% private companies and 42% development partners and NGOs.</li> <li>• All participants expressed considerable interest in producing sea buckthorn, dwarf apples and jam and dried herb and fruit processing and questions and suggestions were actively discussed among participants.</li> <li>• Regarding the new regulations, although most participants were interested, according to the answers collected by questionnaire after the seminar about 78% of the participants recognized more procedures for approval discouraging people from leasing and using forest resources.</li> </ul>

## 2-2. Achievements of the Project

The achievements of the project are presented in the following sections. As a means to measuring achievements according to objectively verifiable indicators set in the PDM, reference was mainly made to: 1) past project reports and records, 2) the results of questionnaires collected from participants of training sessions, seminars and other project activities when these were conducted and 3) the results of a sample survey conducted in July 2019 for evaluation<sup>1</sup>.

### 2-2-1. Outputs and indicators (Target values and actual values achieved at completion)

#### (1) Achievement of Output 1

Output 1 (“*Current national situations of FEs with production and markets of forest products are clarified*”) of the project was achieved mainly by the earlier-mentioned baseline survey. It collected and analyzed the information on the current status of FEs, existing forest resources and forest product production and markets in the Kyrgyz Republic and focused on market conditions

<sup>1</sup> The sample survey for evaluation in July 2019 targeted participants in training on forest product production and processing. The gross number of participants in production training was 996 and the net total was 481. In processing terms, there were 210 gross participants and 120 net participants. The net number of participants (481+120 = 601) is regarded as the population of the sample survey. Of the population, 83 participants, comprising 64 from production training and 19 from processing training, were randomly selected for the interview.

and technical regulations of forest products in the Kyrgyz Republic, Russia and Kazakhstan, which are members of the Eurasian Economic Union (EEU). 12 target FEs were selected based on proposals submitted on forest product business activities (except Frunze FE additionally included in the target FEs later) and the target FEs identified potential forest products in their provinces.

The indicators and achievements of Output 1 are shown in Table 24.

**Table 24 Indicators and achievements of Output 1**

<b>Output 1:</b> Current national situations of FEs with production and markets of forest products are clarified.	
Indicator	Achievement as of the project completion
1-1 Report on national baseline data of FEs is developed.	• A baseline survey report was finalized by the sub-contractor at the end of August 2016.
1-2 Target FEs are selected.	• 12 FEs were selected as target FEs.
1-3 Promising forest products are identified more than six in target FEs.	• Six forest products were identified (apples, apricots, berries, sea buckthorn, pinecones and herbs).
1-4 Promising markets for forest products are identified.	• Potential markets for the selected forest products were identified.

## (2) Achievement of Output 2

Output 2 of the project (“*Activities to promote business with forest products are practiced in the target FEs of three provinces*”) has almost been achieved. After the FE-BSPs were developed by the target FEs, activities to promote forest product business including, various subjects of training sessions, were conducted; mainly in areas including: land lease through Joint Forest Management (JFM); forest product production business and forest product-processing and distribution business.

The indicators and achievements of Output 2 are shown in Table 25. Although the target numbers for training and participants as set in the indicators of 2-1 and 2-3 remain unachieved, the evaluation survey results shows that most forest users were delighted with the training content and had actually applied the technique and knowledge learnt from the training to their forest product business. 46 forest users have started a forest product-processing business and found markets with support from the project. Accordingly, the results and achievements are likely to be satisfactory.

**Table 25 Indicators and achievements of Output 2**

<b>Output 2:</b> Activities to promote business with forest products are practiced in the target FEs of three provinces.	
Indicator	Achievement as of the project completion
2-1 Capacity (knowledge and skill) of forest users doing forest products production business in the target FEs is improved through implementation of not less than 100 training sessions with cumulative total of not less than 500 training participants.	<ul style="list-style-type: none"> <li>• 44 training sessions had been implemented at 11 FEs as seasonal training on fruit cultivation techniques, pest and disease control, biotic pesticide and drip irrigation, with a cumulative total of 380 participants (forest users, private orchard owners and others).</li> <li>• According to the sample evaluation survey results:               <ol style="list-style-type: none"> <li>1) The participants were delighted with the training content and quality;</li> </ol> </li> </ul>

	<ul style="list-style-type: none"> <li>2) 89% of forest user participants gained new knowledge and techniques through the training, in whole or in part;</li> <li>3) 67% of participants could actually practice the knowledge and skills learnt from training.</li> <li>• It can be concluded that the training significantly boosted the capacity of forest users.</li> </ul>																
<p>2-2 Capacity (knowledge and skill) of forest users doing forest products processing and distribution business in the target FEs is improved through implementation of not less than 10 training sessions with cumulative total of not less than 50 training participants.</p>	<ul style="list-style-type: none"> <li>• 15 training sessions comprising 12 in-country training and three third-country training were conducted. Total number of participants from forest users was 141. Most of the participants were delighted with the training.</li> <li>• 12 in-country training sessions on fruit jam processing, marketing, business and financial management were implemented with a cumulative total of 130 participants.</li> <li>• The third-country training courses on processing and marketing of forest products were conducted three times with a cumulative total of 11 participants, including the CBO and private sector processors.</li> <li>• According to the sample evaluation survey results: <ul style="list-style-type: none"> <li>1) 88% of participants as forest users gained new knowledge and techniques through the training, in whole or in part;</li> <li>2) 98% of participants actually practiced the knowledge and skills learnt from the training.</li> </ul> </li> <li>• It can be concluded that the training significantly boosted the capacity-building of forest users.</li> </ul>																
<p>2-3 Not less than 50 forest users expand market channels for forest products in the target FE areas.</p>	<ul style="list-style-type: none"> <li>• The performance indicator is considered almost met.</li> <li>• As shown below, at least 46 forest users have been working with more than two processing companies to sell jam products and collect and distribute raw materials and dried herbs with the support of the project.</li> </ul> <table border="1" data-bbox="858 1429 1321 1742"> <thead> <tr> <th>Location</th> <th>No. of forest users having sold raw materials</th> </tr> </thead> <tbody> <tr> <td>Ak-Suu</td> <td>7</td> </tr> <tr> <td>Orto-Oruktu</td> <td>12</td> </tr> <tr> <td>Otradnoe</td> <td>15</td> </tr> <tr> <td>Shakhta</td> <td>2</td> </tr> <tr> <td>Jety-Oguz</td> <td>2</td> </tr> <tr> <td>Tup</td> <td>8</td> </tr> <tr> <td>Total</td> <td>46</td> </tr> </tbody> </table>	Location	No. of forest users having sold raw materials	Ak-Suu	7	Orto-Oruktu	12	Otradnoe	15	Shakhta	2	Jety-Oguz	2	Tup	8	Total	46
Location	No. of forest users having sold raw materials																
Ak-Suu	7																
Orto-Oruktu	12																
Otradnoe	15																
Shakhta	2																
Jety-Oguz	2																
Tup	8																
Total	46																

(3) Achievement of Output 3

Output 3 (“*Handbooks and case studies are shared to promote business with forest products*”) of the project has almost been achieved, though the total number of in-country training sessions and participants did not reach to the initially planned values. The indicators and achievements of Output 3 are shown in Table 26.

The technique and knowledge provided through in-country training, third-country training and training in Japan and activities in experimental plots at FEs were compiled as handbooks and case studies. Six handbooks covering areas of forest product production, processing and marketing and crosscutting areas were developed for use by officials of FEs, forest users and other stakeholders. The handbooks provide the basic techniques and procedures necessary to manage forest product businesses.

Five case studies covering areas of forest product production and processing and marketing were also developed to share the results of the studies with staff of FEs, forest users and other stakeholders. To share the technical information and lessons written in these handbooks and case studies with stakeholders, national seminars were implemented in six provinces.

**Table 26 Indicators and achievements of Output 3**

<b>Output 3:</b> Handbooks and case studies are shared to promote business with forest products.	
Indicator	Achievement as of the project completion
3-1 In-country training sessions are conducted not less than 100 times for promoting forest products business with the participation of cumulative total of not less than 500 staff of the target FEs and SAEPF.	<ul style="list-style-type: none"> <li>To promote forest product production business, 60 in-country training sessions were implemented at 11 FEs on fruit cultivation techniques, pest and disease control, biotic pesticide and drip irrigation, with a cumulative total of 364 participants (FE staff).</li> <li>For promotion of forest processing business, seven in-country training sessions have been implemented at six FEs on fruits jam processing, marketing, business and financial management, with cumulative total of 48 participants (FE staff).</li> </ul>
3-2 Third country training programs are conducted not less than five times for promoting forest products business with the participation of cumulative total of not less than 35 staff of the target FEs and SAEPF.	<ul style="list-style-type: none"> <li>To promote forest product production business, six third-country training courses were conducted for a cumulative total of 48 staff of seven FEs and SAEPF: three times in Kazakhstan on the propagation of dwarf and semi-dwarf apple tree seedlings; twice in Russia on sea buckthorn and once in Poland for dwarf apple production.</li> <li>To promote the forest product-processing business, two third-country training courses were conducted: one in Kazakhstan for three staff of Balykchy FE, one in Uzbekistan and Kazakhstan for five staff of Chui FE, Karakol FE and Jety-Oguz FE.</li> </ul>
3-3 Training programs are conducted not less than three times in Japan for promoting forest products business with the participation of eight staff of the target FEs and SAEPF.	<ul style="list-style-type: none"> <li>Training programs were conducted three times in Japan with the participation of three FE staff in 2016 and 2017 and two FE staff in 2018.</li> </ul>
3-4 Experimental plots are developed at seven FEs to promote forest products production business.	<ul style="list-style-type: none"> <li>Experimental nursery plots are established at 11 sites of seven target FEs for growing seedlings and rootstocks of fruit and sea buckthorn trees.</li> </ul>
3-5 Handbooks for forest products business promotion are developed.	<ul style="list-style-type: none"> <li>Six titles of handbooks were published in Russian and Kyrgyz language.</li> </ul>
3-6 Case studies of forest products business promotion are developed.	<ul style="list-style-type: none"> <li>Case studies on five types of business were published in Russian.</li> </ul>
3-7 Study tours and seminars are conducted for three and four times respectively with	<ul style="list-style-type: none"> <li>Two study tours plus three regional and one national seminar were conducted with a</li> </ul>

cumulative total of 190 participants.	cumulative total of 383 participants.
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**2-2-2. Project Purpose and indicators  
(Target values and actual values achieved at completion)**

It can be concluded that the Project Purpose has been achieved by enhancing the knowledge and skill of the target FEs necessary to promote the forest product business and sharing their experiences among national stakeholders.

The indicators and achievements of the Project Purpose are shown in Table 27. The indicators are mainly to measure the increase in the capacity of FE staff. The project organized training and seminars for FE staff to promote the forest product business in the target provinces. National seminars were also held in not only target provinces but also three others and handbooks and case studies were shared with SAEPF, DFED, FEs and national stakeholders, including forest users, private orchard owners, universities and national/international organizations.

**Table 27 Indicators and achievements of the Project Purpose**

<b>Project Purpose:</b> System of promoting forest product businesses is strengthened in the target FEs and their experiences are shared among SAEPF and national stakeholders.	
<b>Indicator</b>	<b>Achievement as of the Project completion</b>
1. Capacity (Knowledge and skill) of FE staff to promote forest products production business are improved at not less than 80% of the target FEs.	<ul style="list-style-type: none"> <li>• The overall capacity of each target FE was improved. However, not all the FE staff have improved their capacity.</li> <li>• According to the results of questionnaires collected during the first seminar in September 2018 (see the Section 2-1-3), 100% of staff of the target FEs answered that their knowledge of forest product production had been improved by attending the seminar.</li> <li>• According to the sample evaluation survey results:               <ol style="list-style-type: none"> <li>1) 87% of target FE staff who participated in seasonal training in the fruit cultivation business gained new knowledge and techniques through the training, in whole or in part.</li> <li>2) 67% of the training participants actually practiced the knowledge and skill learnt from the training.</li> </ol> </li> </ul>
2. Capacity (Knowledge and skills) of FE staff to promote forest products processing and distribution business are improved at not less than 30% of the target FEs.	<ul style="list-style-type: none"> <li>• Six FEs of Balykchy, Issyk-Kul, Tup, Karakol, Jety-Oguz and Ak-Suu have been supporting forest users working for the processing and distribution business in their territory with the project.</li> <li>• According to the results of questionnaires collected at the second seminar in November 2018 (see Section 2-1-3), more than 90% of target FE staff answered that their knowledge of forest product-processing has been improved by attending the seminar.</li> </ul>

<p>3. Knowledge of FE staff on the procedures of state forest land lease to promote forest products business is improved at not less than 80% of the target FEs.</p>	<ul style="list-style-type: none"> <li>• Overall knowledge of each target FE was improved although not all the staff of FEs have improved their knowledge.</li> <li>• According to the results of questionnaires collected at the third seminar in July 2019 (see Section 2-1-3), more than 90% of target FE staff answered that their knowledge on the regulation of forest use procedures, including land leases, had been improved by attending the seminar.</li> </ul>
<p>4. At least one hundred persons among SAEPF staff and national stakeholders improve their knowledge regarding the handbooks and cases of forest products business promotion.</p>	<ul style="list-style-type: none"> <li>• The overall knowledge of SAEPF staff and national stakeholders regarding handbooks and cases of forest product business promotion was improved.</li> <li>• 189 participants attended national seminars and received publications.</li> <li>• According to the results of questionnaire collected at national seminars in September and October 2019 in six provinces (see Section 2-1-3), approximately 90% of participants answered that their knowledge had improved by attending the seminar.</li> </ul>

### **2-2-3. Other achievement not stated in the PDM**

#### **(1) Cultivation of fruit tree rootstocks and seedlings in experimental plots**

As reported in Section 2-1-3, with support from the project, seven FEs established experimental plots and have been growing mother trees, seedlings and rootstocks of fruit trees and sea buckthorn.

Table 28 shows the survival rates of apple and sea buckthorn trees introduced in the experimental plots. All FEs except Karakol and Tup produced good results in terms of the overall average survival rates of apple mother trees for graftwood and budwood as of August 2019. As for the dwarf apple propagation, a total of 12,827 shoots will be harvested as rootstocks in autumn 2019 and are expected to be used for bench grafting or budding next year. The total number of sea buckthorn mother trees was 2,152, which includes female and male varieties. Some figures were shaded as the total number of mother trees was increased by planting shoots harvested from mother trees. Table 29 indicates the total number of sea buckthorn mother trees by hardwood and greenwood cuttings.





**Table 29: Sea buckthorn mother tree hardwood and greenwood cutting production**

Activities and outputs	2018	2019	Unit
	Year 2	Year 3	
a) Total hardwood cuttings harvested	3,139	34,572	pcs
b) Total greenwood cuttings harvested		9,035	pcs
c) Total cuttings harvested (c=a+b)	3,139	43,607	pcs

Source: Project team

## (2) Registration of 21 plant varieties in the State Register Book

To propagate and sell nursery trees of the horticultural varieties in the Kyrgyz Republic, said varieties must be registered in the roster maintained by the Ministry of Agriculture, Food Industry and Melioration of the Kyrgyz Republic. With the support of the project and using data of experimental plots established in seven target FEs, 21 new apple, apricot, prune and sea buckthorn varieties were registered in the state register in 2019. This has paved the way for the nursery tree and fruit production industry in the Kyrgyz Republic to legally produce and sell nursery trees and fruit from these newly registered varieties.

**Table 30 List of introduced varieties to Kyrgyz Republic**

Name of fruits (Modes of introduction)	Fruit varieties
Apple (nursery tree with rootstock)	01. Piros
	02. Gala
	03. Red Chief
	04. Early Geneva
	05. Mutsu
Apple (rootstock)	06. M26
Apricot (nursery tree with rootstock)	07. Nishoni
	08. Shalah
Apricot (rootstock)	09. Pumi select
Cherry (nursery tree)	10. Regin
	11. Cordia
Cherry (rootstock)	12. Colt
Plum (nursery tree)	13. Top hit
Sea buckthorn (nursery tree)	14. Djemovaya
	15. Elizaveta
	16. Inya
	17. Gnom
	18. Chuisakaya
	19. Kladiya
	20. Sudarushka
	21. Altayskaya

Source: Ministry of Agriculture, Food Industry and Melioration of the Kyrgyz Republic

## 2-3. History of PDM Modification

The Project Design Matrix (PDM) has been modified twice since the start of the project. The first modification was made at the third JCC meeting held in July 2016; mainly to determine project

indicators which had not been set out in the original PDM.

The second modification was made in September 2018 by and between SAEPPF and JICA by amending the Record of Discussion (R/D) originally signed in September 2015. The second modification included amendments to the Project Purpose and outputs, which were mainly needed due to the Government of the Kyrgyz Republic introducing new policies and regulations in 2018, including new budget code, the abovementioned new regulation on forest use procedures and the new “Concept of Forest Sector Development”. Instead of the originally expected outputs such as the development of a national business action plan and increased FE revenue, sharing of business promotion experience, including technical handbooks, was set as a new indicator to measure the project achievement. For details, see ANNEX 3.

## **2-4. Others**

### **2-4-1. Results of Environmental and Social Considerations (if applicable)**

Not applicable.

### **2-4-2. Results of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)**

Not applicable.

### **III. Results of Joint Review**

#### **3-1. Results of Review based on DAC Evaluation Criteria**

This chapter describes the results of a review according to the following five evaluation criteria of the Development Assistance Committee (DAC):

##### **3-1-1. Relevance**

###### **Relevance: High**

At the start of the project the “Concept of Forestry Development (2004-2025)” was a key policy for the forest sector in the Kyrgyz Republic. In 2017, upon request from SAEPF, the project helped formulate the new forest sector development policy of the Kyrgyz Republic - the Concept of Forest Sector Development up to 2040 and the Action Plan of 2019-2023 for its implementation. Consequently, the project has become aligned into its strategic pillar for economic priorities of the forest sector development.

On the Japan side, “promoting poverty reduction through economic growth based on market reform” is the main concept behind the Assistance Policy of the Japanese government for the Kyrgyz Republic. Agricultural and rural development is regarded as one of the main components for this concept and in this context, the project objectives aiming to develop the forest product business in rural areas are consistent with the ODA of the Japanese government.

##### **3-1-2. Effectiveness**

###### **Effectiveness: High**

At the beginning of the project, a baseline survey was conducted to collect and analyze information on the current circumstances of FEs, forest product production and their markets as Output 1. The survey results were also fully utilized to identify potential forest products and their markets. Based on Output 1, FE-BSPs were prepared by each target FE and the project organized forest product production and processing activities to support the FEs in implementing FE-BSPs. It resulted in capacity-building of forest users in the areas including forest use procedures, forest product production and processing (Output 2).

The experiences and lessons of the FEs and forest users obtained from project activities were presented in handbooks and case studies, whereupon national seminars were held to share the handbooks and case studies with SAEPF and national stakeholders; not only in the target provinces but also three others, as per Output 3.

It is considered that the Project Purpose has been achieved since the capacity of FEs in the target provinces in relation to the procedures of state forest land lease and production and processing of forest products were improved by the project activities and the technical handbooks and case studies, which describe FEs’ experience and lessons learnt from the project activities, were shared with national stakeholders at national seminars in six provinces (see Section 2-2-2). It can be concluded that the attainment of the three project outputs have underpinned the achievement of the Project Purpose, hence the effectiveness of the project was high.

##### **3-1-3. Efficiency**

### **Efficiency: Fair**

Inputs by both the Kyrgyz and Japan sides were generally adequate in terms of the quantity needed to produce the intended project outputs efficiently, with experts dispatched as required from the Japan side. A fruit production expert who was not planned at the beginning of the project was promptly added to instruct FE staff and local private orchard owners and equipment and materials provided to SAEPF were properly utilized.

For seven FEs to establish experimental plots and grow seedlings and rootstocks, agricultural equipment and materials to construct the necessary facilities were provided as additional inputs (see Section 2-2-1). Among all elements, at the end of the project period, a well was constructed in the Issyk-Kul FE territory by a local company “Platform investments“, which was subcontracted by the project. This input was provided to help the FE develop a fruit orchard for demonstrative purposes after the end of the project rather than to attain outputs within the project period.

### **3-1-4. Impact**

#### **Impact: Fair**

In terms of the project’s impact on its overall goal, i.e. the nationwide implementation of activities to promote the forest product business, as described later in Section 4-1, a positive impact could still be anticipated, provided financial and human resources and further revision of forest use procedures are all ensured by SAEPF.

In national seminars held in the provinces such as Naryn, Osh and Jalal-Abad, participants showed a keen interest in cultivating dwarf apple and sea buckthorn and the processing and distribution business introduced by the project with handbooks and case studies. However the start of new forest product business owing to this project activity remained unconfirmed in these areas since only two months had elapsed since knowledge-sharing events were held and further business promotion efforts would be required.

With regard to the project’s impact on the forest product business of forest users or private enterprises in the target three provinces, a positive impact has been observed in various aspects. Local forest users have started or are planning to start new forest product business after participating in training and seminars organized by the project (see Section 2-2-1 (2)). For example, some forest groups have been involved in the dry herb and raw material distribution business. The results of the sample evaluation survey shows that 41% of forest users who participated in training in dried herb/fruit, jam processing and marketing/sales promotion increased their profit or sold their products at high prices thanks to training.

In promoting the forest product business the project has been encouraging forest users to comply with legal procedures on forest resource use instructed by FEs and conclude a basic purchase agreement with buyers at the same time. As a result some forest user groups received forest tickets from FE, then collected raw materials of sea buckthorn or barberry from state forest land and supplied them to OVOP and private enterprises based on a written agreement. This contract-based business model in compliance with forest use procedure reflected the direction of the forest product business to be promoted in the Kyrgyz Republic.

The project has also opened up a new opportunity to develop the sea buckthorn production business in the Kyrgyz Republic, which had long seen only wild sea buckthorn collected and used

for consumption or processing. Although much remains to be tested by FEs on a technical level to verify the feasibility of sea buckthorn fruit production business, it should be noted that the project has introduced new sea buckthorn varieties from Russia to the experimental plots and registered them for the first time on a Kyrgyz Republic roster.

It has become legally possible to cultivate these sea buckthorn varieties in the Republic and more private sector individuals are now interested in sea buckthorn plantation. If FEs were allowed to sell the multiplied seedlings to the private sector in future, it would boost the forest product business in terms of both production and processing. This also could boost the environment and natural resource management in the Kyrgyz Republic because it may help eliminate over-harvesting of wild sea buckthorn by forest users and preserve the same.

### **3-1-5. Sustainability**

#### **Sustainability: Fair**

**Financial sustainability:** Since the introduction of the new Budget Code of the Kyrgyz Republic in 2018, the lease fee of state forest land has no longer been a source of revenue for FEs, which has seen them suffer financially. To avoid a negative impact on the project implementation, the project supported the FEs financially by providing transportation and a daily allowance for staff participating in third-country training courses and seminars, the necessary farm inputs, equipment and materials for experimental plots and local experts to train forest users on processing and distribution business. One of the greatest challenges for SAEPF and FEs would be securing a budget for maintaining activities to promote the forest product business in the same manner after the project is completed.

**Institutional and organizational sustainability:** It is expected that FEs will provide techniques and knowledge obtained through project activities to forest users or private enterprises in their territory to promote the forest product business. In addition, seven target FEs managing the experimental plots are expected to continue demonstrating their techniques and selling multiple fruit tree seedlings on completion of the project. It has been observed that, however, numerous staff trained under the project, including nursery keepers engaged with activities in experimental plots, have left their positions due to restructuring of the FEs, redeployment in the organization or changes in their jobs. The sustainability of the project outcome could therefore depend on institutional efforts made by SAEPF to ensure those trained human resources are used effectively and the technical knowledge gained from the project.

**Potential for business development through a private sector initiative:** As mentioned in Section 3-1-4, participants in national seminars show a keen interest in dwarf apple production as well as the sea buckthorn production business. In the Issyk-Kul area in particular, those private entrepreneurs and enterprises who joined the first and second seminars of the project in 2018 have been connected via social networks and been actively discussing the development of the fruit business cluster, including the dwarf apple orchard business. The raw material supply practiced during the project period may be sustained if the buyer companies are willing to engage in the same without facilitation by the public sector. With the initiative of such highly motivated forest users or enterprises in the private sector, further development of the forest product business promoted under the project may be expected.

### **3-2. Key Factors Affecting Implementation and Outcomes**

According to the PDM, factors (so-called “important assumptions”) which can affect project

performance and outcomes are assumed to be the following:

- (1) Allocation of budgets and personnel in SAEPF and FEs to promote business with forest projects;
- (2) Consistent government policy on JFM.

The PDM also expects the following three conditions to generate project outputs:

- (3) Most C/Ps and personnel involved to continue working in the same organizations in SAEPF,
- (4) No adverse weather affecting the cultivation of forest products,
- (5) No drastic change in markets of the target forest products.

During the project period, factors (1) and (2) have significantly affected the project implementation and outcomes. Conversely, the conditions of (3), (4) and (5) were met during the project period.

Factor (1) of the allocation of budgets and personnel by SAEPF was not considered sufficient due to the constrained financial and human resources of SAEPF, while Factor (2) of the government policy on JFM changed significantly. Policy changes include the revision of the Concept of Forestry Sector Development in the Kyrgyz Republic (2004 to 2025) and the establishment of a new action plan preceded by National Forest Program (2005 to 2015) already having expired and a National Action Plan for Development of Forestry (2006 to 2010). The changes spawned the establishment of a new Concept of Forestry Development 2018-2040 and its Action Plan and the new regulations on the procedure of forest use.

### **3-3. Evaluation on the results of the Project Risk Management**

The project managed to address two major project risks described in Section 3-2 having emerged in the project period to secure the expected outcomes. The one risk associated with Factor (1) was underperformance of the project due to financial and HR constraints of SAEPF. The other risk under Factor (2) was change in the government policy as described in Section 3-2.

The former risk was managed relatively well by the project for generation of outcomes. The project compensated for HR and funding gaps between SAEPF's desired and actual resources allocations by providing technical and facilitative services with Japanese and local experts and the equipment and goods necessary to establish pilot nurseries and facilitate processing business transactions. Special arrangements were made by the Japan side to provide a daily allowance and transportation for participants of third-country training and seminars.

The latter risk associated with the policy and regulatory changes was well managed by the project. However, since the changes to the original Project Purpose and design were likely to be inconsistent with and irrelevant to the newly established national forestry policy and lease regulations, the original PDM was revised by SAEPF and JICA to align project objectives and activities to the new policies (see Sections 2-3 and 3-2) and maintain the project performance and outcomes. The discussion on the PDM modification and R/D amendment had been initiated by the consultant team promptly and project resources were shifted accordingly to achieve the revised objectives, outcomes and outputs as specified in the new PDM.

The project also contributed to the drafting and impact assessment of the new policy and the

newly consolidated regulations on forest use procedures. However, the project results support for SAEPF in drafting of regulations was inconclusive since, at the time of project completion, the new regulations were subject to revision due to complex lease procedures defined in the regulations, which hindered their proper application by the government and stakeholders.

### **3-4. Lessons Learnt**

#### **3-4-1 Lessons learnt to be addressed by SAEPF**

In the course of implementing the project, it emerged that the sub-regulations related to the “Procedures on the Use and Disposal of the State Forest Fund (April 2018, decree No. 192)” remain difficult to understand and comply with for both FEs and forest users.

SAEPF acknowledged the need to improve the sub-regulations and declared a one-year review period in 2019. It is expected that improving the sub-regulations for simple and transparent lease of the national forests for forest product production will lead to enhanced private sector investment to the forests.

FEs' limited financial and human resources still remain institutional challenges of SAEPF. The project results indicate that FEs can still generate retainable incomes from nursery operations and this should be promoted to improve the financial bases of the FEs for sustainable nursery operations and provide forest product business promotion activities experimented in the three target provinces.

#### **3-4-2 Lessons learnt to be addressed by Forestry Enterprises**

The cultivation of nursery trees of dwarf apples and sea buckthorn is still in the process of development in the experimental plots including the seven target FEs and the first sales of nursery trees of dwarf apples and sea buckthorn are expected in 2020. Dwarf apple and sea buckthorn production orchards should be developed to conclude the series of production steps. In this context, the prices of nursery trees reared by the FEs must be set to secure profits for financial sustainability of nursery tree cultivations. In this case contract-based production and sales should be considered and implemented to hedge risks of price fluctuations.

Although the dry climate of the Kyrgyz Republic prevents heavy infections of diseases and pests, the risk of pests and diseases damaging dwarf apple and sea buckthorn remains high unless fungicides and pesticides are applied. In addition, the recent introduction of fire blight devastated large tracts of pear and apple orchards in the Kyrgyz Republic. Appropriate use of agricultural chemicals should be considered and practiced.

#### **3-4-3 Lessons learnt to be addressed by forest users and private enterprises**

Lessons learnt from the project experience included despite the high potential of forest resources existing in the three provinces there, many forest users or local people have started a community business with forest products while unaware of key basic factors behind its success. As observed in the case of CBO in Ak-Suu, people who have obtained equipment or facilities to cultivate products with donor funds tend to face challenges in fully utilizing them due to a lack of technical knowledge or practical business planning.

As described later in Section 4-3-3, it is necessary for those forest users and private enterprises to recognize the importance of product development based on market analysis and financial and

human resource mobilization to secure business sustainability. To add more value, comply with product sanitary and safety controls to improve market confidence, comply with forest use procedures to add a premium to legal products, a shift from wild resource collection to cultivation of selected sea buckthorn varieties should be implemented to cultivate berries in bulk with constant quality and contract-based production to reduce market risks.



## **IV. For the Achievement of Overall Goals after the Project Completion**

### **4-1. Prospects to achieve Overall Goal**

SAEPF's continued efforts to achieve the overall project goal is expected since the promotion of public and private sector investment in national forests is a key element of the current national forest policy as defined in the new Concept of Forestry Development 2018-2040 and its Action Plan.

However, financial and human resource constraints and delay to revising the new lease regulations are likely to remain challenges. If these constraining factors are not eliminated, although the financial incentives of FEs will continue to catalyze post-project activities, the prospects of achieving the overall goal will be moderate or unsatisfactory.

### **4-2. Plan of Operation and Implementation Structure of the Kyrgyz side to achieve Overall Goal**

To achieve the overall project goal, SAEPP is expected to retain the implementation structure of the project for at least the coming three years. The goal is to implement nationwide activities to promote business with forest products with a verifiable indicator that eighty percent (80%) of the FEs of the country will engage in forest product business promotion activities, which were piloted in the project period.

#### **4-2-1 Plan of operation**

In order to achieve the overall goal after the project, SAEPP will incorporate necessary activities in their normal annual budget and work plan processes under the public financial management system of the government. The following table shows the potential actions to be considered and elaborated by them in three main areas.

The actions expected to be taken for three years for dwarf apple nursery tree cultivation and dwarf apple pilot orchard development are described in Table 31.

**Table 31 Expected actions for dwarf apple nursery tree production and dwarf apple pilot orchard development**

Schedule and target provinces	Dwarf apple nursery tree production	Dwarf apple pilot orchard development
First year (2020) in the three project provinces.	Production and sale of nursery trees.	Establishment of dwarf apple orchard.
Second year (2021) in the three project provinces and preparation of extension activities in the rest of the provinces.	Increased production and sale of nursery trees in the three project provinces and preparation of pilot nursery establishment in other provinces.	Second-year management of dwarf apple pilot orchard in the three project provinces.
Third year (2022) after the completion of the project to conduct nationwide promotion of forest products businesses.	Nationwide promotion of dwarf apple nursery tree production.	Nationwide promotion of dwarf apple pilot orchard establishment.

The actions expected to be taken for three years for sea buckthorn nursery tree cultivation and sea buckthorn pilot orchard development are shown in Table 32.

**Table 32 Expected actions for sea buckthorn nursery tree production and sea buckthorn pilot orchard development**

Schedule and target provinces	Sea buckthorn nursery tree production	Sea buckthorn pilot orchard development
First year (2020) in the three project provinces.	Production and sale of nursery trees.	Establishment of sea buckthorn orchard.
Second year (2021) in the three project provinces and preparation of expansion of extension activities in the rest of the provinces.	Increased production and sale of nursery trees in the tree project provinces and preparation of pilot nursery establishment in other provinces.	Second-year management of pilot sea buckthorn orchard in the three project provinces.
Third year after the completion of the project (2022) to conduct nationwide promotion of forest products businesses.	Nationwide promotion of sea buckthorn nursery tree production and sales.	Nationwide promotion of pilot sea buckthorn orchard.

The actions expected to be taken for three years for forest product-processing business promotion are shown in Table 33.

**Table 33 Expected actions for forest products processing business promotion**

Schedule and target provinces	Jam processing	Dry herb processing	Raw material supply
First year (2020) in the three project provinces.	Facilitate producers' technical and marketing collaboration with OVOP.	Facilitate contract dry herb processing and sales transactions.	Facilitate contract production of the raw materials.
Second year (2021) in the three project provinces and preparation of expansion of extension activities in the rest of the provinces.	Facilitate producers' technical and marketing collaboration with OVOP in the three project provinces.	Facilitate contract dry herb processing and sales transactions in the three project provinces.	Facilitate contract production of the raw materials in all provinces.
Third year after the completion of the project (2022) to conduct nationwide promotion of forest products businesses.	Nationwide facilitation of producers' technical and marketing collaboration with OVOP.	Nationwide facilitation of dry herb processing and sale transactions.	Nationwide facilitation of raw materials production.

#### 4-2-2 Implementation structure of SAEPF to achieve the Overall Goal

The current project implementation structure is expected to remain unchanged to plan and manage the abovementioned actions and thus achieve the overall project goals. Under the direction of the deputy director of SAEPF, therefore, the Director of the Department for Forest

Ecosystem Development (DFED) is expected to be oversee and manage activities with the officials of its Unit for Monitoring of Organization of Forest Management and Information System.

### **4-3. Recommendations to the Kyrgyz side**

Recommendations from the JICA consultant team to SAEPPF, FEs and forest users and private enterprises in the Kyrgyz Republic are shown below. Most are based on the abovementioned experiences and lessons learnt from the project and have been shared with the respective stakeholders during seminars and the JCC meeting organized at the end of the project period.

#### **4-3-1 Recommendations to SAEPPF**

- (1) Sub-regulations related to the “Procedures on the Use and Disposal of the State Forest Fund (April 2018, decree No. 192)” remain difficult to understand and comply with for both FEs & forest users.

*Recommendation:* To promote proper forest use, revisions are required, particularly in terms of the formula and payment schedule of forest use fees, forest use proposal evaluations, contracts, forest tickets and the certificate of forest resources extraction.

- (2) Efforts to ensure human and financial resources of FEs are needed.

*Recommendation:* To ensure sustainability and replication of fruit nursery tree cultivation activities supported under the project, further efforts by SAEPPF may be needed to address these human and financial constraints of FE. In addition, due to the new budget code, FEs rely on sales of nursery trees as one of its major sources of revenue. New procurement procedures mean the management of FE’s nursery is contracted out through a tender process, which means the increase in FEs’ revenues from the new outsourcing arrangement must be established and secured.

- (3) Challenges still remain to ensure the sustainability of the business promotion activities initiated in three target provinces.

*Recommendation:* Priority should be given to the target FEs in the three provinces in forest product business promotion capacity development before implementing a nationwide extension. When capacity is successfully realized, promotion to other provinces could be attempted as a next step.

#### **4-3-2 Recommendations to the Forestry Enterprises**

- (1) Cultivation of nursery trees of dwarf apples and sea buckthorn remains a work in progress in the 7 FEs.

*Recommendation:* To cultivate quality nursery trees to gain a market reputation and profit, further efforts are needed to secure healthy nursery trees, free of pests and disease.

- (2) The risk of pests and diseases should be controlled properly, effectively and efficiently.

*Recommendation:* Pests and disease should be controlled with careful scouting and consultation with academic institutions and professionals. Management of fire flight has become particularly crucial to avoid rapid outbreaks, incurring considerable economic loss and entailing costly

recovery.

- (3) Prices of nursery trees reared by the FEs must be set to secure profit and financial sustainability for nursery tree cultivation.

*Recommendation:* Based on financial analysis conducted by the project the prices under the medium case scenario (see the case study on financial analysis of dwarf apple and sea buckthorn nursery tree cultivation) should be considered as a reference price set for cost and expenditure management of nursery operation.

- (4) Importance of contract-based production.

*Recommendation:* FEs should consider contract-based production, not only for nursery tree cultivation but also cultivation of fruit and berries. OVOP (a JICA-supported project) now intends to negotiate and agree with SAEPF on the procurement of sea buckthorn berries the following year. Opportunities like this for contract-based cultivation should be recognized and taken.

- (5) Establishment of apple and sea buckthorn demonstration orchards are needed.

*Recommendation:* Since the FEs had no chance to establish and manage dwarf apple and sea buckthorn orchards with support from the project, the technical network established should be utilized to obtain technologies to establish cultivated orchards. To this end, collaboration with private sector players and benchmarking of their performance with specialists should be conducted.

- (6) Insufficient experience-sharing among forest users, private enterprises and FEs.

*Recommendation:* Considering the current legal system and staff experience, it is difficult for FEs to be directly engaged in processing and distribution businesses. Accordingly, FEs should instead play the role of leading and facilitating exchanges of business information among and between forest users and private enterprises.

#### **4-3-3 Recommendations to forest users and private enterprises**

- (1) Business opportunities can be expanded by introducing new cultivation technologies and varieties.

*Recommendation:* Forest users and private enterprise are expected to improve the cultivation of dwarf apples and/or new sea buckthorn varieties introduced from Altai. Nursery trees to be propagated by the FEs are also expected to be distributed among them.

- (2) Product development based on market analysis must be strengthened.

*Recommendation:* Consumer needs (healthy products with natural ingredients, low sugar content, etc.) analysis and resulting product development should be conducted before mass cultivation. Identification of target consumers is important to deliver the finished products properly and effectively.

- (3) Sanitary and safety control of products should be improved.

*Recommendation:* Preparation of facility, equipment & a production process compliant with

requirements of PRPs, HACCP and EEU regulations is essential to secure the safety of finished products. It is recommended that food safety specialists be involved in the overall process, including hygiene education of workers.

(4) A feasible financial and human resource management plan should be established.

*Recommendation:* A feasible production and sales plan with respect to available materials and financial and human resources should be developed to apply resources productively and secure sustainable business operations. When implementing the plan, the roles, responsibilities and accountabilities of all concerned parties must be shared to increase their sense of ownership.

(5) Collaboration with other donor-supported projects to reduce the risk of business failure.

*Recommendation:* Forest users and local communities engaged in processing business should consider utilizing business development services provided by OVOP plus one in the field of production management and marketing to improve business skills and knowhow.

(6) Compliance with forest use procedures is important to add legal products premium.

*Recommendation:* As forest resources on state forest land are easily depleted, control by authorities is necessary and processing companies must obtain formal permission to use the same as raw materials. Forest users must remember that legal procedures would add value to their products and make their local businesses sustainable.

(7) Contract-based production should be promoted and complied with by contracted parties

*Recommendation:* As experienced in this project, when a contract is agreed between producers and buyers, problems of non-compliance with verbal promises can be avoided. Forest users should discuss directly with the buyer at least once a year to determine the quantity, timing and condition of delivery and quality requirements to promote contractual conformity on the part of both parties.

(8) A shift from wild resource collection to cultivation should be promoted.

*Recommendation:* The amount and variety of herbs required for drying change every year and the yield, habitat and harvest timing of wild herbs depend on the climatic conditions. Accordingly, forest users should consider cultivating herbs rather than harvesting wild herbs. This would facilitate quality control and work planning and allow forest users to earn a stable income.

(9) Appropriate investment according to the ability and local conditions.

*Recommendation:* While improved drying technology and storage facilities are necessary to increase value of dried products, in numerous cases, the latest equipment installed by government or donor support is not fully utilized due to inappropriate power supply, road conditions and management expertise. Forest users should invest according to their abilities and local conditions.

#### **4-4. Monitoring Plan from the end of the Project to Ex-post Evaluation**

A plan to monitor actions to be taken after the project period is yet to be formulated by SAEPF and the FEs. However, under the post-project implementation structure shown in Section 4-2-2, the Unit for Monitoring of Organization of Forest Management and Information System should

oversee the monitoring and evaluation of the post-project period. All relevant activity records and periodical reports kept by SAEPF must be available for the ex-post evaluation of the project.

**END**



## **ANNEX 1**

### **Results of the Project (List of Dispatched Experts, Counterparts and Training, etc.)**



**Table A- 1: List of international experts**

	Name	Title	Affiliation
1	Toshifumi Serizawa	Chief Advisor/ Forest Management (Sep 2015 – Nov 2019)	JIN Corporation
2	Hideki Sonoyama	Deputy Chief Advisor/ Business Plan Development 1 (Sep 2015 - Nov 2019)	JIN Corporation
3	Tadashi Shimizu	Production of Forest Products 1 (Sep 2015 - Nov 2019)	JIN Corporation /TAC International
4	Takumi Togashi	Marketing of Forest Products (Sep 2015 - Nov 2019)	Hokkaido Intellect Tank (HIT)
5	Koh Nakamura	Production of Forest Products 2/ Training (Sep 2015 - Mar 2018)	Hokkaido Intellect Tank (HIT)
	Junko Ishikawa	Production of Forest Products 2/ Training (Apr 2018 - Nov 2019)	Hokkaido Intellect Tank (HIT)
6	Yuki Akahori	Coordinator/ Business Plan Development 2 (Sep 2015 - Jul 2017)	JIN Corporation
	Misa Abiko	Coordinator/ Business Plan Development 2 (Jul 2017 - Nov 2019)	JIN Corporation
7	Hiroo Koike	Fruits production (Mar 2019 - Nov 2019)	JIN Corporation

**Table A- 2: List of national experts**

	Name	Title
1	Nurlan Sultanov	National Leader / JFM Promotion (Oct 2015 - Nov 2019)
2	Aisuluu Duishebaeva	Administrative Officer / Private Sector Investment (Feb 2016 - Nov 2019)
3	Begaiym Naimanova	Procurement Officer / Training (Jan 2018 - Oct 2019)
4	Kanaat Musuraliev	National Assistant / JFM Promotion (Oct 2015 - Nov 2019)

**Table A- 3: List of counterparts (SAEPF Headquarters)**

	Name	Title	Position in SAEPF
1	Sheripov Eldiyar	Project director (Dec 2017- Nov 2019)	Deputy director, State Agency for Environmental Protection and Forestry (SAEPF)
	Jumaev Nurlan	Project director (Sep 2015-Dec 2017)	Ditto
2	Jumaev Nurlan	Project manager (Dec 2017- Nov 2019)	Director, Department for Forest Ecosystem Development (DFED), SAEPF
	Sheripov Eldiyar	Project manager (Jan 2017-Dec 2017)	Ditto
	Ormonov Adyl	Project manager (Sep 2015-Jan 2017)	Ditto
3	Aliev Mairambek	Liaison officer (Sep 2015-Feb 2018)	Head, Unit for Sustainable Management of Forest Resource, DFED, SAEPF
	Venera Surapaeva	Liaison officer (Feb 2018-Nov 2018)	Head, Unit for Monitoring of Organization of Forest Management and Information System, DFED, SAEPF
	Askar Ermatov	Liaison officer (Nov 2018- Nov 2019)	Chief specialist, Unit for Monitoring of Organization of Forest Management and Information System, DFED, SAEPF

4	Askar Ermatov	Production of forest products (Feb 2018- Nov 2019)	Chief specialist, Unit for Monitoring of Organization of Forest Management and Information System, DFED, SAEPF
5	Almaz Seidaliev	Processing of forest products (Feb 2018-Nov 2018)	Chief specialist, Unit for Sustainable Management of Forest Resource, DFED, SAEPF
	Asankanova Aimeerim	Processing of forest products (Nov 2018- Nov 2019)	Specialist, Unit for Sustainable Management of Forest Resource, DFED, SAEPF

**Table A- 4: List of counterparts (FEs)**

	Name	Position	Forestry Enterprises
1	Soltonbekov Ishenbek	Head (Aug 2018 - )	Frunze FE
	Anantaev Anvar	Head (2016 - Jul 2018)	Frunze FE
	Seidaliev Almaz	Deputy (Aug 2018 - )	Frunze FE
	Soltonbekov Ishenbek	Deputy (May 2017 - Aug 2018)	Frunze FE
	Tynymseitov Torokan	Deputy (2015 - May 2017)	Frunze FE
2	Muratov Melisbek	Head (May 2019 - )	Chui FE+Yssyk-Ata FE
	Akylbekov Azis	Deputy (May 2019 - )	Chui FE+Yssyk-Ata FE
	Muratov Melisbek	Head (Jun 2017 - May 2019)	Chui FE
	Akylbekov Azis	Deputy (2015- May 2019)	Chui FE
	Soltonbekov Ishenbek	Head (2015-Apr 2017)	Chui FE
3	Alabachaev Emil	Head (2015- May 2019)	Yssyk-Ata FE
	Nasridinov Kenjebek	Deputy (2015- May 2019)	Yssyk-Ata FE
4	Ysupov Rysbai	Head (Oct 2017 - )	Jaiyl FE
	Izabekov Manap	Deputy (Aug 2015 - )	Jaiyl FE
	Muratbek uulu Turatbek	Head (2015 - Oct 2017)	Jaiyl FE
5	Zhanaliev Ergeshbai	Head (2015 - )	Talas FE
	Tulejanov Sagynbek	Deputy (2015 - 2018)	Talas FE
	Djanybaev Amazbek	Deputy (2018 - Nov2019)	Talas FE
6	Raiymbekov Shailobek	Head (2015 - )	Bakai-Ata FE+Manas FE
	Bekmurzaev Mirbek	Deputy (May 2019 - )	Bakai-Ata FE+Manas FE
	Manasov Maksatbek	Deputy (2015-May2019)	Bakai-Ata FE
7	Mambetov Almaz	Head (May 2019 - )	Issyk-Kul FE
	Karybai uulu Talantbek	Deputy (May 2019 - )	Issyk-Kul FE
	Mukanbetov Maksat	Head (2016-May2019)	Issyk-Kul FE
	Mambetov Almaz	Deputy (2015-May2019)	Issyk-Kul FE
8	Mukanbetov Maksat	Head (May 2019 - )	Karakol FE+Ak-Suu FE
	Makeev Bakyt	Deputy (Jul 2019 - )	Karakol FE+Ak-Suu FE
	Abdyldaev Ruslan	Deputy (May2019-Jul2019)	Karakol FE+Ak-Suu FE
	Abdyldaev Jyrgalbek	Head (2016- May 2019)	Karakol FE
	Sulaimanov Kurmanbek	Deputy (Sep2018-May2019)	Karakol FE
	Beksultanov Jenishbek	Deputy (2016-Sep 2018)	Karakol FE
9	Ryspaev Maksat	Head (Jul 2018 - )	Jety-Oguz FE
	Osmonakunov Esenbek	Deputy (Oct 2019 - )	Jety-Oguz FE
	Toktakunov Jyldyzbek	Head (Nov2016 - Jun 2018)	Jety-Oguz FE
	Chukumbaev Choro	Head (2015- Nov 2016)	Jety-Oguz FE
	Mambetov Nurlan	Deputy (Jun 2016 - March 2019)	Jety-Oguz FE
10	Isaev Esengul	Head (May 2019 - )	Balykchy FS+Ton FE
	Aliev Shairbek	Deputy (May 2019 - )	Balykchy FS+Ton FE
	Aliev Shairbek	Head (2018 - May 2019)	Balykchy FS
	Jantaev Kaanatbek	Head (2015-2018)	Balykchi FS
	Aliev Shairbek	Deputy (2015-2018)	Balykchi FS
11	Kabykeev Aidar	Head (Jun 2018 - )	Tup FE

	Musaev Nargiz	Deputy (Jun 2018 - Feb2019)	Tup FE
	Tokombaev Kubanbek	Head (2016 - March 2017)	Tup FE
	Osmonakunov Esenbek	Deputy (2016 - Jun2018; Feb 2019 - Oct 2019)	Tup FE
12	Ybykeev Bakyt	Head (2016- May 2019)	Ak-Suu FO
	Abdyldaev Ruslan	Deputy (2016- May 2019)	Ak-Suu FO

**Table A- 5: List of training on production**

No	Forestry Enterprise	Date	No. of participants				Female	Subject	
			FE staff	Tenants	Private owners	Others			Total
1	Talas	2016-10-19	7	4	0	2	13	2	Cultivation techniques (Prunning, grafting, etc)
	Bakai Ata	2016-10-19	7	5	0	2	14	0	Cultivation techniques (Prunning, grafting, etc)
2	Chui	2016-10-21	3	10	0	0	13	1	Cultivation techniques (Prunning, grafting, etc)
3	Balykchy	2016-10-25	8	15	0	0	23	5	Cultivation techniques (Prunning, grafting, etc)
4	Balykchy	2016-10-26	8	8	0	0	16	4	Pest & disease control
5	Balykchy	2016-10-26	8	8	0	0	16	3	Drip irrigation
6	Talas	2016-11-25	7	8	0	0	15	1	Pest & disease control
	Bakai Ata	2016-11-25	6	2	0	2	10	0	Pest & disease control
7	Balykchy	2017-03-06	17	13	0	0	30	4	Cultivation techniques (Prunning, grafting, etc)
8	Yssyk Ata	2017-03-07	7	16	0	0	23	2	Cultivation techniques (Prunning, grafting, etc)
9	Chui	2017-03-09	8	1	0	0	9	2	Pest & disease control
	Chui	2017-03-09	8	1	0	0	9	2	Biotic pesticide
	Yssyk Ata	2017-03-09	1	0	0	0	1	0	Pest & disease control
	Yssyk Ata	2017-03-09	1	0	0	0	1	0	Biotic pesticide
10	Jayil	2017-03-10	6	2	0	0	8	0	Cultivation techniques (Prunning, grafting, etc)
11	Karakol	2017-03-13	3	0	0	0	3	0	Cultivation techniques (Prunning, grafting, etc)
	Jety Oguz	2017-03-13	3	2	0	0	5	0	Cultivation techniques (Prunning, grafting, etc)
12	Issyk-Kul	2017-03-14	7	2	0	0	9	0	Cultivation techniques (Prunning, grafting, etc)
	Tup	2017-03-14	2	0	0	0	2	0	Cultivation techniques (Prunning, grafting, etc)
13	Chui	2017-03-17	2	16	0	0	18	1	Cultivation techniques (Prunning, grafting, etc)
14	Chui	2017-03-23	6	2	0	2	10	1	Drip irrigation
15	Bakai Ata	2017-03-25	4	14	0	1	19	0	Pest & disease control
	Bakai Ata	2017-03-25	4	14	0	1	19	0	Biotic pesticide
16	Jety Oguz	2017-03-27	0	0	0	0	0	0	Pest & disease control
	Jety Oguz	2017-03-27	0	0	0	0	0	0	Biotic pesticide
	Karakol	2017-03-27	15	0	0	0	15	0	Pest & disease control
	Karakol	2017-03-27	15	0	0	0	15	0	Biotic pesticide
17	Balykchy	2017-04-15	6	7	0	0	13	3	Pest & disease control
	Balykchy	2017-04-15	6	7	0	0	13	3	Biotic pesticide
18	Frunze	2017-11-14	12	4	0	0	16	4	Cultivation techniques
	Frunze	2017-11-14	12	4	0	0	16	4	Pest & disease control
19	Chui	2017-11-15	4	8	0	0	12	2	Cultivation techniques
	Chui	2017-11-15	4	8	0	0	12	2	Pest & disease control
20	Balykchy	2017-11-18	13	4	2	0	19	5	Cultivation techniques
	Balykchy	2017-11-18	13	4	2	0	19	5	Pest & disease control
21	Issyk-Kul	2017-11-19	3	3	8	1	15	3	Cultivation techniques
	Issyk-Kul	2017-11-19	3	3	8	1	15	3	Pest & disease control
22	Tup	2017-11-20	2	15	1	0	18	1	Cultivation techniques
	Tup	2017-11-20	2	15	1	0	18	1	Pest & disease control
23	Jety Oguz	2017-11-21	11	7	8	3	29	0	Cultivation techniques
	Jety Oguz	2017-11-21	11	7	8	3	29	0	Pest & disease control
24	Karakol	2017-11-22	15	1	1	0	17	0	Cultivation techniques
	Karakol	2017-11-22	15	1	1	0	17	0	Pest & disease control
25	Bakai Ata	2017-11-24	7	19	0	1	27	2	Cultivation techniques
	Bakai Ata	2017-11-24	7	19	0	1	27	2	Pest & disease control
26	Talas	2017-11-25	6	22	1	0	29	2	Cultivation techniques
	Talas	2017-11-25	6	22	1	0	29	2	Pest & disease control
27	Jayil	2017-11-28	7	4	0	0	11	1	Cultivation techniques
	Jayil	2017-11-28	7	4	0	0	11	1	Pest & disease control
28	Bakai Ata	2017-12-06	12	4	0	0	16	1	Drip irrigation
29	Balykchy	2017-12-11	10	3	0	0	13	4	Drip irrigation
30	Karakol	2017-12-12	16	0	1	0	17	0	Drip irrigation
31	Issyk-Kul	2017-12-13	9	5	1	0	15	0	Drip irrigation
32	Frunze	2017-12-15	7	3	0	0	10	1	Drip irrigation
33	Chui	2017-12-17	8	6	1	0	15	3	Drip irrigation
34	Frunze	2018-03-26	7	5	2	0	14	3	Biotic pesticide
35	Chui	2018-03-27	5	5	5	0	15	2	Biotic pesticide
36	Talas	2018-04-03	3	34	0	0	37	4	Biotic pesticide
37	Bakai Ata	2018-04-03	9	10	0	0	19	2	Biotic pesticide
38	Issyk-Kul	2018-04-10	6	4	0	0	10	0	Biotic pesticide
39	Tup	2018-04-10	1	8	2	0	11	2	Biotic pesticide
40	Karakol	2018-04-11	6	11	0	0	17	1	Biotic pesticide
41	Jety Oguz	2018-04-11	7	0	0	0	7	0	Biotic pesticide
42	Balykchy	2018-04-12	5	9	0	0	14	5	Biotic pesticide
43	Yssyk Ata	2018-04-17	9	4	0	0	13	0	Biotic pesticide
44	Karakol	2018-05-22	7	0	1	0	8	0	Drip irrigation system
45	Balykchy	2018-05-23	7	3	0	0	10	0	Drip irrigation system
46	Alma KG	2019-02-19	7	0	0	0	7	1	Cultivation techniques (winter grafting)
Gross total:			476	445	55	20	996	103	

**Table A- 6: List of training on processing**

No.	Forestry Enterprise	Date	No. of participants					Contents	Subject	
			FE staff	Tenants	Private owners	Others	Total			Female
1	Ak-Suu	2017-07-06	0	0	0	11	11	7	Marketing	Marketing
	Ak-Suu	2017-07-07	0	0	0	11	11	7	Marketing	Marketing
2	Jalal-Abad	2017-07-09	0	0	0	5	5	3	Processing	Processing
3	Ak-Suu	2017-10-02	0	0	0	5	5	3	Financial Analysis	Marketing
	Ak-Suu	2017-10-03	0	0	0	5	5	3	Financial Analysis	Marketing
	Ak-Suu	2017-11-11	0	0	0	5	5	3	Financial Analysis	Marketing
4	Ak-Suu	2018-04-04	0	0	0	3	3	3	Accounting	Marketing
	Ak-Suu	2018-04-05	0	0	0	3	3	3	Accounting	Marketing
5	Ak-Suu	2018-05-18	0	0	0	7	7	4	Sales Promotion	Marketing
	Ak-Suu	2018-05-19	0	0	0	7	7	4	Sales Promotion	Marketing
6	Jety Oguz	2018-05-20	4	0	5	0	9	0	Herbs	Processing
7	Karakol	2018-05-24	17	0	1	2	20	3	Legal, Taxation	Marketing
8	Jety Oguz	2018-06-16	4	0	5	4	13	2	Fruits	Processing
9	Karakol	2019-01-31	16	1	4	5	26	6	Commercial Cooperative	Marketing
10	Issyk-Kul	2019-05-16	0	0	0	10	10	10	Herbs	Processing
11	Karakol	2019-05-17	0	0	0	10	10	10	Herbs	Processing
12	Karakol	2019-05-17	0	0	0	10	10	10	Herbs	Processing
13	Karakol	2019-05-18	4	0	2	1	7	4	Herbs	Processing
	Jety Oguz	2019-05-18	1	0	0	0	1	0	Herbs	Processing
	Tup	2019-05-18	0	0	0	1	1	1	Herbs	Processing
	Ak-Suu	2019-05-18	0	0	2	1	3	3	Herbs	Processing
14	Issyk-Kul	2019-06-13	0	0	0	7	7	7	Fruits	Processing
15	Karakol	2019-06-14	0	0	0	7	7	7	Fruits	Processing
16	Karakol	2019-06-14	0	0	0	18	18	18	Fruits	Processing
17	Karakol	2019-06-15	2	3	0	0	5	3	Fruits	Processing
	Ak-Suu	2019-06-15	0	1	0	0	1	1	Fruits	Processing
Gross total:			48	5	19	138	210	125		

## **ANNEX 2**

### **List of Products Produced by the Project**

**Table A- 7: List of products**

Product	Title	Language	Date of issue
Forest Product Business Plan	Forestry-Enterprise Forest Product Business Sub-Plan	Russian	July 2016
Baseline survey report	Consultancy services of baseline survey and situation analysis of forest products production and markets under the Project for Development of Rural Business with Forest Products in the Kyrgyz Republic	Russian English Japanese	August 2016
Handbooks	Dwarf apple seedling production, orchard establishment and maintenance	Russian Kyrgyz	September 2016
	Sea buckthorn seedling production, orchard establishment and maintenance	Russian Kyrgyz	September 2016
	Drip irrigation for fruits production in Kyrgyzstan	Russian Kyrgyz	September 2016
	Application of HACCP system for Food Manufacturing Safety Management	Russian Kyrgyz	September 2016
	Technical instruction for harvesting and processing of forest products and conformity of processed forest products with the requirement of Technical Regulation of the Eurasian Economic Union	Russian Kyrgyz	September 2016
	Formation of a legal entity for forest products business	Russian Kyrgyz	October 2016
Case study	Case study I: Forest product production business (financial analysis)	Russian	October 2016
	Case study II: Forest product processing business	Russian	October 2016

## **ANNEX 3**

### **PDM (version 1-3)**



## Project Monitoring Sheet I (Revision of Project Design Matrix)

**Project Title:** Project for Development of Rural Business with Forest Products in the Kyrgyz Republic

**Implementing Agencies:** The State Agency for Environmental Protection and Forestry (SAEPF), and target Leshozes (LHs) in three target Oblasts (Issyk-Kul, Talas and Chui) and Bishkek City.

**Target Beneficiaries:** SAEPP, target Leshozes (LHs), JFM contractors in the target LH areas.

**Project Period:** September 2015 - September 2019 (4 years)

Version 1

Dated: Dec. 11, 2015

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Outstanding Issues	Countermeasures
<b>Overall Goal</b>						
Business models <sup>1</sup> with forest products through utilizing JFM are promoted nationwide.	1 Number of JFM contractors is increased by XX % compared with the start point of the Project.	1 Records of SAEPP, and interviews with concerned personnel of SAEPP		To be achieved after the project		
	2 Number of application of business models with forest products based on a nationwide business action plan <sup>2</sup> with forest products are reached to XX.	2 Records of SAEPP, and interviews with concerned personnel of SAEPP.		To be achieved after the project		
<b>Project Purpose</b>						
Systems for promoting business models with forest products through utilizing JFM are established in each target Oblast and a nationwide business action plan with forest products is shared with stakeholders of nationwide.	1 Number of JFM contractors in the target LHs is increased by XX % compared with the start point of the Project.	1 Records of the target LHs, and interviews with their personnel.	1. Budgets and personnel in SAEPP and LHs are ensured for promoting business models with forest products. 2. Government policy on JFM remains consistent.	To be achieved by the end of the project		
	2 Revenues of the target LHs from business activities is increased by XX% compared with the start point of the Project.	2 Records of the target LHs, and interviews with their personnel.		To be achieved by the end of the project		
	3 Business model development plans formulated by the target LHs are approved by SAEPP.	3 Records of SAEPP		To be achieved by the end of the project		
	4 Workshops/Seminars for sharing business models with forest products are held at least XX times.	4 Project report		To be achieved by the end of the project		
<b>Outputs</b>						
1 Current situations of LHs with production and markets of forest products in nationwide are clarified.	1-1 Report on baseline data of LHs in nationwide are developed.	1-1 Project report	1. Majority of C/Ps and concerned personnel continue working in the same organizations. 2. There is no adverse weather affecting production	To be developed by July 2016		
	1-2 The target LHs are selected.	1-2 Project report		To be selected by July 2016		

	1-3 Promising forest products are identified more than XX in target LHs.	1-3 Project report	of forest products. 3. There is no drastic change in markets of the target forest products.	To be achieved by the end of the project		
	1-4 Promising markets for forest products are identified.	1-4 Project report				
2 Business activities with forest products through utilizing JFM are practiced by the JFM contractors in target LHs of 3 Oblasts.	2-1 Capacity (knowledge and skill) of JFM contractors in the targets LHs on business activities is improved.	2-1 Interview with JFM contractors.		To be achieved by the end of the project		
	2-2 Amount and quality of forest products are improved in the target LH areas.	2-2 Records of the target LHs, and interviews with their personnel				
	2-3 Market channels for forest products are established in the target LH areas.	2-3 Records of the target LHs, and interviews with their personnel.				
	2-4 Report on cases of business activities with forest products are developed.	2-4 Case study report of business activities of forest products.				
	2-5 Business model development plans are formulated by the target LHs.	2-5 Business model development plans				
3 Capacity of SAEPF for promoting business models with forest products is improved.	3-1 Knowledge of concerned personnel of SAEPF on cases of business models with forest products is improved.	3-1 Interviews with concerned personnel of SAEPF.		To be achieved by the end of the project		
	3-2 Seminar/workshop is held at least XX (times) and is attended more than XX people in total.	3-2 Project report.				
	3-3 A nationwide business action plan with forest products is formulated by SAEPF.	3-3 A nationwide business action plan with forest products.				
<b>Activities</b>	<b>Inputs</b>		<b>Pre-Conditions</b>			
1-1 Review the existing results of market surveys. 1-2 Collect and compile baseline information of all LHs in nationwide (e.g. production and markets of promising forest products, socio-economic situations, situation of JFM practice, etc.). 1-3 Conduct briefings on submission of proposals regarding business activities with forest products through utilizing JFM to all LHs in 3 target Oblasts. 1-4 Support all LHs in 3 Oblasts to prepare proposals on business activities through utilizing JFM. 1-5 Review proposals prepared by all LHs in 3 Oblasts for selecting target LHs. 1-6 Select target LHs.	(Japanese side) 1 Dispatch of Experts - Chief advisor - Business plan development - Forest management /Production of forest products - Marketing of forest products - Coordinator 2 C/P training in Japan and/or third country 3 Equipment and Materials - Equipment and materials relevant to the Project 4 Cost for project operation	(Kyrgyz side) 1 Arrangement of counterpart personnel (C/P) - Project director (SAEPF) - Project manager (SAEPF) - Liaison officer (SAEPF) - Other counterparts from SAEPF/target FEs 2 Provision of facilities and equipment - Project office and necessary facilities such as garage at SAEPF 3 Administration and cost share by Kyrgyz side - Travel and allowance for C/P	1 Participation of C/Ps and other concerned personnel in project activities is ensured.			

1-7 Identify promising forest products and markets of forest products.		personnel for implementing Project - Office running cost				
2-1 Confirm utilization of forest lands in the target LHs based on the baseline information.						
2-2 The target LHs formulate business plans with forest products.						
2-3 Conduct support activities for implementing business plan (e.g. strengthening production and support for marketing, etc.).						
2-4 Monitor situation of business activities with forest products through utilizing JFM in the target LHs.						
2-5 Compile cases of business activities with forest products in the target LHs.						
2-6 Formulate the LH business model development plan with forest products in each target LH.			1. Security conditions of target LH areas remain stable			
			↓			
3-1 Conduct seminars/workshops with participation of LH staff and other stakeholders <sup>3</sup> in nationwide for sharing the cases of business activities and business model development plan with forest products of target LHs.			<Issues and countermeasures>			
3-2 Conduct study tours on cases of business activities with forest products in the target LHs for understanding of stakeholders.						
3-3 SAEPF formulates a nationwide business action plan with forest products through utilizing JFM.						
3-4 Hold a seminar/workshop for sharing a nationwide business action plan with forest products with stakeholders <sup>3</sup> .						

1. Business model: business strategy and profit structure of forest products that make high profit.

2. A nationwide business action plan with forest products: Detailed plan on production/markets of forest products to achieve a find/promotion of forest products business which is high added value or have new value through various coordination with SAEPF, investors, tenants, LHs, AOs, local people, donors, etc.

3. Stakeholders: JFM contractors, concerned Ministries/Agencies, donor agencies, NGOs/associations/universities, AOs, local people, etc.

### Project Design Matrix (version 2)


**Project Title:** Project for Development of Rural Business with Forest Products in the Kyrgyz Republic

**Implementing Agencies:** The State Agency for Environmental Protection and Forestry (SAEPF), and target Forestry Enterprises (FEs) in three target Provinces (Issyk-Kul, Talas and Chui Provinces) and Bishkek City.

**Target Beneficiaries:** SAEPF, target Forest Enterprises (FEs), JFM tenants in the target FE areas.

**Project Period:** September 2015 - September 2019 (4 years)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Overall Goal</b>			
Business models <sup>1</sup> with forest products utilizing JFM are promoted nationwide.	1 Number of tenants for JFM lease for tree, fruits, and other forest products is increased by 20% compared with the start point of the Project.	1 Records of SAEPF, and interviews with concerned personnel of SAEPF.	
	2 Number of application of business models with forest products based on a nationwide business action plan <sup>2</sup> with forest products are reached to 26.	2 Records of SAEPF, and interviews with concerned personnel of SAEPF.	
<b>Project Purpose</b>			
Systems for promoting business models with forest products utilizing JFM are established in each target Province and a nationwide business action plan with forest products is shared with national stakeholders.	1 Number of tenants for JFM lease for tree, fruits, and other forest products in the target FEs is increased by 20% compared with the start point of the Project.	1 Records of the target FEs, and interviews with their personnel.	1. Budgets and personnel in SAEPF and FEs are ensured for promoting business models with forest products. 2. Government policy on JFM remains consistent.
	2 Revenues of the target FEs from business activities of JFM lease for tree, fruits, and other forest products is increased by 60% compared with the start point of the Project.	2 Records of the target FEs, and interviews with their personnel.	
	3 Business model development plans formulated by the target FEs are approved by SAEPF.	3 Records of SAEPF	
	4 Workshops/Seminars for sharing business models with forest products are held at least 4 times.	4 Project report	
<b>Outputs</b>			
1 Current national situations of FEs with production and markets of forest products are clarified.	1-1 Report on national baseline data of FEs is developed.	1-1 Project report	1. Majority of C/Ps and concerned personnel continue working in the same organizations. 2. There is no adverse weather affecting production of forest products. 3. There is no drastic change in markets of the target forest products.
	1-2 Target FEs are selected.	1-2 Project report	
	1-3 Promising forest products are identified more than 6 in target FEs.	1-3 Project report	
	1-4 Promising markets for forest products are identified.	1-4 Project report	

2 Business activities with forest products utilizing JFM are practiced by the JFM tenants in target FEs of 3 Provinces.	2-1 Capacity (knowledge and skill) of JFM tenants in the targets FEs on business activities is improved.	2-1 Interview with JFM tenants
	2-2 Amount and quality of forest products are increased and improved, respectively, in the target FE areas.	2-2 Records of the target FEs, and interviews with their personnel
	2-3 Market channels for forest products are established in the target FE areas.	2-3 Records of the target FEs, and interviews with their personnel.
	2-4 Report on cases of business activities with forest products are developed.	2-4 Case study report of business activities of forest products.
	2-5 Business model development plans are formulated by the target FEs.	2-5 Business model development plans
3 Capacity of SAEPF for promoting business models with forest products is improved.	3-1 Knowledge of concerned personnel of SAEPF on cases of business models with forest products is improved.	3-1 Interviews with concerned personnel of SAEPF.
	3-2 Seminar/workshop is held at least 4 times and is attended more than 190 people in total.	3-2 Project report.
	3-3 A nationwide business action plan with forest products is formulated by SAEPF.	3-3 A nationwide business action plan with forest products.
<b>Activities</b>	<b>Inputs</b>	<b>Pre-Conditions</b>
<p>1-1 Review existing market surveys.</p> <p>1-2 Collect and compile baseline information of all FEs in the country (e.g. production and markets of promising forest products, socio-economic situations, situation of JFM practice, etc.).</p> <p>1-3 Conduct briefings on submission of proposals regarding business activities with forest products utilizing JFM to all FEs in 3 target Provinces.</p> <p>1-4 Support all the FEs in 3 Provinces to prepare proposals on business activities utilizing JFM scheme.</p> <p>1-5 Review proposals prepared by all FEs in 3 Provinces for selecting target FEs.</p> <p>1-6 Select target FEs.</p> <p>1-7 Identify promising forest products and their markets.</p>	<p>(Japanese side)</p> <p>1 Dispatch of experts</p> <ul style="list-style-type: none"> <li>- Chief advisor</li> <li>- Business plan development</li> <li>- Forest management /Production of forest products</li> <li>- Marketing of forest products</li> <li>- Coordinator</li> <li>- Training</li> </ul> <p>2 C/P training in Japan and/or third country</p> <p>3 Equipment and materials</p> <ul style="list-style-type: none"> <li>- Equipment and materials relevant to the Project</li> </ul> <p>4 Cost for project operation</p>	<p>(Kyrgyz side)</p> <p>1 Arrangement of counterpart personnel (C/P)</p> <ul style="list-style-type: none"> <li>- Project director (SAEPF)</li> <li>- Project manager (SAEPF)</li> <li>- Liaison officer (SAEPF)</li> <li>- Other counterparts from SAEPF/target FEs</li> </ul> <p>2 Provision of facilities and equipment</p> <ul style="list-style-type: none"> <li>- Project office and necessary facilities such as garage at SAEPF</li> </ul> <p>3 Administration cost share by Kyrgyz side</p> <ul style="list-style-type: none"> <li>- Travel costs and allowance for C/P personnel for implementing project activities</li> <li>- Office running cost</li> </ul>
<p>2-1 Confirm utilization of forest lands in the target FEs based on the baseline information.</p> <p>2-2 The target FEs formulate business plans with forest products.</p> <p>2-3 Conduct support activities for implementing business plan (e.g. strengthening production and support for marketing, etc.).</p> <p>2-4 Monitor implementation of business activities with forest products utilizing JFM in the target FEs.</p> <p>2-5 Compile cases of business activities with forest products in the target FEs.</p> <p>2-6 Formulate the FE business model development plan with forest products in each target FE.</p>		<p>1. Security conditions of target FE areas remain stable.</p> 

<p>3-1 Conduct national seminars/workshops with participation of FE staff and other stakeholders<sup>3</sup> for sharing cases of business activities and business model development plan with forest products of target FEs.</p> <p>3-2 Conduct stakeholder study tours on cases of business activities with forest products by the target FEs.</p> <p>3-3 SAEPF formulates a nationwide business action plan to promote forest products business utilizing JFM.</p> <p>3-4 Hold a seminar/workshop for sharing a nationwide business action plan with forest products with stakeholders<sup>3</sup>.</p>			<p>&lt;Issues and countermeasures&gt;</p>
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1. Business model: business strategy and structure with high efficiency and profit.

2. A nationwide business action plan with forest products: Detailed forest products production and marketing plan for the promotion of forest products businesses with high added value through coordination among SAEPF, investors, tenants, FEs, local governments, local people, donors, etc.

3. Stakeholders: JFM tenants, concerned ministries and agencies, donors, NGOs, associations, universities, local governments, local people, private enterprises etc.

**Appendix 2**  
**Project Design Matrix (Version 3)**

4 September 2018

**Project Title:** Project for Development of Rural Business with Forest Products in the Kyrgyz Republic

**Implementing Agencies:** The State Agency for Environmental Protection and Forestry (SAEPF), and target Forestry Enterprises (FEs) in three target Provinces (Issyk-Kul, Talas and Chui Provinces) and Bishkek City.

**Target Beneficiaries:** SAEPF, target Forestry Enterprises (FEs), forest users in the target FE areas.

**Project Period:** September 2015 - November 2019 (4 years and 3 months)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<b>Overall Goal</b>			
Activities to promote business with forest products are implemented nationwide.	1. Eighty percent (80%) of FEs of the country will conduct forest products business promotion activities.	1. Records of SAEPF, and interviews with concerned personnel of SAEPF	
<b>Project Purpose</b>			
System of promoting forest product businesses <sup>1</sup> is strengthened in the target FEs, and their experiences are shared among SAEPF and national stakeholders <sup>2</sup> .	1. Capacity (Knowledge and skill) of FE staff to promote forest products production business are improved at not less than 80% of the target FEs. 2. Capacity (Knowledge and skills) of FE staff to promote forest products processing and distribution business are improved at not less than 30% of the target FEs. 3. Knowledge of FE staff on the procedures of state forest land lease to promote forest products business is improved at not less than 80% of the target FEs. 4. At least one hundred persons among SAEPF staff and national stakeholders improve their knowledge regarding the handbooks and cases of forest products business promotion.	1. Records of the target FEs, and interviews with their personnel. 2. Records of the target FEs, and interviews with their personnel. 3. Records of the target FEs and interviews with their personnel. 4. Project report	1. Budgets and personnel in SAEPF and FEs are ensured for promoting business with forest products. 2. Government policy on JFM remains consistent.
<b>Output</b>			
1. Current national situations of FEs with production and markets of forest products are clarified.	1-1 Report on national baseline data of FEs is developed. 1-2 Target FEs are selected. 1-3 Promising forest products are identified more than 6 in target FEs. 1-4 Promising markets for forest products are identified.	1-1 Project report 1-2 Project report 1-3 Project report 1-4 Project report	1. Majority of C/Ps and concerned personnel continue working in the same organizations. 2. There is no adverse weather affecting production of forest products.
2. Activities to promote business with forest products are practiced in the target FEs of 3 Provinces.	2-1 Capacity (knowledge and skill) of forest users doing forest products production business in the target FEs is improved through implementation of not less than 100 training sessions with cumulative total of not less than 500 training participants. 2-2 Capacity (knowledge and skill) of forest users doing forest products processing and distribution business in the target FEs is improved through implementation of not less than 10 training sessions with cumulative total of not less than 50 training participants. 2-3 Not less than 50 forest users expand market channels for forest products in the target FE areas.	2-1 Record of training and interview with training participants 2-2 Records of training and interview with training participants. 2-3 Records of the target FEs, and interviews with their personnel.	3. There is no drastic change in markets of the target forest products.
3. Handbooks and case studies are shared to promote business with forest products.	3-1 In-country training sessions are conducted not less than 100 times for promoting forest products business with the participation of cumulative total of not less than 500 staff of the target FEs and SAEPF. 3-2 Third country training programs are conducted not less than 5 times for promoting forest products business with the participation of cumulative total of not less than 35 staff of the target FEs and SAEPF. 3-3 Training programs are conducted not less than 3 times in Japan for promoting forest products business with the participation of 8 staff of the target FEs and SAEPF. 3-4 Experimental plots are developed at 7 FEs to promote forest products production business. 3-5 Handbooks for forest products business promotion are developed. 3-6 Case studies of forest products business promotion are developed. 3-7 Study tours and seminars are conducted for 3 and 4 times respectively with cumulative total of 190 participants.	3-1 Project reports. 3-2 Project reports. 3-3 Project reports. 3-4 Project reports. 3-5 Handbooks for Forest Products Business Promotion and project reports. 3-6 Case studies of forest products business promotion activities and project reports. 3-7 Project reports, lists of study tour participants, list of seminar participants	

Activities	Input		Important Assumptions
1-1 Review existing market surveys. 1-2 Collect and compile baseline information of all FEs in the country (e.g. production and markets of promising forest products, socio-economic situations, situation of JFM practice, etc.). 1-3 Conduct briefings on submission of proposals regarding business activities with forest products to all FEs in 3 target provinces. 1-4 Support all the FEs in 3 Provinces to prepare proposals on business activities. 1-5 Review proposals prepared by all FEs in 3 Provinces for selecting target FEs. 1-6 Select target FEs. 1-7 Identify promising forest products and their markets.	(Japanese side) 1. Dispatch of Experts • Chief advisor • Business plan development • Forest management/Production of forest products • Marketing of forest products • Coordinator • Training 2. C/P training in Japan and/or third country 3. Equipment and Materials • Equipment and materials relevant to the Project 4. Cost for project operation	(Kyrgyz side) 1. Arrangement of counterpart personnel (C/P) • Project director (SAEPF) • Project manager (SAEPF) • Liaison officer (SAEPF) • Other counterparts from SAEPP/target FEs 2. Provision of facilities and equipment • Project office and necessary facilities such as garage at SAEPP 3. Administration cost share by Kyrgyz side • Travel and allowance for C/P personnel for implementing Project activities • Office running cost	1. Participation of C/Ps and other concerned personnel in project activities is ensured.
2-1 Confirm utilization of forest lands in the target FEs based on the baseline information. 2-2 The target FEs formulate Forest Products Business Plans (Forestry Enterprises Business Sub-plans) with forest products. 2-3 Conduct support activities for implementing Forest Products Business Plans (Forestry Enterprise Business Sub-plans) (e.g. strengthening production and support for marketing, etc.). 2-4 Monitor implementation of business activities with forest products in the target FEs.			1. Security conditions of target FE areas remain stable.
3-1 Conduct training necessary to promote forest products business for the staff of the target FEs and SAEPP. 3-2 Develop handbooks for forest products business promotion. 3-3 Compile case of forest products business promotion. 3-4 Conduct seminars and study tours for sharing the handbooks and cases of business promotion with FE staff and stakeholders <sup>2</sup> nationwide.			

1. Systems of promoting forest product businesses: FEs' institutional system to plan and implement activities (public services including training for forest users, etc.) for promoting forest users' forest products business.
2. Stakeholders: forest users, concerned ministries and agencies, donors, NGOs, associations, universities, local governments, local people, private enterprises etc.





**ANNEX 4**

**JCC minutes (1st – 7th meeting)**

**Minutes of meeting on the first Joint Coordination Committee meeting  
for the Project for Development of Rural Business with Forest Products  
in the Kyrgyz Republic**

The first Joint Coordination Committee (the JCC) meeting of the Project for Development of Rural Business with Forest Products in the Kyrgyz Republic (the Project) was held on December 11, 2015 in the State Agency for Environmental Protection and Forestry (SAEPF) of the Kyrgyz Republic where the Deputy Director of SAEPF chaired the meeting.

During the meeting, the Work Plan (Appendix I) was approved by JCC members and the progress of the Project was reported. The Project Monitoring Sheet (Appendix II) with the Project Design Matrix (PDM) and the Plan of Operation (PO) was confirmed, and the plan of activities until June 2016 (Appendix III) was approved.

JCC members agreed that in the course of project implementation the approved Work Plan, PDM, and PO could be discussed and amended flexibly by the JCC within the framework of the Record of Discussions (R/D) agreed on 21 May 2015 by and between SAEPF and Japan International Cooperation Agency (JICA).

Appendix I, II, and III are inseparable parts of the minutes of meeting which was written in both English and Russian language in duplicate. In case of any divergence of interpretation, the English text shall prevail.

Bishkek, December 11, 2015

Mr. Takayuki Oyama  
Chief Representative, Kyrgyz Republic office,  
Japan International Cooperation Agency (JICA)

Mr. Jumaev Nurlan Kadyrovich,  
Project Director,  
Deputy Director, State Agency for Environmental  
Protection and Forestry (SAEPF)

Dr. Toshifumi Serizawa  
Chief Advisor/Forest Management  
JICA Consultant Team

Mr. Ormonov Adyl Oskonbaevich  
Project Manager  
Director, Department for Forest Ecosystem and  
Special Protected Area (DFESPA), SAEPF

**Minutes of meeting on the second Joint Coordination Committee meeting  
for the Project for Development of Rural Business with Forest Products  
in the Kyrgyz Republic**

The second Joint Coordination Committee (the JCC) meeting of the Project for Development of Rural Business with Forest Products in the Kyrgyz Republic (the Project) was held on May 17, 2016 in the State Agency for Environmental Protection and Forestry (SAEPF) of the Kyrgyz Republic where the Director of SAEPF chaired the meeting.

During the meeting, the Project Monitoring Sheet (Ver. 2) (Appendix I) was approved and eleven of the fourteen Forest Enterprises (FEs) are selected as its target FEs by JCC members. The progress and outputs of the Project was reported. The plan of project activities until December 2016 (Appendix II) was confirmed.


JCC members agreed that the all decisions made by this JCC meeting are subjects of amendment by the JCC at a future date.

Appendix I and II are inseparable parts of the minutes of meeting which was written in both English and Russian language in duplicate. In case of any divergence of interpretation, the English text shall prevail.

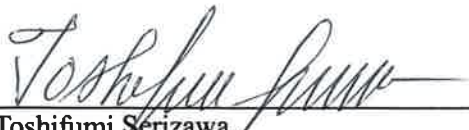
Bishkek, May 17, 2016



Mr. Kazuhiko Kikuchi  
Chief Representative, Kyrgyz Republic office,  
Japan International Cooperation Agency (JICA)



Mr. Jumaev Nurlan Kadyrovich,  
Project Director,  
Deputy Director, State Agency for Environmental  
Protection and Forestry (SAEPF)



Dr. Toshifumi Serizawa  
Chief Advisor/Forest Management  
JICA Consultant Team



Mr. Ormonov Adyl Oskonbaevich  
Project Manager  
Director, Department for Forest Ecosystem and  
Special Protected Area (DFESPA), SAEPF

**Minutes of meeting on the third Joint Coordination Committee meeting  
for the Project for Development of Rural Business with Forest Products  
in the Kyrgyz Republic**

The third Joint Coordination Committee (the JCC) meeting of the Project for Development of Rural Business with Forest Products in the Kyrgyz Republic (the Project) was held on July 27, 2016 in the State Agency for Environmental Protection and Forestry (SAEPF) of the Kyrgyz Republic where the Director of SAEPF chaired the meeting.

During the meeting, the target indicators of the Project Design Matrix (PDM) were approved. Three out of eleven Forest Enterprises made presentations, after presentation and discussion of three Forest Enterprises Business sub-plans JCC facilitator offered to accept all eleven Forest Enterprises Business sub-plans without listening all presentations due to limit of time. All eleven Forest Enterprises Business sub-plans were approved by all JCC members.

Also during the meeting, Tender documents and Project Annual Support Plan were presented and discussed.

Also it was presented for discussion and approval the tender documentation and the Project Annual Support Plan. With regard to the Tender documentation has been a lot of discussion and for a proper resolution of the issue, it was decided to discuss more closely with lawyers regarding these issues. JCC members approved the Tender documentation and the Project Annual Support Plan with the possibility of comments and changes. JCC members agreed that all the decisions taken at the meeting of third JCC may be reviewed at meetings of the future JCC meetings.

Appendix I, II and III are inseparable parts of the minutes of meeting which was written in both English and Russian language in duplicate. In case of any divergence of interpretation, the English text shall prevail.

Bishkek, July 27, 2016




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Mr. Kazuhiko Kikuchi  
Chief Representative, Kyrgyz Republic office,  
Japan International Cooperation Agency (JICA)



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Mr. Jumaev Nurlan Kadyrovich,  
Project Director,  
Deputy Director, State Agency for Environmental  
Protection and Forestry (SAEPF)



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Dr. Toshifumi Serizawa  
Chief Advisor/Forest Management  
JICA Consultant Team



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Mr. Ormonov Adyl Oskonbaevich  
Project Manager  
Director, Department for Forest Ecosystem and  
Special Protected Area (DFESPA), SAEPF

**Minutes of Meeting  
of  
the Fourth Joint Coordination Committee meeting  
for the Project for Development of Rural Business with Forest Products  
in the Kyrgyz Republic**

The fourth meeting of the Joint Coordination Committee (JCC) of the Project for Development of Rural Business with Forest Products in the Kyrgyz Republic (the Project) was held on May 30, 2017 at the State Agency for Environmental Protection and Forestry (SAEPF) under the Government of the Kyrgyz Republic.

At the JCC meeting, after the welcoming speeches, during the first session Mr. Serizawa Toshifumi, Chief Advisor of the Project, presented a Progress Report on the implementation of the Project in accordance with the form of Monitoring Sheet (Ver.4: Nov. 2016 - Apr. 2017). The presentation briefly described the Project's main activities, costs, and contributions, one of which is to the revision of the Decree on provision of the State Forest Fund land for lease.

During the second session, presentation was made by Mr. Atantaev Anvar, the director of Frunze forest enterprise (FE), and the JCC members discussed the proposals of Frunze FE to be included in the list of target FE of the Project. Mr. Atantaev told about the potential and possibilities of the FE, its plans to expand the range of forest products and readiness to work with the Project. The chairmen and members of the JCC decided to include Frunze FE into the list of target FEs of the Project.

In the third session, the project activity plan for the next six months of 2017 was presented and the date of the next fifth JCC meeting was proposed for December 2017 or January 2018. The Project informed that prospective types of forest products and markets will be identified. The JCC members were informed that the Project will continue to support the establishment and management of experimental plots, preparation of business plans on forest products processing for Balykchy FE and Talas FE, as well as for conducting trainings.

Regarding the transfer of lease revenues collected by the Forestry Enterprises to the Ministry of Finance which is the new public finance management arrangement having become effective since January 2017, Mr. Jumaev Nurlan Kadyrovich, the Project Director, said that a mechanism to retain the lease revenues in SAEPF was proposed to the Ministry of Finance by SAEPF and is under discussion in the Ministry of Finance. The Project Director expressed his concern that if the funds from the lease are not retained to FEs they will be severely constrained financially until another stable source of income of the FE is identified. During the discussions, Mr. Bakyt Yrsaliev, the Deputy Director of the Department on Forest Ecosystems Development, noted that the revised Lease Regulation No. 482 is already posted on the government's website for public comments. He suggested that the Project can provide comments on amendments on the website. The Project Director suggested that the Project consultant team can meet with the Department staff and develop a proposal on improvement of the Regulation No. 482.

In the fourth session, the structure of the National Action Plan for the Development of the Business with Forest Products was proposed. During the comments and discussions session, it was proposed to prepare it by the end of 2017.

Bishkek, May 30, 2017

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Mr. Kikuchi Kazuhiko  
Chief Representative,  
Japan International Cooperation Agency (JICA)  
Kyrgyz Republic Office

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Dr. Toshifumi Serizawa  
Chief Advisor/Forest Management  
JICA Consultant Team

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Mr. Jumaev Nurlan Kadyrovich,  
Project Director,  
Deputy Director, State Agency for Environmental  
Protection and Forestry (SAEPF)

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Mr. Sheripov Eldiar Djenishovich  
Project Manager  
Director, Department of Forest Ecosystems  
Development (DFED), SAEPF

**Minutes of Meeting  
of  
the Fifth Joint Coordination Committee meeting  
for the Project for Development of Rural Business with Forest Products  
in the Kyrgyz Republic**

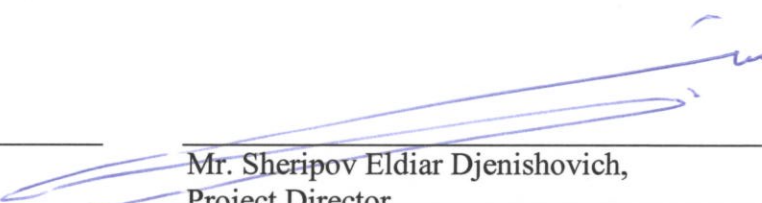
The fifth meeting of the Joint Coordination Committee (JCC) of the Project for Development of Rural Business with Forest Products in the Kyrgyz Republic (the Project) was held on February 12, 2018 at the State Agency for Environmental Protection and Forestry (SAEPF) under the Government of the Kyrgyz Republic.

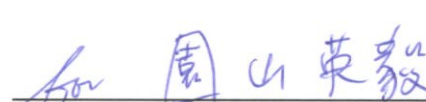
During the meeting the participants of JCC held a series of discussions as described in Appendix 1. The JCC took note of the progress report of the Project including the project monitoring sheet (version 5), agreed on a proposed draft of the revised Project Design Matrix (version 3) as shown in Appendix 2, and adopted the Annual Support Plan on the condition that it would be further elaborated and finalized in close consultation with the JCC members both from SAEPF and JICA.


Based on the minutes of meeting of this fifth JCC, the revision of the Project Design Matrix will be officially approved and agreed upon between SAEPF and JICA by taking necessary procedures to amend the Record of Discussions of the Project signed by both parties on May 21, 2015.

Bishkek, February 12, 2018

  
\_\_\_\_\_  
Mr. Kazuhiko Kikuchi  
Chief Representative  
Japan International Cooperation Agency  
(JICA)  
Kyrgyz Republic Office

  
\_\_\_\_\_  
Mr. Sheripov Eldiar Djenishovich,  
Project Director  
Deputy Director, State Agency for  
Environmental Protection and Forestry  
(SAEPF)

  
\_\_\_\_\_  
Dr. Toshifumi Serizawa  
Chief Advisor/Forest Management  
JICA Consultant Team

  
\_\_\_\_\_  
Mr. Jumaev Nurlan Kadyrovich,  
Project Manager  
Director, Department of Forest  
Ecosystems Development (DFED),  
SAEPF

**Minutes of Meeting  
of  
the Sixth Joint Coordination Committee meeting and its follow-up discussions  
for the Project for Development of Rural Business with Forest Products  
in the Kyrgyz Republic**

The sixth meeting of the Joint Coordination Committee (JCC) of the Project for Development of Rural Business with Forest Products in the Kyrgyz Republic (the Project) was held on December 10th, 2018 at the State Agency for Environmental Protection and Forestry (SAEPF) under the Government of the Kyrgyz Republic.

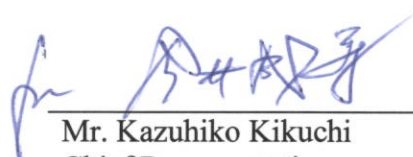
During the meeting the participants of JCC held a series of discussions as described in Appendix 1. Although the JCC took note of the progress report of the Project including the project monitoring sheet (version 7), it was concluded that the JCC would conclude written resolutions on the approval of the project annual plan presented at the meeting with additional information requested by JCC to the project team. Based on the additional information provided by the project team JCC approves the annual plan of project activities for 2019 as shown in Appendix 2, with the following activities added to the proposed annual plan.:

- 1) Support is provided preferentially to those Forestry Enterprises (FEs) which are not targeted by the “Integrated Forest Ecosystem Management Project” funded by the World Bank and;
- 2) Support is started for development of experimental plot of paulownia within the framework of the remaining time and resources of the project.

It was also agreed that JCC makes the following recommendation to the Project:

- 1) Plans for the procurement of agricultural chemicals will be formulated and verified by the project team including DFED when the seasonal work schedule in the experiment plots is planned with the relevant FEs;
- 2) Budget execution information should be shared with JCC members on a regular basis to achieve effective budget execution.

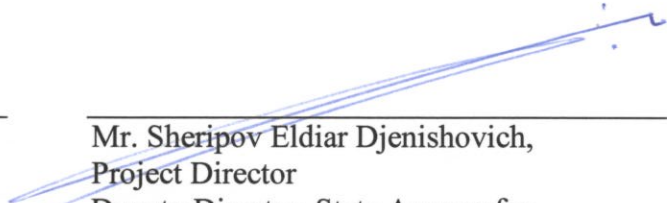
Bishkek, February 7, 2019



Mr. Kazuhiko Kikuchi  
Chief Representative  
Japan International Cooperation Agency  
(JICA)  
Kyrgyz Republic Office



Dr. Toshifumi Serizawa  
Chief Advisor/Forest Management  
JICA Consultant Team



Mr. Sheripov Eldiar Djenishovich,  
Project Director  
Deputy Director, State Agency for  
Environmental Protection and Forestry  
(SAEPF)



Mr. Jumaev Nurlan Kadyrovich,  
Project Manager  
Director, Department of Forest  
Ecosystems Development (DFED),  
SAEPF

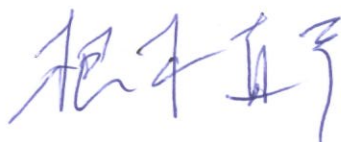
**Minutes of Meeting  
of  
the Seventh Joint Coordination Committee meeting  
for the Project for Development of Rural Business with Forest Products  
in the Kyrgyz Republic**

The seventh meeting of the Joint Coordination Committee (JCC) of the Project for Development of Rural Business with Forest Products in the Kyrgyz Republic (the Project) was held on October 15th, 2019 at the State Agency for Environmental Protection and Forestry (SAEPF) under the Government of the Kyrgyz Republic.

During the meeting, the achievement of the project reported by the representatives of the target Forestry Enterprises (FEs) and the JICA consultant team using the attached presentation documents (Appendix 1 and 2) was acknowledged by the JCC members. The contributions made by the project to the implementation of the Action Plan for the Concept of Forestry Sector Development (Appendix 3) were also recognized by them.

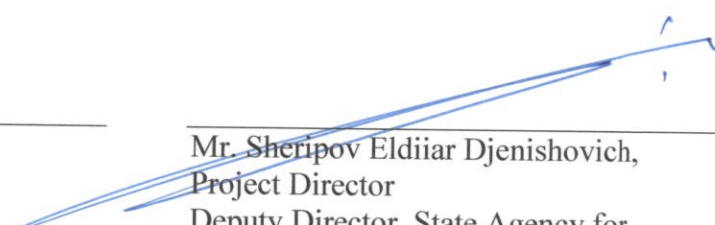
The participants of the JCC meeting had a series of discussions and build a common understanding regarding initiatives and actions to be taken by SAEPF, the Department of Forest Ecosystem Development (DFED) and the FEs based on proposals from the FEs and recommendations made by the JICA consultant team to promote forest products business after the end of the cooperation by JICA.

Bishkek, October 15, 2019



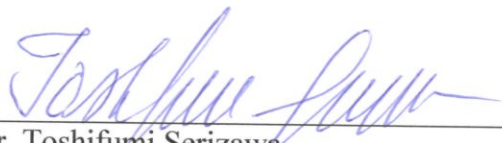
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Mr. Naoyuki Nemoto  
Chief Representative  
Japan International Cooperation Agency  
(JICA)  
Kyrgyz Republic Office



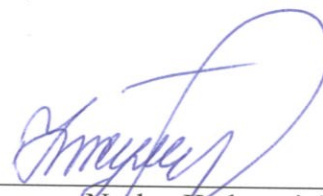
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Mr. Sheripov Eldiiar Djenishovich,  
Project Director  
Deputy Director, State Agency for  
Environmental Protection and Forestry  
(SAEPF)



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Dr. Toshifumi Serizawa  
Chief Advisor/Forest Management  
JICA Consultant Team



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Mr. Jumaev Nurlan Kadyrovich,  
Project Manager  
Director, Department of Forest  
Ecosystems Development (DFED),  
SAEPF



## **ANNEX 5**

### **Summary of Forest Product Business Plan (Forestry Enterprise Business Sub-Plans)**

**Table A- 8 Summary of the Forest Product Business Plan  
(Forestry Enterprise Business Sub-Plans)**

Forestry Enterprise (FE)	Business Model	Target sites (Plot and area)	Summary of expected activities
<b>Chui Province</b>			
1 Chui	A+B	Ak-Beshim (241ha)	The main activities in Ak-Beshim (241 ha) involve leasing the new target sites to companies and local residents and promoting the production and processing business of apple or fruit. In accordance with tenants' requests, Chui FE will consider implementing training with JICA projects and external organizations. Tenants must construct several forms of infrastructure, such as irrigation reservoirs, irrigation areas and protective fences requiring capital investment.
	B	Shamshy (129ha)	The main activities in Shamshy involve leasing the new target sites to companies and local residents and promoting the production and processing business of apple or fruit. In accordance with tenants' requests, Chui FE will consider implementing training with JICA projects and external organizations.
2 Jayil	A+B	Jaiyl (105ha)	The main activities of Jaiyl FE involve leasing the new target sites to companies and local residents and promoting the production and processing business of apple or fruit. In accordance with tenants' requests, Chui FE will consider implementing training with JICA projects and external organizations. This FE is also ready to offer some sites for processing plant construction. Tenants need capital investment, such as irrigation canals and tube, installation of a protective fence and construction of accommodation for security guards of the orchard gardens.
3 Issyk-Ata	A+B	Darkan (264 ha)	Issyk-Ata FE will arrange a new lease of 200ha to companies and residents in the target site, together with the existing lease land left over for local residents (64 ha). This FE is also keen to promote the business of cultivating and processing apple and other fruit. In accordance with tenants' request, this FE will consider implementing training with JICA projects and external organizations. They can also provide cost-effective seedlings that are reared at their nursery. Tenants need capital investment, such as the installation of a protective fence.
<b>Talas province</b>			
4 Talas	A+B	Kara-Dobo (148ha)	The main activities of Kara-Dobo involve leasing the new target sites of 60 ha to companies and local residents, leasing existing sites of 88 ha to local residents, then promoting the production and processing business of fruit. Talas FE will collect the lease fee of residents by a profit sharing scheme. In accordance with the request of tenants, this FE will consider implementing training with JICA projects and external organizations. Tenants need capital investment, such as construction of accommodation

				for the security guards of orchard gardens.
		A	Kara-Dobo (30ha)	The main activities of Kara-Dobo involve leasing new target sites of 30 ha to local residents and promoting the production and processing business of Dog rose. Talas FE will collect a lease fee of residents via a profit-sharing scheme. In accordance with tenants' requests, Tala FE will consider implementing training with JICA projects and external organizations. This FE is also ready to offer some sites for processing plant construction. Tenants need capital investment, such as installation of drip irrigation and construction of accommodation for the security guards of orchard gardens.
		N/A	Kara-Dobo	Talas FE will promote the plant establishment for the storage, processing and sales business of raw materials (fruit) reared in the target site. Talas FE requires more time to develop a detailed plan.
5	Bakai-Ata	A	Ken-Aral (127ha)	The main activities of Ken Aral involve leasing the new target sites of 85 ha to companies and local residents and leasing existing sites of 42 ha to local residents, then promoting the production and processing business of apple, plum and other fruit. In accordance with tenants' requests, Bakai-Ata FE will consider implementing training with JICA projects and external organizations. Tenants need capital investment, such as irrigation canals, drip irrigation areas and the installation of a protective fence.
<b>Issyk-Kul province</b>				
6	Issyk-Kul	A+B	Grigorievskoe (24 ha)	The main activities of Issyk-Kul involve leasing the new target sites of 4 ha to companies and leasing existing sites of 20 ha to local residents, then promoting the production and processing business of apple and other fruit. In accordance with tenants' requests, Issyk-Kul FE will consider implementing training with JICA projects and external organizations. This FE owns a nursery, so seedlings are available to tenants at reasonable prices. Tenants need capital investment, such as the removal of old orchard trees and the installation of a protective fence.
7	Karakol	B	Jyrgalan (24ha)	Karakol FE will lease the new target site of 24 ha in Jyrgalan to companies and promote the production and processing business of fruit. In accordance with tenants' requests, Karakol FE will consider implementing training with JICA projects and external organizations. This FE owns a nursery, so seedlings are available to tenants at reasonable prices. Tenants need capital investment, such as irrigation pumps, wells and the installation of a protective fence.
		C	Dzhergez and 3 others (80ha)	Karakol FE will lease the new target sites to local residents and promote the collection and processing business of pine cones. Karakol FE will also indirectly support the collaboration of tenants and OVOP, along with the JICA project.
		B+C	Jyrgalan (800ha)	Karakol FE will lease the new target sites in the riverbank to local residents and promote the

				production and processing business of seabuckthorn. Karakol FE will also indirectly support the collaboration of tenants and OVOP, along with the JICA project.
8	Jety-Oguz	C	TBD	Jety-Oguz FE will identify and lease the new target sites to local residents and promote the production and processing business of medicinal plants (such as aconite). In accordance with tenants' requests, Jety-Oguz FE will also consider implementing training with JICA projects and external organizations.
9	Balykchy	B	Balykchy	Balykchy FS has been successfully implementing the production of apricots in sites supported by previous JICA project. To accommodate an increasing volume of apricots and promote their production and processing, Balykchy FS is planning to establish and operate a small-scale processing plant based on the public-private partnership. The FE will provide land and buildings for the plant establishment, then try to establish partnership with private-sector companies that can be future investors.
10	Tup	A+B	Kuturgu (200ha)	Tup FE will lease the new target sites (200 ha in total) in Kuturgu to local residents and companies and promote the production and processing business of seabuckthorn. In accordance with tenants' requests, Tup FE will consider implementing training, not only for tenants but also FE staff members with JICA projects and external organizations. Tenants need capital investment, such as orchard renovation, irrigation pumps and the installation of a protective fence.
		B	Kuturgu (29ha)	The main activities of Kuturgu involve leasing the new target sites of 29 ha to companies, then promoting the production and processing business of fruit. In accordance with tenants' requests, Tup FE will consider implementing training with JICA projects and external organizations. Tenants need capital investment, such as orchard renovation, irrigation pumps and the installation of a protective fence.
		C	Karkyra & Kuturgu (121ha)	Tup FE will lease the new target sites in Karkyra (80 ha) and Kuturgu (41 ha) to local residents and promote the collection and processing business of pine cones. Tup FE will also indirectly support the collaboration of tenants and OVOP, along with the JICA project.
11	Ak-Suu	C	TBD	Ak-Suu FC will identify and lease the new target sites to local residents and promote the collection and processing business of pine cones. Ak-Suu FC will also indirectly support the collaboration of tenants and OVOP, along with the JICA project. There is still a need for Ak-Suu FC to flesh out its business plan in detail.
		C	TBD	Ak-Suu FE will identify and lease the new target sites to local residents and promote the collection and processing business of mushrooms. Ak-Suu FC will also indirectly support the collaboration of tenants and OVOP, along with the JICA project. There is still a need for Ak-Suu FC to flesh out its business plan in

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detail.

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- \* A: Fruit and NTFP production and processing business by local residents
- B: Fruit and NTFP production and processing business by companies
- C: NTFP collection and processing business by local residents/companies

## **ANNEX 6**

### **Summary of Handbooks**

<b>Title</b>	<b>Dwarf apple nursery tree production, orchard establishment and maintenance</b>
<b>Objective</b>	<p>To share information on the major issues:  1) production of featured apple nursery trees with dwarfing rootstocks; and  2) establishment of an apple orchard with a Tall Spindle Training System.  To help readers get an overview of the contents of this handbook and identify the where relevant information is located, the processes of producing apple nursery trees and establishing apple orchards are schematically summarized in the corresponding section numbers used in the handbook.</p>
<b>Expected readers</b>	<p>Those who are and will be engaged in rearing featured apple nursery trees with dwarfing rootstocks as well as in establishing apple orchard with a Tall Spindle Training System in Kyrgyzstan and in surrounding locations. Readers of this handbook will be also provided with basic knowledge for dwarf apple nursery tree production, orchard establishment and maintenance with many examples and practical information.</p>
<b>Contents</b>	<p><b>Chapter 1 Production of featured apple nursery trees with dwarfing rootstock</b>  In this chapter, the production of feathered apple nursery trees with dwarf rootstocks is described. It includes how to establish and maintain a mother tree orchard to harvest scions of cultivars for multiplication, propagate dwarfing rootstocks and produce nursery trees by budding and grafting scions to the rootstocks.  When establishing a mother tree orchard, mother plant training is practiced to enhance vegetative growth and the production of strong shoots for grafting and budding.  When the establishment of layering stool bed of dwarfing mother rootstock is planned, the dwarfing rootstock varieties and their nursery trees for propagation must be carefully selected. In this handbook, it is assumed that patent- and virus-free M9 rootstock is selected for propagation.  In terms of the production of nursery trees for the Tall Spindle Training System by bench grafting, three methods are explained in detail: 1) the nine-month bench grafted feathered tree production method; (2) the two-year bench grafted non-cut and feathered tree production method; and (3) the two-year bench grafted cut and feathered ("knip") tree production method.  With regard to the production of nursery trees for the Tall Spindle Training System by bud grafting, two methods are described: (1) the one-year bud grafted feathered tree production method and (2) the two-year bud grafted cut and feathered ("knip") tree production method.</p> <p><b>Chapter 2 Establishment of an apple orchard with the Tall Spindle system</b>  This chapter describes ways to establish and manage high-density apple orchards with Tall Spindle training system with various pictures, figures and tables and shows why this system is scientifically and commercially recognized to be efficient allowing quicker recovery of the investment.  The following basic practices of the Tall Spindle training system are described: 1) Planning for new orchard development; 2) Site selection and preparation; 3) Preparing for planting the new apple orchard; 4) Fall preparations for new orchards; 5) Feathered apple nursery trees with dwarfing rootstocks and; 6) Choosing cultivars.  The proper selection of rootstocks are described with several criteria such as growth rate, final size, early cropping, fruit size, yield potential and response to nutrition. The chapter explains how to manage and maintain the Tall Spindle System to maximize yield and quality by using inputs efficiently and provides other necessary guidance, including on harvest technique, pest and disease management and weather-oriented matters with sufficient visual information and examples.</p>

<b>Title</b>	<b>Sea Buckthorn nursery tree production, nursery establishment and orchard maintenance</b>
<b>Objective</b>	To share information on the production of sea buckthorn nursery trees and establishment of sea buckthorn orchard with improved varieties.
<b>Expected readers</b>	Those who are and will be engaged in rearing sea buckthorn nursery trees and establishing a sea buckthorn orchard business in Kyrgyzstan. Readers of this technical handbook get a basic grounding of the sea buckthorn nursery business as well as sea buckthorn orchard establishment and maintenance with many examples and practical information.
<b>Contents</b>	<p><b>Chapter 1 Production of sea buckthorn nursery trees</b></p> <p>This chapter covers the main technical and organizational aspects for growers of sea buckthorn mother trees as well as those rearing nursery trees. They should meet numerous relevant requirements, including proper site selection, the purchase of appropriate varieties of mother sea buckthorn nursery trees, as well as characteristics (bearing age, yield, longevity) and marketability of the sea buckthorn fruit (location of potential markets, expected prices and season in comparison with wild sea buckthorns).</p> <p>For the propagation, two methods of sea buckthorn propagation (hardwood and greenwood cuttings) have proven profitable and cost-effective and have been implemented in production practice. The hardwood-cutting method involves outdoor propagation, is considered the easier, cheap and more approachable method and is often used for large-scale propagation. The greenwood cutting method, meanwhile, requires some infrastructure such as plastic film greenhouses and water spraying materials such as fogging equipment.</p> <p><b>Chapter 2 Establishment of a cultivated sea buckthorn orchard</b></p> <p>The natural and climatic conditions in Kyrgyzstan allow sea buckthorn to be cultivated throughout all forested areas nationwide, with the most optimal area considered to be altitudes of 1200-2500 m above sea level. Growers of cultivated sea buckthorn orchard should prepare a well-defined plan of activities in advance and need to dedicate their time and financial input to manage various practices in the field properly. The establishment of cultivated sea buckthorn orchards remains challenging amid a new approach in Kyrgyzstan, but many practices and information have become available recently, some of which are described in this chapter.</p> <p>Pest and disease management is also crucial to maximize yield and quality with efficient use of pesticides and herbicides. Other necessary guidance is given such as harvest technique and weather-oriented matters with sufficient visual information and examples.</p>



<b>Title</b>	<b>Drip irrigation for fruit production in Kyrgyzstan</b>
<b>Objective</b>	To share information on drip irrigation for fruit production in Kyrgyzstan by introducing components, facility designing and work to install a drip-irrigation system.
<b>Expected readers</b>	Those who are and will be engaged in rearing fruit orchards, such as apple and sea buckthorn as well as fast-growing trees such as paulownia in Kyrgyzstan and in a similar environment. Readers of this technical handbook get a basic grounding of a drip-irrigation system to maintain and secure their own orchard production.
<b>Contents</b>	<p><b>Chapter 1 Introduction to major drip-irrigation systems and advantages and disadvantages</b> Drip irrigation centers on systems where water is supplied to a cultivated area through a piping system, directly into the root zone of the plant. Despite being costlier, drip irrigation is suitable for intensive orchard cultivation in comparison with furrow and mini-sprinkler irrigation systems.</p> <p><b>Chapter 2 Components, facility designing and work to install a drip-irrigation system</b> In this chapter, the main components of the drip-irrigation system are explained. A basic drip-irrigation system comprises the following four units: 1) water tank(s) and pumping stations; 2) head-control unit; 3) main- and sub-main pipelines; and 4) irrigation pipelines and drippers.</p> <p><b>Chapter 3 Drip irrigation system design</b> In this chapter, the design of a drip-irrigation system is described. It begins with gathering information required for a proper hydraulic design of the system, including the crop type and spacing; soil texture; field size, shape and topography; climate factors and water source, quality and supply.</p> <p><b>Chapter 4 Installation works of the drip-irrigation system</b> Installation works of the drip-irrigation system are explained in this chapter and a gravity feed drip-irrigation system is additionally explained as an alternative fruit production system, especially for small-scale operation (less than 5 ha).</p> <p><b>Chapter 5 Drip irrigation for apple, sea buckthorn and paulownia production</b> This chapter covers drip irrigation for production of three different crops: apple, sea buckthorn and paulownia. For apple, five stages of plant growth are described in relation to water supply requirements. Sea buckthorn is best grown on sandy loam soil and slight slopes with good drainage. For paulownia, meanwhile, it is important to ensure the soil is moist enough. Usually, provided a good deep soaking is ensured every 7 to 21 days during their first summer, this will suffice.</p> <p><b>Chapter 6 Management and cost of the drip-irrigation facility</b> To manage and cost the drip-irrigation facility, the basics of management, operation and maintenance (O&amp;M) of on-farm irrigation systems are explained and since preventing clogging of the drippers is one of the major issues, some preventive maintenance can be carried out. The financial and institutional aspects of the O&amp;M are also described.</p>

<b>Title</b>	<b>Application of a HACCP system for Food Manufacturing Safety Management</b>
<b>Objective</b>	To share information on food safety management through introduction of standards and regulations such as HACCP and Eurasian Economic Union (EEU) Technical Regulations.
<b>Expected readers</b>	Those who are and will be engaged in processing of forest products (fruit, berries, herbs etc.). Readers of this technical handbook get a basic grounding in hygiene management to secure food safety before starting a forest product-processing business.
<b>Contents</b>	<p><b>Chapter 1 Introduction to food safety management, HACCP, Prerequisite Programs (PRPs) and Eurasian Economic Union (EEU) technical regulation on “Food Safety”</b></p> <p>HACCP (Hazard Analysis Critical Control Points), as a mechanism to control food safety, is one component of overall food quality control programs and a system that identifies, evaluates and controls key food safety hazards. The series of procedures necessary to ensure food production safety and implemented by food processing factories are so-called Prerequisite Programs (PRPs). PRPs are basic hygiene management actions to be taken before applying HACCP and the safety of products circulated within the EEU is ensured through technical regulations. With the official accession of the Kyrgyz Republic to the EEU on August 12, 2017, a Technical Regulation on “Food Safety” (TR CU 021/2011) came into force in the Kyrgyz Republic, which stipulates that manufacturer of food products shall develop, implement and maintain procedures based on HACCP principles.</p> <p><b>Chapter 2 Prerequisite Programs (PRPs)</b></p> <p>In this chapter, PRPs to secure a hygienic production environment are explained according to the ISO technical specification; ISO/TS 22002-1:2009 "Prerequisite programs on food safety-Part 1: food manufacturing". PRPs in ISO 22002-1 include requirements for 15 points, including the construction and layout of building, cleaning and maintenance of equipment, measures to prevent cross contamination, pest control, personnel hygiene and employee facilities and product information etc.</p> <p><b>Chapter 3 Methodological guideline to apply HACCP method</b></p> <p>In this chapter, 12 steps in the HACCP system are described as guidance with a case study of “strawberry jam”. The first five steps: (1. Assemble the HACCP team, 2. Describe the product, 3. Identify the intended use, 4. Develop a flow diagram, 5. On-site confirmation of flow diagram) are so-called preliminary HACCP steps and steps 6 through 12 (6. Conduct a hazard analysis, 7. Determine critical control points (CCP), 8. Establish critical limits for each CCP, 9. Establish monitoring procedures, 10. Establish corrective actions, 11. Establish verification procedures, 12. Establish record-keeping and documentation procedures) are the so-called seven principles of the HACCP system.</p>

<b>Title</b>	<b>Technical instruction for harvesting - processing of forest products and conformity of processed forest products with the Technical Regulations of the Eurasian Economic Union</b>
<b>Objective</b>	To share general information on the conditions and requirements for harvesting and processing of non-timber forest products (NTFP) including medicinal herbs, wild growing fruit and berries according to national and international standards such as GOST and Technical Regulations of the Eurasian Economic Union (EEU).
<b>Expected readers</b>	Forest users engaged in the supply of NTFP as raw materials, business entities and individual entrepreneurs engaged in processing of NTFP. Readers of this technical handbook will gain an insight into the technological and sanitary requirements that must be met to start an NTFP processing-distribution business.
<b>Contents</b>	<p><b>Chapter 1 Guidance for arranging harvesting and processing of forest products</b> Basic requirements for harvesting and processing of NTFP in the procedure of acceptance and storage of raw materials, inspection and preparation of raw materials for further processing, processing, packaging and storage until shipment to consumers are described in this chapter. The sanitary requirements for placement, arrangement and maintenance of the facility used for harvesting and processing NTFP are also mentioned.</p> <p><b>Chapter 2 Technological instructions for preparing, processing and storing medicinal herbs</b> Technological instructions at each stage of handling medicinal herbs from harvesting, drying, packaging, marking/labelling to storage are explained in this chapter. It is necessary to obtain permission for herbs collection from SAEPF in addition to a forest ticket issued by FEs.</p> <p><b>Chapter 3 Technological instructions for receiving, primary processing and processing of wild-growing fruit and berries in the harvesting and processing facility</b> All fruit and berries to be circulated shall comply with the requirements of the EEU Technical Regulation 021/2011 on “Food Safety, as well as national or interstate standards for each particular variety. The requirements for each variety of fruit and berries and general requirements during packaging, storage and marking/labelling procedures and the acceptance of fruit and berries as raw materials are described in detail. Various methods of processing of fruit and berries such as freezing, drying, canned foods (juice, compote, jam, etc.) are also explained. Technological instructions including organoleptic indicators, physical-chemical indicators, recipe and application rates for raw materials in production of every item of canned foods are described in the second part of this chapter.</p> <p><b>Chapter 4 Compliance of wild fruit and berries and processed products with the quality and safety requirements of Technical Regulations of the Eurasian Economic Union</b> The safety of products circulated within the EEU is ensured through technical regulations. Technical Regulations on food safety entered into force in the Kyrgyz Republic with its accession to the EEU in 2017. Wild fruit/berries and processed products are subject to mandatory confirmation of compliance with the requirements of EEU Technical Regulations on “Food Safety” (TR CU 021/2011) and “Food products, part related to labeling” (TR CU 022/2011), in the form of Declaration of Conformity. A newly developed declaration form of conformity is introduced in detail for reference of readers-producers of processed products with NTFP.</p>

<b>Title</b>	<b>Formation of a legal entity for forest products business</b>
<b>Objective</b>	To provide smallholder forest users who are planning to start a forest product business with a brief overview of three possible legal forms of business enterprises, namely: 1) Sole proprietorship; 2) Limited Liability Company (LLC); and 3) Commercial Cooperative.
<b>Expected readers</b>	Forest users planning to start a forest product business and requiring guidance on a suitable form of business entity. The staff of FEs who support the development of those forest users' business are also expected to read this handbook to understand the basics behind the formation of those legal entities.
<b>Contents</b>	<p><b>Chapter 1 Forms of Business Enterprises</b> This chapter introduces various forms of business enterprises in the Kyrgyz Republic and explains that each form has advantages and disadvantages and determining which form is best for entrepreneurs depends on the nature and objectives of the intended business.</p> <p><b>Chapter 2 Sole Proprietorship</b> The sole proprietorship is the simplest business form under which one can operate a business and simply refers to an individual who carries out entrepreneurial activities unaided without forming a legal entity or organization. The advantages and disadvantages of this business form and the legal procedures required to do business as a sole proprietor are described in this chapter.</p> <p><b>Chapter 3 Limited Liability Company (LLC)</b> A limited liability company (LLC) is the most popular form of legal entity in the Kyrgyz Republic and most often selected by entrepreneurs who are starting their own business on a smaller scale. This chapter describes the concept and features of an LLC, the advantages and disadvantages of this business form and the legal procedures required to establish an LLC.</p> <p><b>Chapter 4 Commercial Cooperative</b> Cooperatives are associations created by individuals and/or legal entities on a voluntary basis to meet their economic and other needs and if the main purpose of their activities is profit-making, they can be established as the Commercial Cooperatives, which may also appeal as a form of business enterprise for an entrepreneur starting their own business jointly with others on a smaller scale. This chapter described the concept and features of the Commercial Cooperative, the advantages and disadvantages of this business form and the legal procedures required to establish a Commercial Cooperative.</p> <p><b>Chapter 5 Summary of the Three Forms of Business Enterprises</b> This chapter presents a brief summary of the features of the above-mentioned forms of business enterprises: sole proprietor, LLCs and the Commercial Cooperatives.</p> <p><b>Chapter 6 Taxation</b> Taxation may also be one of the key factors to be considered in determining which form of business enterprises is best for entrepreneurs. The types of taxation applied to business activities may vary significantly depending on the form of business enterprise. This chapter summarizes the various types of tax imposed on sole proprietors, LLCs and Commercial Cooperatives.</p>

## **ANNEX 7**

### **Summary of Case Studies**

<b>Title</b>	<b>Case study I: Forest product production business (financial analysis)</b>
<b>Objective</b>	<p>This case study was conducted to analyze and present the financial aspects of the dwarf apple and sea buckthorn nursery tree production piloted by the participating FEs under this project. Since the technical aspects of high-density apple production, with the application of a tall spindle training system for dwarf apple nursery trees and sea buckthorn nursery tree propagation and fruit production were reported in separate handbooks, this case study describes a financial analysis of the piloted nursery practices for propagating apple and sea buckthorn nursery trees.</p> <p>Those expected to read this case study is those interested in both current propagation technologies and the feasibility and profitability of nursery operations to produce and market dwarf apple and sea buckthorn nursery trees. For those readers the handbooks and this case study are complementary.</p>
<b>Contents</b>	<p><b><u>Chapter 1 Objective of the case study and participating Forestry Enterprises</u></b>  This chapter introduces the objective of the case study and the participating Forestry Enterprises to the pilot production of dwarf apple and sea buckthorn nursery trees. The chapter also defines the scope of the financial analysis, in which the seven participating FEs are consolidated to represent a single nursery product production business (the Nursery Business). This was considered to average out varying production performance of FEs and assume a relatively large and profitable nursery business operation with a networking nursery area of 8.88ha.</p> <p><b><u>Chapter 2 Financial analysis framework of the case study</u></b>  This chapter describes the selection of products for the case study, expected ten-year revenue and expenditure framework for profit and loss and cash flow analyses and income and cost parameter groups and corresponding financial accounts. To determine the expected ten-year revenue and expenditure framework, methods to estimate and calculate revenues and expenditures and to conduct profit and loss analysis, cash flow analysis and sensitivity analysis with derived financial internal rate of returns (FIRRs) are described.</p> <p><b><u>Chapter 3 Establishment of ten-year revenue and expenditure framework</u></b>  This chapter introduces the results of determined financial parameters based on the results of pilot nursery operations performed by the FEs. The parameters include (1) dwarf apple nursery tree products production schedules, (2) sea buckthorn nursery tree production schedules, (3) products production parameters, (4) operation area parameters, (5) asset formation parameters, (6) human resource input parameters and (7) depreciation sharing parameters. The rationale to assign values to these parameters are discussed based on the quantities of input and output items measured and observed during the period of pilot nursery operations.</p> <p><b><u>Chapter 4 Financial analysis with cost and price parameters</u></b>  This chapter reports the results of the financial analysis of the Nursery Business and implications of the case study results on future operation of the Nursery Business to be conducted by the participating FEs and other FEs. The results of (1) profit and loss analysis and (2) cash flow analysis and sensitivity analysis with derived FIRRs are presented in this chapter.</p>

<b>Title</b>	<b>Case study II: Forest product processing business</b>
<b>Objective</b>	<p>This case studies summarize the results of trial activities related to processing of forest products carried out from 2017 to 2019. During this period, after examining the possibility of business utilizing local resources of each region, the project conducted training and trial activities in cooperation with private enterprises and institutes in the Kyrgyz Republic. Those activities were carried out with three policies, which are: 1) effective and sustainable use of valuable forest resources; 2) increased opportunities of information and opinion exchange among forest users, Forest Enterprises and processors and; 3) Contributions to local community.</p>
<b>Contents</b>	<p><b><u>Chapter 1 Raw material supply business</u></b></p> <p>This chapter shows a case of raw material business with forest products, in which forest users supplied sea buckthorn and other berries to juice and jam processing companies under a mutual agreement on a pilot basis.</p> <p>In 2018, the activities started after a seminar organized by the project, where Bishkek-based processing companies and forest users gained an opportunity to meet and discuss each other. After participating training by the project, forest users practiced a small-scale trial activities for raw material supply to the processors. Based on challenges experienced in the first year’s trial, basic agreements were made between forest users and processors and their business will be continued in 2019. This case suggests that fruit collection could be an attractive extra income for housewives and elder people, while improved value of products, development of harvesting plan and improved methods of transportation are required.</p> <p><b><u>Chapter 2 Semi-processed product business</u></b></p> <p>This chapter summarizes a case of business activities with semi-processed forest products, in which forest users dried herbs and berries and sold them to companies that produce aromas and herbal teas on a pilot basis.</p> <p>In 2018, the activities began after a staff of Forest Enterprise gained new insight from a visit to a major herb production company in Uzbekistan during the training organized by the project. Back in the Kyrgyz Republic his idea on business was shared with forest users in the region and gaining cooperation from local entrepreneur a small-scale trial activities were conducted. Based on challenges experienced in the first year’s trial, basic agreements were made between forest users and processors in the next year. According to the agreement, trial business will continue in the harvest season in 2019. This case shows that local people could earn twice the average amount of pension there through semi-process products business. For further business development the forest users are advised to shift to cultivation of herbs and examine financial feasibility if they aim at producing final products.</p> <p><b><u>Chapter 3 The processed products business</u></b></p> <p>This chapter presents a case of business activities with processed forest products, in which local forest products are used to produce jams and syrups at local processing facilities on a pilot basis. Forest users sell their final products by themselves to domestic and overseas markets.</p> <p>The activities were began by a CBO in the territory of Ak-Suu FE. The CBO had received jam processing equipment from other donors without any knowledge and experience of production or management. With various forms of support by the project, the CBO experimentally produced and sold varieties of products in 2017. Based on the results and lessons learnt, it made a plan for the following seasons, reorganized itself to a commercial cooperative and started promotion of jam production and sales activities. Given challenges experienced in the activities, while their products themselves have high potential, it is recommended that the cooperative should improve sales capabilities.</p>

