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AGFIN+

FINAL REPORT
OCTOBER 1, 2004–SEPTEMBER 29, 2007

SUBMITTED TO THE
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
CONTRACT NO.: PCE-I-00-99-00002-00 TASK ORDER 822

IN ASSOCIATION WITH: WINROCK INTERNATIONAL

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EXECUTIVE SUMMARY

Agriculture plays a significant role in the Central Asian Republics (CAR). It accounts for 40 percent of gross domestic product (GDP) and 50 percent of employment in Kyrgyzstan; 27 percent of GDP and 50 percent of employment in Tajikistan, and 25 percent of GDP and 40 percent of employment in Uzbekistan. Assistance from the U.S. Agency for International Development (USAID) to the agricultural sectors of these economies is important to increasing rural incomes and reducing poverty in the region.

AgFin+ was a three-year agricultural capacity-building initiative in these three nations from October 1, 2004, to September 29, 2007. Its goal was to increase the incomes of Kyrgyz, Tajik, and Uzbek farmers. The project linked value chain players, including farmers, to specific markets and assisted them in overcoming the array of constraints they faced in delivering products to those markets and capturing a fair return on their efforts.

The DAI/Winrock team jointly implemented the AgFin+ project in the CAR. Our strategy was to increase farmer incomes in Kyrgyzstan, Tajikistan, and Uzbekistan by developing market linkages for target groups of farmers and strengthening local service providers (LSPs). The project linked farmers to markets and helped them overcome barriers to market entry. By fostering competition in agricultural support services such as credit, inputs, and on-farm technical assistance, as well as by diversifying products and markets, AgFin+ helped farmers improve their position in the value chain and gain a better return on their investments.

The AgFin+ project was the first in a series of activities initiated under USAID/CAR's Agricultural Development Program (ADP), a crosscutting framework designed to stimulate economic growth through agricultural development. Within the ADP framework, USAID/CAR's Agriculture Team specialists and their implementing partners identified sector development opportunities and implemented activities, such as the AgFin+ project, that built agricultural capacity and stimulated economic growth. Within this framework, USAID/CAR supported considerable development activity within the agricultural sectors of Central Asia. The AgFin+ project complemented these activities by linking farmers and agribusinesses to underserved markets, addressing financial constraints, providing on- and off-farm support, and coordinating with other agricultural development efforts.

Since AgFin+ was designed to work through LSPs, most of the project funds were earmarked for subcontracts and grants to local organizations operating in CAR.

AGFIN+ ACTIVITIES AND LOCAL SERVICE PROVIDERS

Activity	LSPs' Names	Role of LSP
Tomato+ (Kyrgyzstan)	Training and Extension System (TES) Center	Technical assistance/training
Apple+ (Kyrgyzstan)	Ebart Design	Marketing/branding plan
	TES	Technical assistance/training
Market+ (Kyrgyzstan, Uzbekistan, Tajikistan)	ASTI	Studies
	Corporate Technology Center (CTC)	Studies
Cheese+ (Tajikistan)	ZOOVET	Technical assistance/training

Activity	LSPs' Names	Role of LSP
	FMFB	Credit
Diversification+ (Kyrgyzstan)	RAS Jalal-Abad Technical Assistance Training	Technical assistance/training
Phoenix+ (Tajikistan)	Phoenix+	Credit
Credit+ (Kyrgyzstan)	AgroKredit+	Credit
Coolhouse+ (Uzbekistan)	CTC	Implementation, linkage
Credit+ FV-MARD (Uzbekistan)	FV-MARD	Credit
Cherry+ (Kyrgyzstan)	TES	Technical assistance/training
Greenhouse+ (Uzbekistan)	Agriman/Horan Rul	Technical assistance/training

The AgFin+ approach was to support interventions at key points in selected value chains—inputs, finance, processing, and markets—in an attempt to link farmers to markets. As indicated above, AgFin+ supported an array of LSPs, including input suppliers, rural financial institutions, agricultural extension services, market research firms, and processors. The AgFin+ staff functioned primarily as facilitators, helping value chain players secure financing from existing financial institutions and arranging on- and off-farm support via LSPs and technical experts. AgFin+ worked primarily in the dairy and horticulture subsectors, which show tremendous prospects for growth throughout the region.

In many ways, AgFin+ was a pilot project demonstrating to farmers that opportunities exist for high-value chains, in the marketing of both raw commodities (through crop diversification) and value-added products. AgFin+ developed practical opportunities for farmers by demonstrating successful economic activities spanning the entire value chain. It implemented creative ideas in all three countries that will continue to benefit the regions' farmers in the future. Upon closure of AgFin+, the follow-on AgLinks project will apply lessons learned and further develop the value chain approach to agriculture development in Central Asia.

REGIONAL ACCOMPLISHMENTS

Working through LSPs to strengthen value chains in all three CAR countries, AgFin+ created the following macro-level results:[1]

AGFIN+ CUMULATIVE RESULTS—PERFORMANCE MONITORING REPORT

Indicator Name	Yearly Target	Cumulative per Life of Project (3 Years)
1.1: Traditional Crop Profitability Increased for AgFin+ Beneficiaries ($)	200	9,380
1.1.1: Beneficiaries trained (#)	650	1,969
Male	490	1,627
Female	160	342
1.1.2: Farmer Production Techniques Improved (#)	4,900	18,346
Male	3,670	15,075
Female	1,230	3,271
1.1.3: Farmers Linked to Processors/Traders (#)	3,000	1,666
Male	2,090	1,253

[1] Note that we have striven to break down the cumulative results by LSPs in the individual country sections, and we have given high-level country data as a highlight overview following this section of the report.

Indicator Name	Yearly Target	Cumulative per Life of Project (3 Years)
Female	910	413
1.2: Profitability Increased Through New On-Farm Products ($)	460	1,042
1.2.1: Market Studies Completed (#)	9	36
1.2.2: Processing Studies Completed (#)	6	42
1.2.3: Input Analysis Completed (#)	14	43
1.2.4: Economic Crop Studies/Business Plans Completed (#)	7	19
1.2.5: Logistical Studies (#)	14	8
1.2.6: Trial Shipments Completed (#)	4	1
1.2.7: New-Market Trial Products Sold (#)	2	0
1.3: On-Farm Finance Increased for AgFin+ Beneficiaries ($)	450,000	1,831,261
Male	300,000	1,510,346
Female	150,000	320,915
1.3.1: On-Farm AgFin+ Facilitated Loans (#)	1,500	4,588
1.3.2: Percentage of Loans Repaid (percent)	97	99.2
Male	99	99.2
Female	95	100
1.3.3: Credit Training Delivered (#)	650	2,235
Male	450	2,067
Female	200	168
2.1: Off-Farm Profitability Increased for AgFin+ Beneficiaries ($)	5,500	1,059
2.1.1: Input Techniques Improved (#)	5	8
2.1.2: Products Linked to Processors/traders (#)	4	1
2.2: New Value-Added Products Sold (#)	4	17
2.2.1: Value of New Inputs Available ($)	12,500	0
2.2.2: New Markets for Existing Products Developed (#)	6	10
2.2.3: New Products Developed (#)	5	6
2.2.4: Logistical Links and Nodes Created (#)	6	4
2.2.5: Value of Raw Materials Delivered ($)	40,000	191,597
2.3: Off-Farm Finance Increased for AgFin+ Beneficiaries ($)	220,000	80,933
2.3.1: Off-Farm AgFin+ Facilitated Loans (#)	3	13
2.3.2: Percentage of Loans Repaid (percent)	95	100
3.1: Project Implementation Abilities of LSPs Strengthened (Assessment Score)	4	4
3.1.1: LSPs Created (#)	2	9

- **AgFin+ helped farmers develop improved techniques in 18,346 cases, of which 15,075 were male and 3,271 were female.** The AgFin+-funded Rural Advisory Service (RAS) supported farmers who used to grow only cotton. With AgFin+, they started to diversify their agricultural activities by growing high-value crops, such as watermelons, onions, tomatoes, gourds, and cucumbers. For example, 218 farmers in Kyrgyzstan replaced planting cotton with higher-value crops such as vegetables, resulting in an estimated increased average income of $150 per farmer on approximately 200 hectares of land. Also in Kyrgyzstan, 129 farmers (123 men and 6 women) were trained in improved technologies of apple production. This increased production and quality—and, therefore, sales—yielding an estimated $100 in extra income per farmer. In addition, the apple juice production value chain was strengthened by establishing collection points in six villages to source more raw product.

- **AgFin+ provided support to nine LSPs as the program integrated support along value chains.** These local entities were at the core of value chain support, allowing AgFin+ to reach beneficiaries directly and indirectly. For example, under the Batken and Sugd Agro-Input Dairy Development activity, AgFin+ set up an extension service to train selected farmers to grow and use improved feeds and veterinary supplies, in order to achieve better animal health and higher milk yields. Higher yields per cow offset the increased cost of production associated with using improved feed and veterinary supplies. The activity also provided advisory and extension services to dairy farmers on veterinary issues, feed production, nutrition, and overall management of dairy cattle.
- **AgFin+ linked 1,666 farmers—1,253 male and 413 female—to traders/processors.** AgFin+ created linkages with processors and traders that allowed dairy farmers to sell produced milk for higher prices (roughly a 130 percent price increase). In addition, AgFin+ led to farmers to greater crop profitability through proper agricultural management and pest controls. Farmers increased their profitability by an estimated $600 per hectare.
- **AgFin+ led to an on-farm profitability increase of $1,831,261.** Real results led to real opportunities for farmers. AgFin+ facilitated 4,588 loans to farmers during the course of the project, with repayment rates of nearly 100 percent .

In all, for indicators we were able to track, AgFin+ exceeded life-of-project (LOP) targets for 15 of 29 indicators, and 50 percent of the indicators were met.[2] We were able to track the key targets for crop profitability, beneficiaries trained, on-farm production techniques, loan repayment, and value of raw materials delivered to market However, we were unable to track indicators in Uzbekistan due to the political situation. AgFin+ did not reach its two targets for facilitated financing, in spite of facilitating 4,588 on-farm and 13 off-farm loans. This is attributed to the closing of FV-MARD in Uzbekistan, before it could release the final tranche of greenhouse loans. The target for linking farmers to processors/traders fell short due to weak contract enforcement between farmers and traders (and in business dealings in general).

AgFin+ created new logistical nodes and links as well conducting logistical studies and performing trial shipments. However, the project encountered high transaction costs and an overall adverse environment for transport of agricultural products. High transaction costs in the logistical sector is a serious constraint to agricultural development in the region, but was considered beyond the scope of AgFin+. Other donor projects, including USAID's Trade Facilitation and Investment (TFI) initiative, have attempted to address the problems of corruption in the CAR economies. As mentioned elsewhere in the report, trial shipments were not effective in convincing farmers to adopt a new crop or technology. Instead, farmers needed to see the entire value chain played out, from inputs to markets, to be convinced to try something new. This is difficult to do on a three-year project, given the seasonality of agricultural production.

The project fell short on developing new markets for existing products and developing new products. Such initiatives take time, and in these areas, AgFin+ has sown the seeds for future development. The project met 55 percent of the target on new markets and 40 percent of the target for new products.

[2] The Government of Uzbekistan interventions limited the ability of the project to implement the program in 2005–2007 and meet its objectives. AgFin+'s inability to complete its operations in Uzbekistan meant that we were unable to collect data for indicators even for the partially completed activities, and this has affected the overall cumulative data.

Lastly, targets on off-farm profitability (processing) and input techniques fell short. Reasons include problems sourcing raw product, due to breach of contract and lack of trust, as well as lack of available finance for needed equipment purchases.

KYRGYZSTAN ACCOMPLISHMENTS

AgFin+ had the following notable highlights in Kyrgyzstan:

Tomato+ (Kyrgyzstan): The Tomato Drying School, established with project assistance, triggered the interest of farmers in developing tomato drying enterprises. Off-farm incomes for tomato drying increased by approximately 40 percent, or $1,260 per business, as a result of training provided by the school. In addition, the project supported fresh tomato production, strengthening the capacity and increasing profitability of tomato growers in southern Kyrgyzstan.

Diversification+ (Kyrgyzstan): Through hands-on demonstrations, the project helped farmers diversify out of cotton and tobacco and into early vegetables and melons by training them to grow tomato, cucumber, cabbage, onion, and watermelon. The project helped establish sustainable relations between farmers, creditors, and consumers. As a result, 356 farmers were linked to processors and traders. Through demonstrated innovative technologies and "new" crops, 264 producers increased their incomes by an estimated 30 percent over what they had previously earned from cotton. Overall, 218 farmers switched from cotton to vegetables and other higher-value crops, resulting in increased income

Cherry+ (Kyrgyzstan): Availability and proper use of inputs facilitated by the project resulted in a 30 percent increase in cherry productivity, along with improved product quality and expansion into the Moscow market. This new, higher-value market yielded an increase of 69 percent in gross income for cherry farmers.

Apple+ (Kyrgyzstan): Through market promotion, technical training, and strengthening backward linkages between a juice processor (PAKS Ltd.) and farmers, 128 farmers now have better knowledge of apple production practices and pest control. As a result, farmers improved the quality of their produce and increased their incomes by an average of $600 per hectare. AgFin+ helped several processors improve supply chain management by establishing collection points in villages, allowing processors to source more raw product—a perennial challenge for processors in the region. A new logo was designed and registered for a natural Issyk Kul apple juice (produced by the PAKS) to improve brand recognition and increase sales of high-quality juice.

Credit+ (Kyrgyzstan): The project created a local microfinance institution (MFI)—AgroKredit+—to serve small farmers participating in AgFin+ activities. In addition to receiving technical assistance for its start-up operations, credit policies and procedures, and risk management, AgroKredit+ received $113,268 as operating and loan capital to support small farmers. Prior to AgroKredit+, farmers receiving training from the Training and Extension System (TES) and RAS extension services had no access to the small amounts of capital needed to finance improvements in farming activities. Existing MFIs offered loans on unfavorable terms. The AgroKredit+ approach created win-win linkages between extension programs, farmers, credit providers, and input distributors. With financing from AgroKredit+, farmers were able to purchase the quality inputs needed to produce quality commodities that would garner premium prices on the market. Over the LOP, AgroKredit+ disbursed 1,595 small (under $500) loans. The repayment rate of 99.2 percent indicates the success of Credit+ activities.

Marketing+ (Kyrgyzstan, regional): Under this component, the project completed research on input and product markets, helped farmers and agribusinesses develop business plans, and identified and developed new markets for existing products. AgFin+ provided targeted farmer groups with information on specific markets, helped reduce transaction costs (through TFI), and helped farmers target appropriate market segments. Ten regional marketing studies related to Kyrgyzstan were completed in 2005–2007 with the help of Central Asian service providers. Marketing studies on more than 20 products and commodities included studies of dried fruits and berries, nuts, sunflower seeds, snacks and small packages, soy, cheese, TetraPak juice, and yogurt. Marketing+ also conducted logistical studies on packaging and transportation, studies of Chinese agricultural equipment for agribusiness development; and studies of cooling and heating equipment for greenhouses. Potential markets for Kyrgyz commodities were identified in Russia (Moscow oblast and Siberia) and western China (Xingjian-Uighur Autonomous Region).

The major shortfalls were in the improvement of the apple juice production value chain. No commercial banks were willing to extend a loan to allow the processor to make capital improvements. However, the processor was able to continue using his old, yet serviceable equipment.

On-farm improvements showed the best results in terms of the number of people benefiting from increases in production and income. Attempts to connect producers to processors under Diversification+ failed, as the local market price was higher than the processor was willing/able to pay. Yet farmer incomes rose.

Access to credit by small farmers was key to many project successes. MFIs were created and funded primarily by the project to make this possible. Unfortunately, despite added capital from other sources, it was unclear if these organizations were funded at a sustainable level. These MFIs were established because existing MFIs were either unable or unwilling to undertake the kinds of activities developed under the project. Rather than creating new MFIs or other organizations to fit a specific project task, more effort should be put into working with existing organization to meet needs and/or adjusting project interventions to take advantage of existing financial products.

TAJIKISTAN ACCOMPLISHMENTS

For Tajikistan, the major shortfalls were in the non-completion of tasks that were well underway but not fully completed. These include the installation of processing equipment for both cheese and packaging. In both cases the delays were due to the late approval and start-up of activities, the result of bureaucratic hurdles that left too little time for completing them. As a result, targets for such PMP indicators as farmers linked to processors/traders, trial shipments, and logistical links and nodes created—milestones that could have been good indicators of the project's success—were not reached.

AgFin+ had the following notable highlights in Tajikistan:

Cheese+ (Tajikistan): Designed to support the dairy value chain in northern Tajikistan, Cheese+ gave rise to a private veterinary service and to an Association of Agribusinesses in Tajikistan based on the same model as the Association of Agribusinesses in Kyrgyzstan. It also supported the expansion of a cheese processing line that linked a private entrepreneur with small farmers to ensure an adequate supply of high-quality raw milk.

Phoenix+ (Tajikistan): The project granted local MFI Phoenix+ $330,000 as operating and loan capital for support of farmers under the project. Phoenix+ disbursed 1,692 loans of under $1,000 to farmers in support of both on- and off-farm (processing) activities. A total of $906,200 was lent out to farmers and

96 percent of the loans were repaid. The Phoenix+ approach created win-win linkages between extension programs, farmers, credit providers, and input distributors.

Marketing+ (Tajikistan, Regional): Under this regional component, the project completed more than 10 studies on regional input and product markets, providing farmers with valuable market information on varieties, standards, volumes, and prices in new and existing markets. Furthermore, Marketing+ presented farmers with information on the regulatory costs and procedures required to deliver products to export markets.

UZBEKISTAN ACCOMPLISHMENTS

AgFin+ had the following notable highlights in Uzbekistan:

Coolhouse+ (Uzbekistan): AgFin+ conducted all preparatory work needed to procure for and construct the coolhouse in Andijan. This included performing a cost-benefit analysis for building the coolhouse, assessing the project's legal aspects, calculating capacity based on technical requirements, developing a business plan, negotiating with coolhouse equipment producers in countries of the Former Soviet Union (FSU), developing marketing linkages in Russia, negotiating requirements for vegetable production, and finding the optimal method for shipping and assembling the cooling equipment. Since FV-MARD was shut down by the Government of Uzbekistan, farmers had to seek out other sources of finance in order to build the coolhouse. The activity linked a large number of farmers to an association that is capturing a market for their tomatoes. The association increased exports and income for farmers, and will constitute a model for as many as 30 percent of all households that are growing tomatoes in the Ferghana Valley. Several trial shipments were completed, including a shipment of Uzbekistan loofah products to Kazakhstan.

Greenhouse+ (Uzbekistan): 38 greenhouse growers were trained in Moscow to increase productivity and produce export-quality products.

Credit+ (Uzbekistan): 146 project beneficiaries received loans for greenhouse production (about $90,000) through FV-MARD in Andijan, with 100 percent repayment. The loans increased on-farm finance for AgFin+ beneficiaries by $570,000. After FV-MARD was closed by the Government of Uzbekistan, $160,000—invested by AgFin+ for credit activities—remained unused by FV-MARD/ACDI/VOCA.

Marketing+ (Uzbekistan, Regional): About 15 regional marketing studies were completed for Uzbekistan in 2005–2007 with the help of Central Asian service providers. Specifically, four new markets for tomato were identified in Russia: the Moscow region and Siberia. Analyses and recommendations concerning regional trade regulations, transport, and economic benefits from tomato production were made. Studies were completed on 18 products and commodities, including soybean oil, kernel oil, dried fruits and berries, loofah products, honey, and honey packs, as well as logistical studies on packaging and transportation, studies on Chinese agricultural equipment for agribusiness development, and studies on cooling and heating equipment for greenhouses.

I. INTRODUCTION AND APPROACH

Agriculture plays a significant role in the Central Asian Republics (CAR). It accounts for 40 percent of gross domestic product (GDP) and 50 percent of employment in Kyrgyzstan; 27 percent of GDP and 50 percent of employment in Tajikistan, and 25 percent of GDP and 40 percent of employment in Uzbekistan. Assistance from the U.S. Agency for International Development (USAID) to the agricultural sectors of these economies is important to increasing rural incomes and reducing poverty in the region.

AgFin+ was a three-year agricultural capacity-building initiative. Based in Osh, Kyrgyzstan, AgFin+ operated in these three nations from October 1, 2004, to September 29, 2007. Its goal was to increase the incomes of Kyrgyz, Tajik, and Uzbek farmers. The project linked value chain players, including farmers, to specific markets and assisted them in overcoming the array of constraints they faced in delivering products to those markets and capturing a fair return on their efforts. It coordinated with existing donor initiatives in agriculture—primarily those of USAID—and built on their successes. This collaboration leveraged additional resources to increase the impact and effectiveness of AgFin+ activities.

The DAI/Winrock team jointly implemented the AgFin+ project in the CAR. Our strategy was to increase farmer incomes in Kyrgyzstan, Tajikistan, and Uzbekistan by developing market linkages for target groups of farmers and strengthening local service providers (LSPs). By fostering competition in agricultural support services such as credit, inputs, and on-farm technical assistance, as well as by diversifying products and markets, AgFin+ helped farmers improve their position in the value chain and gain a better return on their investments.

AgFin+ was in essence a pilot project to test a firm-level value chain approach to agriculture development. It was conceived in an attempt to fill a void in agricultural development in the region. While USAID's Enterprise Development Project (EDP) supported business, including agricultural processors and traders, it stopped short of supporting on-farm activities, which were identified as key to the success of those processors and traders. AgFin+ was intended to support activities along the entire value chain—from farm to fork—for selected commodities. Thus it tended to apply as yet untested interventions in a number of sectors to determine the possibilities of success for value chain integration. This experience would then guide future agriculture value chain projects, such as the new AgLinks.

The AgFin+ approach was to find companies interested in developing markets and work with them to jump-start market linkages that would otherwise have taken years to evolve. A key aspect in this approach was to strengthen LSPs in an effort to build long-term, sustainable capacity in the agriculture sector. The AgFin+ team functioned primarily as facilitators, helping value chain players secure financing from existing sources of loans and arranging on- and off-farm support via LSPs and technical experts. This process included:

- Identifying agricultural marketing opportunities or underserved agricultural markets.
- Seeking out and identifying value chain players who were positioned to serve target markets.

- Conducting rapid value-chain assessments and developing an operations plan. The AgFin+ project assumed that each value chain had a unique set of constraints and required a customized solution to address those constraints. Via LSPs, the project provided services needed to overcome the obstacles, ensuring that products were delivered to markets and that farmers, as well as agribusinesses, received fair compensation for their efforts.
- Facilitating access to finance. The AgFin+ Team did not necessarily provide financing directly. Rather, the project sought sources of financial support from existing institutions, especially financial projects supported by USAID or the CAR, to fill financial gaps. Support in this area included preparing business plans, connecting farmers and agribusinesses with appropriate lending institutions, submitting loan applications, and securing loans.
- Providing ongoing support to nurture each value chain though its growth cycle. Leveraging its success, the AgFin+ Team was tasked with expanding existing value chains and developing new markets and products to extend the reach of the project.

AgFin+ identified a number of potential market-based opportunities presented by specific firms and then sought to build on those opportunities. An important element of the approach, as noted above, was the means used to support the development of the activities. Rather than a traditional project approach, where the project implemented all the activities, AgFin+ used a broad range of LSPs to integrate technical assistance along the value chains. The project identified the service providers and helped build their capacity, while using them to implement most of the activities. This provides a more sustainable, longer-term approach to development, since the service providers will remain long after project is over.

The table below highlights the broad range of LSPs and their roles in helping the lead firms develop their activities.

AGFIN+ ACTIVITIES AND LOCAL SERVICE PROVIDERS

Activity	LSPs Names	Role of LSP
Tomato+ (Kyrgyzstan)	TES	Technical assistance/training
Apple+ (Kyrgyzstan)	Ebart Design	Marketing/branding plan
	TES	Technical assistance/training
Market+ (Kyrgyzstan, Uzbekistan, Tajikistan)	ASTI	Studies
	CTC	Studies
Cheese+ (Tajikistan)	ZOOVET	Technical assistance/training
	FMFB	Credit
Diversification+ (Kyrgyzstan)	RAS Jalal-Abad Technical Assistance Training	Technical assistance/training
Phoenix+ (Tajikistan)	Phoenix+	Credit
Credit+ (Kyrgyzstan)	AgroKredit+	Credit
Coolhouse+ (Uzbekistan)	CTC	Implementation, linkage
Credit+ FV-MARD (Uzbekistan)	FV-MARD	Credit
Cherry+ (Kyrgyzstan)	TES	Technical assistance/training
Greenhouse+ (Uzbekistan)	Agriman/Horan Rul	Technical assistance/training

AgFin+ demonstrated to farmers that opportunities exist for high-value chains in marketing both raw commodities (through crop diversification) and value-added products. There were also cases involving the transport of bulked commodities—with no value added—out of the region, for subsequent processing

elsewhere: this also generated an acceptable return for farmers. AgFin+ sought to explore all types of activities (not only value-added) with the potential to improve farmers' incomes, but then, when possible, sought to leverage best practices and replicate them among the three countries. AgFin+ developed practical opportunities for farmers by demonstrating successful economic activities spanning the entire value chain, and implemented creative ideas in all three countries that will continue to benefit the regions' farmers in the future.

Following is a detailed description of activities, LSPs, and performance by country.

II. KYRGYZSTAN ACTIVITY PROFILES/ACCOMPLISHMENTS

KYGYZSTAN HIGHLIGHTS OVERVIEW

Relevant high-level results under AgFin+ in Kyrgyzstan are shown below.

AGFIN+ KYRGYZSTAN RESULTS—PERFORMANCE MONITORING REPORT

Indicator Name	Yearly Target	Cumulative per LOP
1.1: Traditional Crop Profitability Increased for AgFin+ Beneficiaries ($)	66	8,483
1.1.1: Number of Beneficiaries Trained During the Reporting Period (#)	216	1,419
Male	163	1,178
Female	53	241
1.1.2: Farmer Production Techniques Improved (#)	1,633	7,019
Male	1,223	5,785
Female	410	1,234
1.1.3: Farmers Linked to Processors/Traders (#)	1,000	1,329
Male	696	991
Female	304	338
1.2: New On-Farm Products Increase Profitability ($)	153	1,042
1.3.1 On-Farm AgFin+ Facilitated Loans (#)	500	1,595
2.3: Off-Farm Finance Increased for AgFin+ Beneficiaries ($)	73,333	17,498
2.3.1: Off-Farm AgFin+ Facilitated Loans (#)	1	11

AgFin+ aimed to increase on-farm and off-farm incomes in the Ferghana Valley through strengthening and institutionalizing critical components of key agricultural value chains, such as market information/access, input supply, finance, extension, and local service providers, for on- and off-farm value chain participants. Strengthened value chains, based on sustainable and replicable activities, increased short-term incomes and heightened awareness of how participants can work within their sector and value chain to pursue market opportunities in the future. In Kyrgyzstan, AgFin+ worked with local service providers and farmers to strengthen the following value chains:

- **Tomato+:** increased tomato production and sales to local fresh markets and promoted sun-drying tomatoes for export
- **Diversification+:** worked to diversify from traditional crops to high-value alternative crops
- **Apple+:** aimed to improve disease control in orchards to improve quality of product for export to regional markets, as well as apple collection and branding of processor's product.
- **Cherry+:** sought to improve disease control techniques in orchards to improve fruit quality for export to regional markets

- **Credit+:** provided credit to producers and processors to carry out required technical assistance activities and meet buyer standards

The major shortfalls were in the improvement of the apple juice production value chain. The processor planned to obtain a loan to improve his processing line and install a TetraPak packaging line. However, no commercial banks were willing to back the enterprise, so the processor is still using his old (though serviceable) equipment.

Activities related to the development/improvement of on-farm activities have shown the best results in terms of the number of people benefiting and increases in production and income. These activities had less to do with accessing new markets or connections to new or larger processors. Attempts to connect producers to processors under Diversification+ failed, as the local market price was higher than the processor was willing or able to pay. Yet farmers' incomes rose regardless. As a result, targets for such PMP indicators as farmers linked to processors/traders, trial shipments, and logistical links and nodes created, which could have been good indicators of the project's success, were not reached.

Access of credit by small farmers was key in many of the successes of the project. However, the MFIs involved were created and funded primarily by the project. And despite adding capital from other sources, it is still unclear whether these organizations are funded at a sustainable level. These organizations were established because existing MFIs were either unable or unwilling to undertake the kinds of activities developed under the project. Rather than create new MFIs or other organizations to fit a specific project task, more effort should be put into working with existing organizations to meet needs and/or adjusting project interventions to take advantage of existing financial products.

Better understanding of markets is essential starting with local markets and expanding outward. Market studies need more analysis, particularly of transportation challenges and of the costs added to a product and how those affect its competitiveness in that market.

In Kyrgyzstan, AgFin+ had the following notable highlights:

Tomato+ (Kyrgyzstan): The Tomato Drying School, established with project assistance, triggered the interest of farmers in developing tomato-drying enterprises. Off-farm incomes for tomato drying have increased by approximately 40 percent, or $1,260 per business, as a result of training provided by the school. In addition, the project supported fresh tomato production, strengthening the capacity and increasing profitability of tomato growers in southern Kyrgyzstan.

Diversification II+ (Kyrgyzstan): Through hands-on demonstrations, the project helped farmers diversify out of cotton and tobacco and into early vegetables and melons by training them to grow tomato, cucumber, cabbage, onion, and watermelon. The project also helped establish sustainable relations between farmers, creditors, and consumers. As a result, 356 farmers were linked to processors and traders. Through demonstrated innovative technologies and "new" crops, 264 producers increased their incomes by an estimated 30 percent over what they had previously earned from cotton. Overall, 218 farmers switched from cotton to vegetables and other higher-value crops, resulting in increased income.

Cherry+ (Kyrgyzstan): Availability and proper use of inputs facilitated by the project resulted in a 30 percent increase in cherry productivity, improved product quality, and expansion into the Moscow market. This new, higher-value market yielded an increase of 69 percent in gross income for cherry farmers.

Apple+ (Kyrgyzstan): Through market promotion, technical training, and strengthening backward linkages between a juice processor (PAKS Ltd.) and farmers, 128 farmers have a better knowledge of apple production practices and pest control. As a result, farmers have improved the quality of their produce and have increased their incomes by an average of $600 per hectare. AgFin+ helped several processors improve supply chain management by establishing collection points in villages, allowing processors to source more raw product—a perennial challenge for processors in the region. A new logo was designed and registered for a natural Issyk Kul apple juice that was produced by PAKS to improve brand recognition and increase sales of high-quality juice.

Credit+ (Kyrgyzstan): The project created a local microfinance institution—AgroKredit+—to serve small farmers participating in AgFin+ activities. Prior to AgroKredit+, farmers receiving training from the TES and RAS extension services had no access to the small amounts of capital needed to finance improvements in farming activities. Existing MFIs offered loans on unfavorable terms. The AgroKredit+ approach created win-win linkages between extension programs, farmers, credit providers, and input distributors. In addition to receiving technical assistance in start-up operations, credit policies and procedures, and risk management, AgroKredit+ received $113,268 as operating and loan capital to support small farmers. With financing from AgroKredit+, farmers were able to purchase the quality inputs needed to produce quality commodities that would garner premium prices on the market. Over the LOP, AgroKredit+ disbursed 1,595 small (under $500) loans. The repayment rate of 99.2 percent indicated the success of Credit+ activities.

Marketing+ (Kyrgyzstan-Regional): Under this component, the project completed research on input and product markets, helped farmers and agribusinesses develop business plans, and identified and developed new markets for existing products. The project provided targeted farmer groups with information on specific markets, helped reduce transaction costs (through TFI), and helped farmers target appropriate market segments. Ten regional marketing studies related to Kyrgyzstan were completed in 2005–2007 with the help of Central Asian service providers. Marketing studies were carried out for more than 20 products and commodities, including dried fruits and berries, nuts, sunflower seeds, snacks and small packages, soy, cheese, TetraPak juice, and yogurt; Chinese agricultural equipment for agribusiness development; and cooling and heating equipment for greenhouses. In addition, logistical studies were conducted on packaging and transportation. Potential markets for Kyrgyz commodities were identified in Russia (Moscow oblast and Siberia) and in western China (Xingjian-Uighur Autonomous Region).

Following is a detailed description of the project's activities and accomplishments.

VALUE CHAIN TOMATO DRYING+

Kyrgyz farmers face an array of constraints, including poor access to markets, limited financial resources, and a lack of production know-how. U.S. assistance has been targe3ting these constraints on a number of fronts: during AgFin+'s implementation, USAID also pursued initiatives in land reform, water user association development, agricultural inputs development, processing and market development, and agricultural finance. The AgFin+ project supplemented these ongoing activities by providing support for entrepreneurial farmers operating within the Kyrgyz shadow economy by creating market linkages, facilitating access to finance and by providing on-farm technical support.

During the course of the project, demand for sun-dried tomatoes in Europe and the United States was substantial and rising. The conditions for sun-drying tomatoes in southern Kyrgyzstan were favorable if the price of raw material was low (2 som/kg or below) and the weather from mid-July to mid-September

was sunny, dry, and hot. Tomato producers in the Osh and Jalal-Abad regions of southern Kyrgyzstan experienced a dramatic increase in profitability, in a large part due to AgFin+ efforts, and an unexpected increase in market prices for fresh tomatoes. AgFin+ taught farmers the importance of early identification and treatment of pest and disease problems, and gave them access to the credit and inputs needed to address these problems. In addition, AgFin+ helped farmers develop a relationship with a local processor to provide an alternative outlet to the fresh market. Unfortunately, the high prices being paid for tomatoes on the fresh market, while good for tomato producers, meant that the producers did not deliver their tomatoes to the local processor. Meanwhile, AgFin+ discovered that women are involved in marketing and drying tomatoes. The project therefore developed training programs for women on tomato drying, linking them to the growing market for dried tomatoes. It also helped them access credit.

AgFin+ subcontracted two extension services—the Training and Extension (TES) Center and the Jalal-Abad Regional Public Association's Rural Advisory Services (RAS JA)—to teach tomato-drying technology to farmers in the Osh and Jalal-Abad regions. AgFin+ linked farmers to existing sources of credit. AgroKredit+, a local microfinance institution, worked under a subcontract to provide working capital for business management and tomato-drying trays to farmer groups and provided credit to existing tomato groups in association with IFDC/Association of Agribusinesses in Kyrgyzstan (AAK), thus providing inputs to farmers through AAK's inputs dealer network at competitive rates.

The Tomato Drying School under TES, in collaboration with AgFin+, made it possible to trigger the interest of farmers in developing tomato-drying enterprises and to understand the entire technology of producing a high-quality product that can be exported into the United States. The TES Centre worked in three villages promoting tomato production and on-farm drying: Mamajan and Bolshevik villages in Kara Suu rayon, and Kojo village in Kyzyl Kiya rayon. These areas were selected as a result of meetings with individuals and small groups in these villages. The results of the meetings demonstrated that farmers had a strong interest in growing tomatoes for drying, based on 1) the potential profitability of the crop, 2) its suitability for farmers with extremely small landholdings, 3) the potential for risk reduction through processing, and 4) the potential for job creation for the local community.

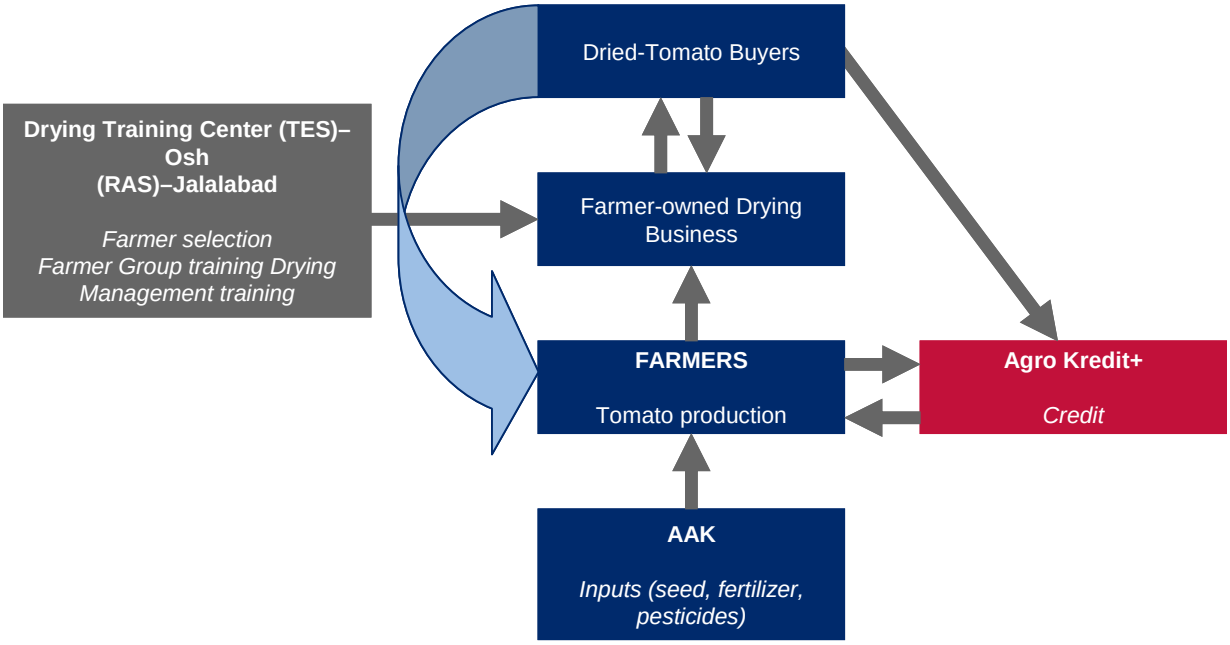
In order to produce sun-dried tomatoes for export to the United States, first, the project needed to find a variety that met U.S. standards. The project identified the Novichok variety as suitable for the U.S. market. Also, crop protection was applied according to buyer-accepted U.S. Food and Drug Administration requirements, and the drying process was evaluated for compliance with sanitary and phytosanitary standards for U.S. markets. The exporter, Adonai Trading Company, met the technology requirements for sun-drying tomatoes. Use of dryers, through the support of the TES (with whom Adonai developed contracts), led to a greater understanding of and familiarity with all elements of applying this technology. The workers involved in tomato drying, with little experience in managing a business of this scale, had to be trained in business basics, record keeping, and applying for credit.

In the course of the project, it was found that although tomato paste processing has been a traditional activity in the Ferghana Valley region, processors in Kyrgyzstan did not have the trust or support of the farmers. In part, this was a legacy of post-Soviet economic hardships; in part, it was due to the processors' reneging on agreements in the past. This created a feast-or-famine situation for the processors, where the price of tomatoes in the fresh market determined how much raw material the processors would receive in any one year despite contractual obligations between processor and producer. Processors, in turn, were unable to provide assurances on the volume of product they could deliver to their markets. This inhibited the development of a strong fruit- and vegetable-processing capacity in the region.

Both before and during the project, donors had tried different approaches to deal with the agro-processing dilemma. A Swiss project in southern Kyrgyzstan created farmer groups prepared to supply some product to processors, even when the price was higher in the fresh market or when the processor was prepared to increase his contract price to meet the market reality of the year in question. The economic viability of this model was questionable, however. AgFin+ staff believed that allowing the farmers to invest in their own value-added venture was a better model under current economic conditions in the region. If farmers invested in the processing of their product, farmers would be more interested in long-term outcomes for the processing entity. In this case, farmers would also reap added benefits during those years when prices are low in the fresh market, but also ensure that the processing entity had enough raw material in those years when prices are high in the fresh market. Therefore, developing a tomato-drying technology and market under AgFin+ through a farmer-owned processing entity provided farmers the opportunity to gain a better return on their investment.

The TES Center and RAS JA strove to select groups of farmers whose membership included at least 10 percent women and who had already established contracts for the sale of dried tomatoes. Both LSPs trained growers on how to create a successful farmer-owned processing venture. Training was provided to the group and to individual farmers responsible for ensuring supply for the processing venture with the raw material required at a price that would allow the business to succeed. The TES and RAS then designed training programs and adapted drying instructions for both new and experienced farmers.

FIGURE 1: AGFIN+ TOMATO DRYING+ SCHEMATIC EMPLOYED



As seen in the results table below, in the end Tomato+ was a very successful activity for the project. AgFin+ exceeded LOP targets in the number of farmers increasing profitability for traditional crops (tomatoes), improved production techniques, number of farmers linked to processors and traders, and increased off-farm profitability. Some of the increase in tomato profitability was due to the high price for tomatoes in the fresh market during the LOP. AgFin+ expects profitability to stay strong in the tomato sector, but recognizes that the high prices seen in the fresh market in recent years will likely come down.

The strong performance of the project in increasing off-farm profitability and in linking farmers to processors and traders is due to the highly successful tomato-drying activity, which will likely remain strong for the foreseeable future. Ultimately, at the end of project involvement in this activity, a functioning value chain existed that linked trained, knowledgeable producers and tomato dryers to buyers, resulting in increased incomes and improved livelihoods for over 1,000 farmers.

TOMATO+

Indicator Name	Yearly Target	Cum per LOP
1.1 Traditional Crop Profitability Increase for Beneficiaries	100	2,701
1.1.1: Number of Beneficiaries Trained During the Reporting Period (#)	400	337
Male	200	275
Female	200	62
1.1.2: Farmer Production Techniques Improved (#)	500	2,168
Male	250	1,764
Female	250	404
1.1.3: Farmers Linked to Processors/Traders (#)	50	135
Male	25	113
Female	25	22
2.1: Off-Farm Profitability Increase for AgFin+ Beneficiaries	250	1,042

VALUE CHAIN DIVERSIFICATION+

DIVERSIFICATION FROM A SINGLE-CROP SYSTEM OF COTTON AND TOBACCO INTO VEGETABLES AND MELONS TO REDUCE FARMER RISK—RURAL ADVISORY SERVICE

At the beginning of AgFin+, most farmers living in the activity area grew single crops (monocrops) such as cotton and tobacco that, due to low commodity prices, posed a big risk for producers. Additionally, most farmers produced on plots of one hectare or less, which do not offer the scale required to make these crops profitable. Furthermore, financial return to farmers on cotton production was predicted to remain low for the foreseeable future, making it urgent to give farmers other options for generating income. Because few new commodities and value-added products had been tested in the Ferghana valley since Soviet times, agribusiness had not expanded beyond traditional commodities and products.

There are many reasons for the slow adoption of new crops in Kyrgyzstan and Tajikistan. First, farmers do not believe in commercial trials as a way to identify profitable crops, due to the weak state of agribusiness infrastructure and value chain development. Rather, farmers need to see the entire process from growing to marketing before being convinced adopt a new commodity. Procedures for trialing crops do not test out every link in the value chain, so agribusinesses are skeptical of trials as well. For example, a variety may yield well but be unsuitable for its intended market. In addition, suitable packaging might not be available, the proper transport might not be identified, or the market price might be unclear until product is supplied. If any part of the value chain is not tested, the farmer will not be convinced of the viability of growing a crop.

AgFin+ realized that new products needed be found to give farmers an opportunity to diversify. The Diversification+ activity helped farmers identify profitable crops that were not being commercially trialed in domestic, regional, or export markets. The crops identified—early vegetables and melons—had domestic, regional, and international markets; were agronomically similar to other crops in the region;

and provided simple processing and value-added opportunities for groups of farmers, including women who have little spare time. These crops will reduce market-related risks and are better suited to small parcels of land. Trials involved generic field activities, which were informed by any existing regional data on appropriate crops as well as information from other areas of the world with similar climatic conditions. The scale of the trials strove to produce enough raw materials to create a finished product that could then be exported to a potential market.

For these small-scale farmers to diversify successfully out of cotton and tobacco into early vegetable crops (tomato, cucumber, cabbage, onion, watermelon), intensive technical assistance and training was needed, especially with the high-yield open-pollinated and hybrid varieties of tomatoes promoted by the activity. This was the key role of AgFin+. Many farmers used only traditional methods of vegetable production because they were not aware of new growing techniques, and more importantly, they did not have access to non-collateralized loans to acquire agro-inputs. Through AgFin+, farmers were able to access loans from AgroKredit+ and had access to the inputs needed to grow a quality crop through the cooperation of AAK.

ASTI (Association of Scientific and Technical Intelligentsia) contributed to Diversification+ by providing farmers with market information on baby corn and baby gherkins. Specifically, ASTI provided data to farmers on gross margins; it also helped them to identify appropriate markets and develop trial shipments.

Demonstrations were conducted in the fields of farmer group members and included the following activities:

- Formation of farmer groups prepared to diversify by providing demonstration plots and facilitating required finance through advisory and training services for farmer groups in accordance with the credit policy of AgroKredit+.
- Assistance to farmers in finding alternative, sustainable sources of income through crop diversification.
- Formation of a sustainable farmer organization (association, cooperative, etc.) by creating initial farmer groups.
- Development of sustainable relationships between farmers, creditors and consumers.
- Conduct of farmer field days for demonstrations plots to showcase the benefits of diversification with the aim of drawing in new farmers and replicating the success.

AgFin+ tasks that supported the above objectives included:

- Identification of farmers interested in diversifying from cotton and tobacco into early vegetables and melons and prepared to create demonstration plots.
- Development of buyer/vendor contracts with farmers and buyers or provision of market information that allowed production from the demonstrations to be sold through various market channels.
- Formation of farmer groups and strengthened these groups so to meet the requirements of the loan agencies and become loan recipients.
- Provided required inputs for demonstrations on the assumption that these funds would be paid back to AgroKredit+.
- Conducted winter theoretical/classroom trainings.

- Conducted training for tomato seedling producing farmers–"training of trainers."
- Conducted summer practicum/hands-on demonstrations.
- Facilitated transport of early vegetable products to Kyrgyz market.
- Coordinated with processors and facilitated delivery to processors upon request

DIVERSIFICATION+

Indicator Name	Yearly Target	Cum per LOP
ON-FARM		
1.1.1: Number of Beneficiaries Trained During the Reporting Period (#)	200	441
Male	140	315
Female	60	126
1.1.2: Farmer Production Techniques Improved (#)	600	1,902
Male	420	1,351
Female	180	551
1.1.3: Farmers Linked to Processors/Traders (#)	200	356
Male	140	220
Female	60	136
1.2: New On-Farm Products Increase Profitability ($)	200	1,042

AgFin+ exceeded two of the four LOP targets set for Diversification+. The project increased on-farm profitability by a total of $1,042, exceeding the target of $200 per year by 170 percent. Furthermore, 1902 production techniques were improved. Targets for number of beneficiaries trained and number farmers linked to processors/traders were met at 73 percent and 59 percent respectively. At the end of the project, there were 441 farmers diversifying out of unprofitable cotton and other crops into early vegetables an increasing their incomes as a result. In addition, reduced monocropping led to reduced soil degradation and, in turn, improved soil fertility.

VALUE CHAIN APPLE+

VALUE CHAIN APPLE+ I: INTEGRATING FARMERS INTO AN APPLE JUICE VALUE CHAIN

The focus of this activity was an apple processor in Issyk Kul oblast (PAKS Ltd. in the city of Cholpon Ata) which has good potential to develop a larger market for the high-quality, natural apple juice it produces, but requires a steady supply of raw material and better packaging equipment. In order to smooth out bottlenecks in the apple juice value chain, AgFin+ focused on:

- Promoting market linkages in cooperation with Helvetas.
- Promoting the idea of developing market linkages for the farmers through collection agents.
- Providing technical assistance for PAKS in developing a business plan and operating new packaging equipment.
- Providing technical assistance to retailers in market promotion and researching the potential for exporting of the novel apple juice product.

The project operated in the area of Lake Issyk Kul, which belongs to the PAKS catchment area. The challenge was to put in place supply chains which would deliver 1,500 to 2,000 metric tons of apples per year in a reliable way without having excessive sales revenues extracted by middlemen and transporters. PAKS was processing 800–900 metric tons of apples into juice per year. New packaging equipment, however, was expected to double the turnover to 1,800 metric tons. To get the needed volume of apples supplied to the factory, the AgFin+ project worked with, and benefited, more than 2,500 farmers.

We found the apple-marketing situation in Issyk Kul paradoxical: on the one hand, the processor was not able to source enough apples, although he could probably process and sell much more; and on the other hand as many as 40 percent of apples grown locally rotted underneath the trees, were fed to livestock, or were given away.

The project worked to address the following issues:

- The price paid by the processor (1.5 som/kg at the factory gate) was low, even considering the poor quality of apples sourced.
- Cost of transportation to the processor (per kg of apples) were too high, given that the apples were not bulked together (another 0.5 som/kg).
- Methods of marketing to the processor were not effectively managed.

AgFin+ operated on the assumption that if middlemen were selected from the targeted villages, they would provide a service where the apples would be sold in bulk.

AgFin+ learned from PAKS that most apples in the Issyk Kul area do not come from orchards, but rather from backyard gardens. Usually a household has about 10 trees, with a yield of about 250 kg per tree. At the time, about 50 kg (20 percent) was delivered to the processor. Another 20 percent was sold as premium apples to exporters for a relatively good price, a further 20 percent was consumed by the family, and the remainder was given away, allowed to rot away, or fed to livestock, which was considered an inefficient use of this resource.

To help farmers receive higher returns from their existing apples trees (and stimulate further apple planting to satisfy a steadily growing demand), these three challenges had to be addressed. The project reached the following conclusions:

- AgFin+ noted that the price paid by the processor could be increased considerably if farmers delivered the better-quality apples (free of codling moth) that were needed to produce a new higher-quality product. This new product was a natural apple juice (not from concentrate) in a modern TertraPak container with a screw top. AgFin+ determined that with this product, PAKS had the opportunity to compete with imported juices made from concentrate that are considered to be of inferior quality. The project identified additional sources of demand in the Bishkek market as well as in Kazakhstan. To introduce this new product, the processor needed technical assistance in business planning and management as well as installation and operation of new equipment, and the retailers required technical assistance in promoting the new Kyrgyz product so that it could compete with imports.
- It was determined that most villages do not have middlemen to buy their apples. AgFin+ discovered that middlemen’s fees could be partly eliminated when farmers started to bring their crop to the factory as an organized group. However, the Swiss had experienced problems with this approach, partly due to the lack of organizational skills of local providers in the region, and partly due to the farmers’

unwillingness to work together. Therefore under AgFin+ groups needed to be large enough to take advantage of economies of scale and reduce transaction costs.

- With the development of effective middlemen, transport costs per kg of apples were able to fall drastically from approximately 0.5 som/kg (the price at the time of the analysis), to about 0.2 som/kg.[3] This would increase the farmer's net margin from the sale of apples and maximize his return on investment if he or she invests in planting new apple trees. This became a key operating principle for AgFin+.
- In order to better establish marketing methods from the farmer to the processor, AgFin+ determined that active communication between processors and middlemen had to be institutionalized. The project strove to bring together processors and middlemen by organizing periodic meetings starting well before the harvest period so that important supply issues could be resolved, such as purchase price, total volume to be purchased from each group, delivery schedule, quality and quality assessment, and method of payment. In the long run, AgFin+ nurtured a relationship between the processor and suppliers, which led to better established marketing channels. In the short term, this was deemed to strengthen competition between middlemen, to enhance farmer incomes.

Out of the apple processors in Issyk Kul, PAKS was selected for its modern management approach, the appreciation of its products by urban customers (it was nominated for "Choice of the Year" in 2006), and its potential to further develop its products that can substitute for imports. PAKS was also one of the leading juice producers in Kyrgyzstan, with annual increases of juice production in the range of 20 to 30 percent. PAKS had been producing natural fruit juices since 1997 bottled in glass jars and since 2005 in an old-style TetraPak without a screw top and with glued labels on the carton. Today PAKS realizes that the juice in self-made cartons cannot compete with the juices of imported brands prevailing in the Bishkek market. Based on market surveys, the Kyrgyz juice market has a capacity of up to 6–7 thousand tons per year. However, juice consumption in glass jars makes up only 2–3 thousand metric tons, whereas consumption of juice in TetraPaks could well amount to 4–5 thousand metric tons.

The goal of the activity was to generate personal income for more than 2,500 Kyrgyz farmers. Since demand for apples was on the rise (for processing apples as well as for fresh market produce), the objective was to make sure farmers are not losing out on the opportunity. The project strove to provide incentives for farmers to further invest in apple trees. Needed investments included both financial investments, to establish new orchards and expand existing ones, and labor investments in the form of pruning and protection.

The approach was to link targeted groups of farmers to a specific market, and assist them in overcoming the array of constraints faced in delivering to this market and capturing a better return for their efforts. The success of the pilot farmer groups now constitutes a model that will encourage replication by other farmers both within and outside the project area, stimulating the apple sector, contributing to economic growth, and ultimately reducing poverty in the three target republics.

As many as 70 percent of all households grow apples in their home gardens or commercial apple orchards, and revitalization of the apple industry has the potential to affect them all. An increase in the quantity and quality of apple production in Central Asia will also continue to influence the international

3 The 0.2 som/kg is calculated on the basis of market prices for transportation by truck and on the assumption that the mean distance to the factory is 80 km. With shorter distances this figure may even fall to 0.1 som/kg transportation cost.

reputation of the region for investors and global trade companies as a reliable source of reasonably priced apples. AgFin+ has clearly been a catalyst in this effort.

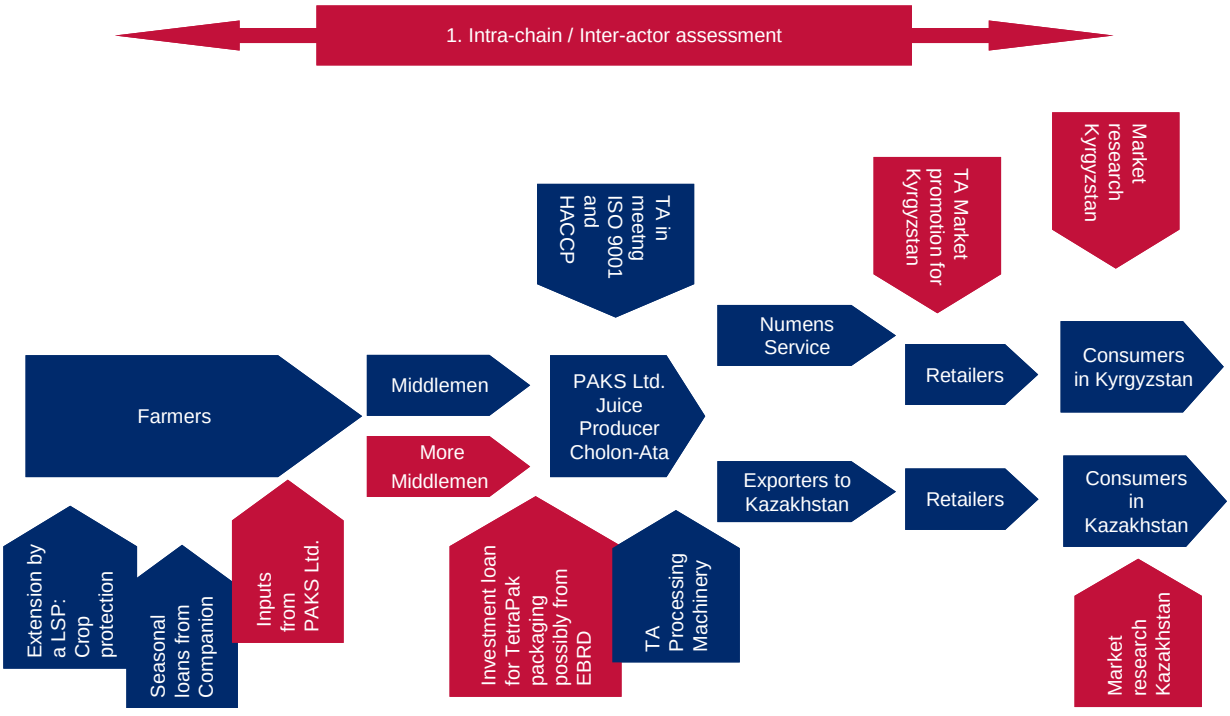
Two major obstacles witnessed in the apple value chain were the supply of raw material and the outdated equipment used by the processor. An additional major challenge was to put in place a system that would deliver 1,500–2,000 metric tons of apples per year in a reliable way to supply PAKS's new packing equipment. To achieve the target, the project strove to increase both the share of apples on each farm being sold to the processor (from 20 percent to 30 percent) and the number of farmers from whom apples were sourced (from 1,800 to 2,500).

During the life of the project, PAKS demonstrated that it was making a great effort to build good relationships with the supplying farmers. For instance, PAKS continuously increased the purchase price for apples, going from 0.8 som/kg in 2003 (at the factory gate) to 1.2 som/kg in 2004 and 1.5 som/kg in 2005. Along the apple-juice value chain, the project strove to intervene in all areas where bottlenecks obstructed effective vertical integration.

As mentioned earlier, in many ways AgFin+ was a pilot project. This particular activity will need to be followed up with AgLinks, the follow-on project which has begun at the end of AgFin+.

The following figure illustrates the value chain and (in red) the areas of AgFin+ intervention.

FIGURE 2: APPLE JUICE VALUE CHAIN ASSISTANCE



VALUE CHAIN APPLE+ II: IMPROVING THE FRESH MARKET VALUE CHAIN

AgFin+ also worked with a cold store of the Nookat Association of Apple Growers (Zolotoy Plod) in this area. With its cold storage capacity and previous experience exporting fresh apples to Russia, the association saw an opportunity to tap the full potential of the apple value chain and to further benefit a significant number of its members. The major obstacle to the full development of this value chain had been the poor quality of apples delivered by their members and other farmers from whom they purchased. The knowledge and skills needed to produce good-quality marketable apples had been lost. In Soviet times, crop protection was performed by a specialized central service (the AgroKhim¬Service) that fell apart with the privatization of farms. Subsequently, general agronomists continued to be weak in the area of pest and disease control, and farmers had no understanding of crop protection whatsoever, as most had never been involved in commercial production before.

AgFin+ therefore sought to reestablish this knowledge—not in a centralized body, but by empowering village-based field advisors and spray contractors. The project funded the training of village-based crop protection advisors who provided extension to association members and farmers in the supplying region to enhance quality management of orchards and ultimately produce better quality apples for the Russian market.

The project aimed to work with about 300 farmers in Nookat rayon and neighboring areas, providing credit for much needed inputs and training in apple husbandry practices. These farmers had either individual orchards or shares in privatized collective farms. They were required to either join or conclude a delivery contract with the association (or another exporter) to qualify for participation in the extension training and support program.

After having concluded a credit contract with AgroKredit+, the farmers themselves identified the input supplier with the best price and product quality. To make sure that the inputs were legally traded, officially registered, and of superior quality, AgroKredit+ stipulated that the supplier had to be a member of the Association of Agribusinesses in Kyrgyzstan (AAK). The farmers concluded a contract with the farm store that was co-signed by AAK and TES. After delivery of the input to the farmer group, the farm store received payment directly from AgroKredit+.

Spray contractors are farmers specializing in providing a crop protection service to neighboring farms. They needed specialized training and licensing by the Oblast Plant Protection Department. The TES Center had already good experience in providing this sort of training in the Osh and Batken oblasts.

Research trials were then set up to continue the improvement of the recommended spray program and prevent development of pesticide resistance. TES specialists monitored the results from plots in the spray program against control plots with unimproved technology.

Harvest for this activity occurred in September as the project was coming to closure. We learned that the quality of the fruit was far higher than previously as a result of the AgFin+ project. We also learned that the fruit retention was far better due to lower disease and pests, and there was at least a 20 percent increase in yield. For example, if a tree normally yielded approximately 40 kg and the selling price is 15 som/kg for first-quality apples, a farmer could now expect an extra $3 per tree. This meant that during the next year, the same techniques would be employed, giving a greater yield.

Activity beneficiaries received input loans through AgroKredit+ to apply the extended technology. In addition, the project facilitated farmer groups that would be linked to trained, village-based spray contractors.

APPLE+

Indicator Name	Yearly Target	Cum per LOP
ON-FARM		
1.1: Traditional Crop Profitability Increased for AgFin+ Beneficiaries ($)	200	—
1.1.1: Number of Beneficiaries Trained During the Reporting Period (#)	300	357
Male	250	342
Female	50	15
1.1.2: Farmer Production Techniques Improved (#)	300	1,722
Male	250	1,644
Female	50	78
1.1.3: Farmers Linked to Processors/Traders (#)	300	—
Male	250	—
Female	50	—
OFF-FARM		
2.1.1: Input Techniques Improved (#)	1	1
3.1: Project Implementation Abilities of LSPs strengthened (Assessment Score)		—

LOP results for Apple+ show that the project greatly exceeded targets for the number of farmers with improved production techniques (1,722 total, when the deliverable was 900). As mentioned above, the processor's problems with securing a loan for processing equipment put a damper on new-product development during the LOP, but blazed a trail for the future development of this activity.

The project's most notable achievement, as seen in the above table, is the number of farmer production techniques improved—roughly 200 percent greater that the target. Other deliverables were not, however, met under this activity during the timeframe of the project; these may be continued under AgLinks.

VALUE CHAIN CHERRY+

IMPROVING THE VALUE CHAIN OF CHERRIES FROM THEIR PRODUCTION IN KADAMZHAY RAYON, KYRGYZSTAN

The region of Kadamzhay Rayon had a history of producing high-quality sweet cherries for export. Good-quality cherries could be sold to an exporter/broker for more than three times the price they would receive in the local bazaar. However, producers had to achieve zero tolerance for the damaging worms of the fruit flies to create a marketable product. To do this, farmers needed a combination of good pest control techniques and trained spray contractors. This activity was designed to focus on meeting these needs through a combination of targeted training and research.

During July–November 2005, 24 cherry farmers in the village of Utsh-Korgon, as well as the village government, were surveyed, using a one-page questionnaire complemented by open-ended questions. The purpose of the survey was to determine if certain pests created a measurable financial loss for the farmers. Initially, investigators were looking at damage caused by leaf slug. However, the survey concluded that the cherry fruit fly, as well as a variety of scale problems, were also parasitizing cherry orchards. The surveyed farmers reported losses of 20–50 percent of their cherry crop due to the fruit flies, and those

who experienced heavy losses stated their losses increased year by year.The survey concluded that 1) many cherry farmers regularly lose money due to a cherry fruit fly related to the *rhagoletis* species; 2) losses due to scale and leaf slug also occur, but to a lesser extent; and, 3) spray contractors are not properly trained to safely address these pest issues, nor do they have the right equipment or chemicals to achieve satisfactory pest control.

The survey also identified a problematic relationship between farmers and their brokers, who come from Uzbekistan—a relationship which strongly favors the brokers. This was found to be due to a lack of local brokers as well as a nearly complete absence of marketing knowledge on the part of farmers.

The goal of the AgFin+ training and extension program under this component was to make cherry production a long-term profitable income-generating enterprise for private farmers in Kadamzhay Rayon. Farmers would strive improve product quality and yield and thereby increase the value of the product and its competitiveness. Support organizations would also better understand the bottlenecks of marketing cherries to Russia, and exporters would understand the legal requirements of exporting to Russia and transiting through Kazakhstan.

AgFin+ worked in the following areas:

- Training farmers to make better decisions on whether or not to treat their cherry trees with sprays and to comply with a spray program developed by TES. The TES support program directly affected the management of 3,000 trees.
- Training spray contractors to understand how to treat cherry trees effectively against fruit flies, leaf slugs, and scales.

The ultimate goal was for participating farmers to achieve higher prices due to improved quality product and knowledge of market information.

CHERRY+

Indicator Name	YearlyTarget	Cum per LOP
ON-FARM		
1.1: Traditional Crop Profitability Increased for AgFin+ Beneficiaries ($)	100	5,782
1.1.1: Number of Beneficiaries Trained During the Reporting Period (#)	700	284
Male	500	246
Female	200	38
1.1.2: Farmer Production Techniques Improved (#)	4,000	1,227
Male	3,000	1,026
Female	1,000	201
1.1.3: Farmers Linked to Processors/Traders (#)	700	118
Male	500	96
Female	200	22
OFF-FARM		
2.1.1: Input Techniques Improved (#)	1	1
3.1: Project Implementation Abilities of LSPs Strengthened (Assessment Score)		—
3.1.1: LSPs Created (#)		—

This program component included 284 farmers (4,708 trees), who learned the most effective approach to farming in this area. In addition, 18 people were trained in spray techniques, and they later became contractors. TES used yellow sticky traps produced in the United States to determine the exact moment of appearance of the fruit fly. The real success of this work was that TES created a link between the farmers and sprayers, teaching farmers to monitor for the appearance of the fruit fly and sprayers the technique needed to help farmers produce the best yield.

Before AgFin+'s work on this component, cherry farmers were losing a high percentage of their yield due to fruit fly damage. In the end, cherry farmers had received very practical information on pests and diseases and measures to control them, helping them bring a better product to market and increase their income. Overall, this activity is viewed as a success, since crop profitability rose to $5,782.

CREDIT+

AGROKREDIT+

AgroKredit+, a purely agricultural credit agency, was founded by AgFin+ and the TES Center to provide agricultural loans of under US$500 to finance both on- and off-farm activities. The AgroKredit+ approach created win-win linkages between extension programs, farmers, credit providers, and input distributors. The program increased the number of funders from three to five. It also doubled the number of individuals and groups it did business with in the last year of the project (2007).

Project support included technical assistance in operations and procedures for farm lending, risk management, and records management.

CREDIT+

Indicator Name	Yearly Target	Cum per LOP
1.3: On-Farm Finance Increased for AgFin+ Beneficiaries ($)	150,000	389,469
Male	100,000	280,333
Female	50,000	109,136
1.3.1:On-Farm AgFin+ Facilitated Loans (#)	500	1,595
1.3.2: Percentage of Loans Repaid (percent)	97	100
Male	99	100
Female	95	100
2.3: Off-Farm Finance Increased for AgFin+ Beneficiaries ($)	10,000	17,498
2.3.1: Off-Farm AgFin+ Facilitated Loans (#)	1	11
2.3.2: Percentage of Loans Repaid (percent)	95	99.2
3.1: Project Implementation Abilities of LSPs Strengthened (Assessment Score)	4	4.0
3.1.1: LSPs Created (#)	—	1

When the project got underway, it was determined that tomato-drying operations (post-harvest processing) would be the target of off-farm activities financed by AgroKredit+. These loans were quite a bit smaller, since they funded simple, inexpensive drying racks for tomatoes as opposed to the more expensive equipment typically associated with processing activities. The project exceeded targets for the number of loans for on-farm activities, but, as with off-farm activities, reached only 87 percent of the

target for the total amount of funds lent for on-farm activities. Repayment rates for both on- and off-farm activities exceeded LOP targets, being close to 100 percent (99.2 percent).

The program also received a significant amount of assistance through the USAID-funded Farmer-to-Farmer program implemented by AgFin+ partner organization Winrock International. The program provided technical assistance in the development and processing of loans to informal groups (associations), individuals, and formal groups (cooperatives), based on production plans developed with the extension service. Essentially the program provided credit, through a contractual mechanism between farmers and input dealers, with the farmers to procure input supplies from input dealers based on the production plan, which stipulated the amount and type of inputs required. The credit amounts were transferred to the input dealers by AgroKredit+, generally without collateral. Farmer activities were overseen by the extension provider, which reduced the risk of loss while at the same time reducing the cost to the credit provider of servicing the loan, since the provider did not have to travel to farmers' plots to check on crop productivity.

At the end of the project, AgroKredit+ had become a fully functioning and sustainable microcredit organization filling an unmet need in the credit market. An important aspect to this is the linkage created between AgroKredit+ and the TES center. The farmer training and extension provided by the TES center helps ensure that farmers are able to repay their AgroKredit+ loans.

III. TAJIKISTAN ACTIVITY PROFILES/ACCOMPLISHMENTS

TAJIKISTAN HIGHLIGHTS OVERVIEW

Relevant high-level results under AgFin+ in Tajikistan are shown below.

AGFIN+ TAJIKISTAN RESULTS—PERFORMANCE MONITORING REPORT

Indicator Name	Yearly Target	Cumulative per LOP
1.1: Traditional Crop Profitability Increased for AgFin+ Beneficiaries ($)	66	897
1.1.1: Number of beneficiaries trained during the reporting period (#)	216	550
Male	163	449
Female	53	101
1.1.2: Farmer Production Techniques Improved (#)	1,633	11,745
Male	1,223	9,290
Female	410	2,037
1.1.3: Farmers Linked to Processors/Traders (#)	1,000	337
Male	696	262
Female	304	75
1.3.1 On-Farm AgFin+ Loans Facilitated (#)	500	1,692
1.2: New on-farm products increase profitability ($)	153	—
2.3: Off-Farm Finance Increased for AgFin+ Beneficiaries ($)	73,333	63,435
2.3.1: Off-Farm AgFin+ Facilitated Loans (#)	1	2

AgFin+ aimed to increase on-farm and off-farm incomes in the Ferghana Valley by strengthening and institutionalizing critical components of key agricultural value chains such as market information/access, input supply, finance, extension, and local service providers (LSPs) for on-and-off-farm value chain participants. Strengthened value chains, based on sustainable and replicable activities, increase short-term incomes and heighten awareness of ways that participants can work within their sector and value chain to pursue market opportunities in the future. In Uzbekistan, AgFin+ worked with local service providers and farmers to strengthen the following value chains:

- **Cheese+:** Developed on- and off-farm milk product production and processing activities.
- **Phoenix+:** provided credit to producers and processors to carry out required technical assistance activities and meet buyer standards for dairy products.

For Tajikistan, the major shortfalls were in the noncompletion of tasks that were well underway but not fully completed. These included the installation of processing equipment for both cheese and packaging. In both cases, the delays arose from government bureaucratic hurdles—the late approval and start-up of activities, which left insufficient time for completing them.

Activities involving the development/improvement of on-farm activities had the best results in terms of the number of people benefiting and increases in production and income. In addition, farmers' techniques improved in 11,745 cases, and 1,692 on-farm loans were facilitated. Both of these are significant achievements for the project.

Looking to the future, we believe that better understanding of markets is essential, starting with local markets and expanding outward. Additional market analysis is particularly needed on transportation challenges—the costs they add to a product, and how that affects the product's competitiveness in a given market.

In Tajikistan, AgFin+ had the following notable highlights:

Cheese+ (Tajikistan): Designed to support the dairy value chain in northern Tajikistan, Cheese+ generated a private veterinary service and an Association of Agribusinesses in Tajikistan (AAT) based on the same model as the Association of Agribusinesses in Kyrgyzstan (AAK). Cheese+ also supported the expansion of a cheese-processing line that linked a private entrepreneur with small farmers to ensure adequate supply of high-quality raw milk.

Phoenix+ (Tajikistan): The project granted local MFI Phoenix+ $330,000 as operating and loan capital for support of farmers under the project. Phoenix+ disbursed 1,692 loans of under $1,000 to farmers in support of both on- and off-farm (processing) activities. A total of $906,200 was loaned out to farmers, and 96 percent of the loans were repaid. The Phoenix+ approach created win-win linkages between extension programs, farmers, credit providers, and input distributors.

Marketing+ (Tajikistan-Regional): Under this regional component, the project completed more than 10 studies on regional input and product markets, providing farmers with valuable information on varieties, standards, volumes, and prices in new and existing markets. Furthermore, Market+ presented farmers with information on the regulatory costs and procedures required to deliver products to export markets.

Following is a detailed description of the work and accomplishments.

VALUE CHAIN CHEESE+

BATKEN AND SUGD AGRI-INPUT DAIRY DEVELOPMENT ACTIVITY AND VALLAMATOV CHEESE COMPANY

In Tajikistan, there is been a high rate of male seasonal outmigration for construction and other jobs in Russia, leaving many women as household heads for much the year. Traditional gender-based divisions of labor that are still strong in other parts of Central Asia are changing, as women often manage farms, households, and families alone. With the extra burden of generating household income added to household and child care duties, women in Tajikistan have little extra time to attend training programs and participate in project activities that add extra hours to their already busy days. The project attempted to find both suitable activities and ways to make the activities accessible to women.

Cheese+ comprised two activities in Tajikistan that were linked to a dairy product value chain: work with the Vallamatov Cheese Company, and the Batken and Sugd Agri-Input Dairy Development (BSAIDD) project.

VALUE CHAIN CHEESE+: BATKEN AND SUGD AGRI-INPUT DAIRY DEVELOPMENT (BSAIDD) ACTIVITY

One important factor in improving milk quality is improving the quality of feed. Under the BSAIDD activity, AgFin+ established an extension service to train selected farmers to grow and use improved feeds and veterinary supplies, in order to achieve better animal health and higher milk yields. Higher yields per cow offset the increased cost of production associated with using improved feed and veterinary supplies.

The activity provided advisory and extension services to dairy farmers on veterinary issues, feed production, nutrition, and overall management of dairy cattle. The team of veterinarians gained the required business skills through intensive training and assistance under this AgFin+ activity. Significant efforts were made by the activity team and participants to upgrade veterinarians' business management and educational skills to allow them to act as independent extension agents for dairy farmer clients. One of the key goals of the activity was to decouple the team of professionals from the BSAIDD project and establish a specialized provider in the livestock sector. Therefore, efforts were made to build a foundation for the Association of Agribusinesses in Tajikistan (AAT) to achieve independence and act as an LSP. This included structural separation of AAT from BSAIDD.

Technology transfer services and market development were achieved by providing technical assistance and building improved business linkages, nationally and regionally. As an integral part of this effort, the BSAIDD project continued to assist the AAT dealers in establishing business connections with regional and international input suppliers through trade missions and study tours. Experience showed that no matter how much data were provided to support adoption of new technologies, clients best understood the information they were being given when they were exposed to situations where technologies had been adopted and results were visible. BSAIDD conducted regional and international trade missions for AAT dealers and advanced dairy farmers. These trade missions accomplished several objectives: they accelerated the understanding of BSAIDD clients of the economic benefits to be realized from adopting new technologies; they promoted linkages with regional and international suppliers to strengthen the Tajik agri-input supply system; and they strengthened the business knowledge and skills of Tajik agri-input suppliers and other stakeholders, as well as their service capabilities.

BSAIDD carried out the following activities:

- Disseminated information on better quality and quantity milk-production practices through the demonstration of improved livestock feed rations and management as well as providing extension and veterinary services, disseminated technical literature, training, and regular follow-up visits to dairy farmers to monitor the application of transferred knowledge.
- Established a local service provider (LSP) for veterinarian assistance and strengthened its business capacities. BSAIDD veterinarians received technical, marketing, and management training to enable them to perform their services independently from BSAIDD. In order to enhance LSP management capacities, BSAIDD provided training for LSP on management issues.
- Strengthened the service capacities and business skills of AAT through in country training provided by the BSAIDD project and exposure to international and regional suppliers companies using trade missions and study tours as means to accomplish this objective. At the same time, AAT maintained the dialogue with government authorities, mainly to address issues related to the tax regime in the country.

The ultimate goal was to transform AAT in the near future into an LSP that would serve the needs of agribusiness enterprises in Tajikistan and the region.

- Worked to make technology transfer services on advanced cropping practices and management available. BSAIDD contacted the services of Association of Agribusinesses of Kyrgyzstan (AAK). As AAT moved towards its independence, the responsibilities for technology transfer services were transferred to the association and its members.
- Enhanced training activities on cooperative development, implemented by GTZ experts who built confidence among farmers in BSAIDD project areas on the merit and benefits of new types of cooperatives. The outcome of this activity transformed existing producer groups into the Raiffeisen model of cooperatives.

By working in this way, BSAIDD built more local capacity able to respond to the needs of the market in the livestock subsector.

VALUE CHAIN CHEESE+: PRIVATE ENTREPRENEUR MUKIM VALLAMATOV IN COORDINATION WITH THE FIRST MICROFINANCE BANK AND AGFIN+

The domestic and export market for milk products had been stable and growing for the past years in Tajikistan. However, the supply of quality dairy products was very limited, because of:

- No local company had high-quality milk processing equipment.
- The value chain of milk production, processing, transportation and distribution was not maximizing income to farmers and processors.
- There was no yogurt production in the country.
- Loan interest rates for small and medium business investments were high.

Cheese+ focused on the production and processing of milk by farmer groups, who consolidated their production for processing.

Evidence from the small-farm milk sector suggested that regardless of the gradual rise in demand for milk products, the increased price of milk price in urban areas, and steady advances in veterinary sciences, small farmers continued to be subject to the whims of intermediaries and milk vendors. It was essential to expand the business and grow the income of a milk product producer on a sustainable basis, developing a value chain from dairy farmers to distributors and sellers of milk products. AgFin+ worked to achieve this end. Farmers saw dairy farming as an opportunity with great potential to improve their livelihoods. A study of the agriculture sector revealed that among various alternatives, improving milk product quality would have the greatest impact on the economy. Especially in the Sughd Oblast of Tajikistan, it was considered that there was a great opportunity to export high-quality milk products to neighboring countries.

As the general knowledge and skills needed to produce milk products of the needed quality was weak, AgFin+ assisted in this area over the LOP. Most general milk processors had never been involved in wide-scale commercial production before. This project therefore strove to develop a local processor’s business planning knowledge and structure the process of distribution based on modern practice.

The goal was to increase personal income for milk products producers in the Fergana Valley of Tajikistan. The project wanted to make sure that the producer of milk products took advantage of a steadily increasing demand for high-quality milk products and yogurt. The project also provided incentives for the producer to further invest in diversification of milk products.

Furthermore, the project sought to link the local milk processor to a large number of dairy farmers in the Jabbor Rasulov and Bobojon Gafurov rayons. These linkages between farmers and the milk processor became stronger and more stable as the project continued, leading to a greater guarantee of market demand and prices that were attractive to dairy farmers and, ultimately, to further investments.

The production of high-quality milk products in Tajikistan will help alleviate poverty in villages. It will also improve the international reputation of the region for investors and global trade companies as a reliable source of reasonably priced milk products.

A new business plan for the milk-processing plant was prepared. The new plan was then reviewed by the First MicroFinance Bank (FMFB). Private entrepreneur Mukim Vallamatov, owner of the Vallamatov Cheese Company, has a great number of individual entrepreneurs among his customers, chiefly distributors and retail sellers in Tajikistan (70 percent) and Uzbekistan (30 percent). In accordance to the firm's business agreements, Vallamatov's main customers give 100 percent pre-payment for the milk products.

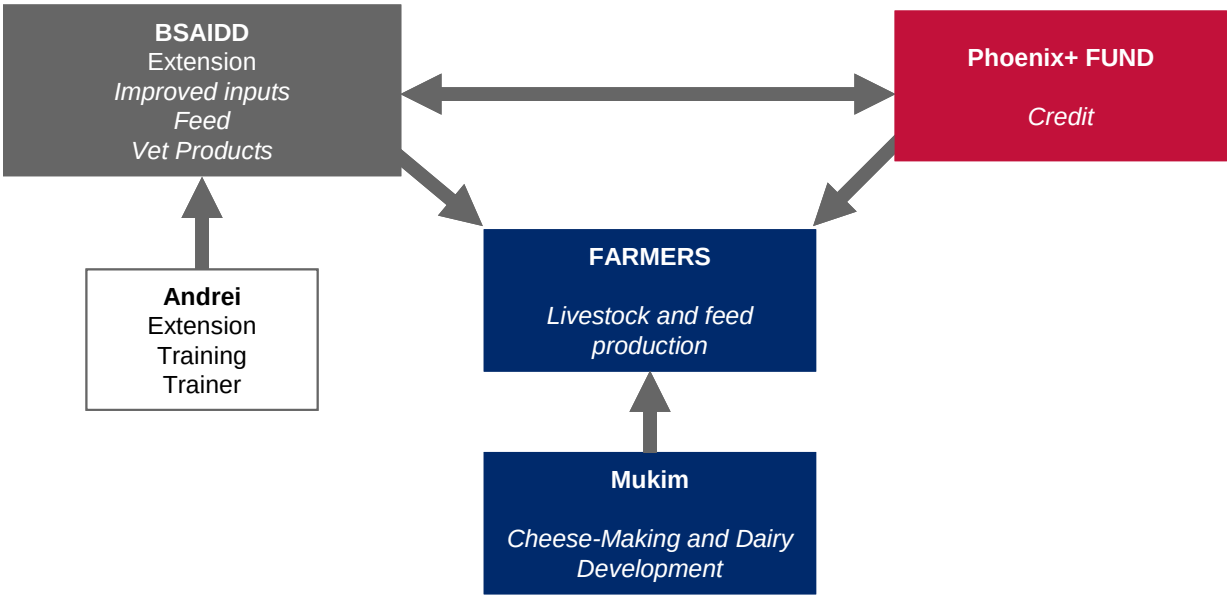
FMFB

Indicator Name	Yearly Target	Cum per LOP
2.3: Off-Farm Finance Increased for AgFin+ Beneficiaries ($)	220,000	63,435
Male		—
Female		—
2.3.1: Off-Farm AgFin+ Facilitated Loans (#)	2	2
2.3.2: Percentage of Loans Repaid (percent)	95	100
Male	—	100
Female	—	100
3.1: Project Implementation Abilities of LSPs Strengthened (Assessment Score)	4	—
3.1.1: LSPs Created (#)	—	—

A loan contract agreement was prepared by Winrock and the bank (FMFB) for the Vallamatov Cheese Company. This process was still ongoing at the time of project completion. Other USAID initiatives, such as AgLinks, may follow up on it.

The company also opened two milk collection centers in two villages, with support of BSAIDD. In these villages AgFin+ dairy farmers beneficiaries are selling, on average, 1.5 tons of raw milk each day, or about 45 tons per month.

FIGURE 3: AGFIN+ CHEESE+ SCHEMATIC EMPLOYED



CHEESE+

Indicator Name	Yearly Target	Cum per LOP
ON-FARM		
1.1: Traditional Crop Profitability Increased for AgFin+ Beneficiaries ($)	—	897
1.1.1: Number of Beneficiaries Trained During the Reporting Period (#)	150	550
Male	100	449
Female	50	101
1.1.2: Farmer Production Techniques Improved (#)	4,000	11,327
Male	3,000	9,290
Female	1,000	2,037
1.1.3: Farmers Linked to Processors/Traders (#)	700	337
Male	500	262
Female	200	75
OFF-FARM		
2.1: Off-Farm Profitability Increased for AgFin+ Beneficiaries ($)	1,000	17
2.1.1: Input Techniques Improved (#)	1	4
3.1: Project Implementation Abilities of LSPs Strengthened (Assessment Score)	4	5
3.1.1: LSPs Created (#)	—	2

As seen in the results table above, AgFin+ exceeded targets in numbers of beneficiaries trained, loan repayment, and the number of input techniques improved, and reached 94 percent of the target for the number of farmers with improved production techniques. Furthermore, profitability of traditional products (milk) improved substantially—a benefit that was not even a target of the activity. This was

because farmers now have a better understanding of feed requirements for higher milk production and have better veterinary care for their animals, due to services provided by Zoovet to local farmers.

More problematic, as discussed above and elsewhere in this report, was linking farmers to processors and traders, and improving off-farm productivity (processing). The slow progress in linking farmer to processors and traders is also related to the outstanding question of the loan for the Vallamatov Processing Plant. However, collection centers have been established, and links between the processor and farmers have been strengthened. These linkages are expected to grow, and the number of farmers brought into the processor's supply chain is expected to increase over time.

CREDIT+

PHOENIX+

Phoenix+ identified farmers seeking credit to purchase dairy cows in selected districts—Jabbor and Rasulov. It was funded with a grant from AgFin+ of $330,000, including $20,000 to set up the organization. Phoenix+ provided credit training and credit and sales support to groups (5–12 persons) and individuals, primarily for the purchase of livestock and livestock feed for raising and fattening cattle. Loans were made available for up to $1,500 without collateral and up to $5,000 with collateral. All potential borrowers were required to attend a series of AgFin+ training sessions, after which those who agreed to the terms and were found to be creditworthy were offered loans.

Non-collateral-based loans were given in two forms. The first was when a recipient had no loan history. This loan had a $1,000 ceiling at a 33 percent interest rate. After repayment, the recipient was eligible for the second type of non-collateral-based loan—a loan of up to $1,500 at 30 percent interest. Collateral-based loans, using property as collateral, were also given in two forms. Loans of up to $2,000 were given at 33 percent, after which loans of up to $5,000 at 30 percent interest were made available.

Phoenix+ had a 99 percent loan repayment rate, allowing it to recuperate the initial investment used to set up the organization. By the close of the project, Phoenix+ wanted to develop a wider range of loan products and increase loans for dairy cattle.

PHOENIX+

Indicator Name	Yearly Target	Cum per LOP
1.3: On-Farm Finance Increased for AgFin+ Beneficiaries ($)	150,000	906,200
Male	100,000	715,000
Female	50,000	191,200
1.3.1: On-Farm AgFin+ Facilitated Loans (#)	500	1,692
1.3.2: Percentage of Loans Repaid (percent)	97	100
Male	99	100
Female	95	200
1.3.3: Credit Training Delivered (#)	200	569
Male	150	448
Female	50	121
3.1: Project Implementation Abilities of LSPs Strengthened (Assessment Score)	4	4.0
3.1.1: LSPs Created (#)	—	—

Indicator Name	Yearly Target	Cum per LOP
3.1.2: AgFin+ Funds Committed ($)	—	330,000
3.1.3: Dollar Amount of LSP Funds Expended ($)	—	—
3.1.4: LSP Training by Project Staff (# days)	2	4
3.1.5: External Donor Funds Leveraged ($)	—	—

Phoenix+ greatly exceeded LOP targets in terms of on-farm finance, number of loans, and loan repayment rate. Roughly 21 percent of all loan recipients were women, underscoring the challenge of ensuring that project activities reached women and the importance of continuing to focus on increasing the number of female beneficiaries of development assistance. After project completion, Phoenix+ remains an effective and sustainable provider of microcredit to small producers in the Sugd Oblast of Tajikistan.

IV. UZBEKISTAN ACTIVITY PROFILES/ACCOMPLISHMENTS

UZBEKISTAN HIGHLIGHTS OVERVIEW

AgFin+ was unable to obtain indicator data even for partially completed activities, due to Government of Uzbekistan interventions. Therefore, the table below lacks LOP data.

AGFIN+ UZBEKISTAN RESULTS: PERFORMANCE MONITORING REPORT

Indicator Name	Yearly Target	Cumulative per LOP
1.1: Traditional Crop Profitability Increased for AgFin+ Beneficiaries ($)	66	—
1.1.1: Number of Beneficiaries Trained During the Reporting Period (#)	216	—
Male	163	—
Female	53	—
1.1.2: Farmer Production Techniques Improved (#)	1633	—
Male	1223	—
Female	410	—
1.1.3: Farmers Linked to Processors/Traders (#)	1000	—
Male	696	—
Female	304	—
1.3 On-Farm Finance Increased for AgFin+ Beneficiaries	150,000	250,432
1.3.1 On-Farm AgFin+ Loans Facilitated (#)	500	1301
2.3: Off-Farm Finance Increased for AgFin+ Beneficiaries ($)	73,333	—
2.3.1: Off-Farm AgFin+ Facilitated Loans (#)	1	—

AgFin+ aimed to increase on-farm and off-farm incomes in the Ferghana Valley by strengthening and institutionalizing critical components of key agricultural value chains, such as market information/access, input supply, finance, extension, and local service providers, for on- and off-farm value chain participants. Strengthened value chains, based on sustainable and replicable activities, increase short-term incomes and heighten awareness of how participants can work within their sector and value chain to pursue market opportunities. In Uzbekistan, AgFin+ worked with local services providers and farmers to strengthen the following value chains:

- **Credit+ (includes FV-MARD):** Provided credit to carry out required technical assistance activities and meet buyer standards for higher-value market opportunities.
- **Greenhouse+:** Provided intensive training and technical assistance to greenhouse growers to take advantage of market opportunities for high-value products.
- **Coolhouse+:** Feasibility study, design, and installation of coolhouse to serve greenhouse growers.
- **Marketing+:** Provided market information for all value chain activities.

Government of Uzbekistan interventions limited the ability of the project to implement the program in 2005–2007, to collect data for indicators even for partially completed activities, and to meet its objectives. We estimate that only about 10 percent of all AgFin+ performance targets were met because Greenhouse+ and Marketing+ were forced to scale down significantly, the FV-MARD activity was suspended, and other planned activities were not implemented. Discussions continue between USAID and the Government of Uzbekistan on the return or use of the FV-MARD/ACDI/VOCA money ($160,000) that was invested by AgFin+ for credit activities.

Highlights for Uzbekistan include:

- **Greenhouse+:** 38 greenhouse growers received technological training in Moscow to increase productivity and produce export-quality product.
- **Credit+:** 146 project beneficiaries received credit for greenhouse activities (about $90,000) through the FV-MARD microcredit organization in Andizhan; 100 percent of the loans were repaid. The loans made it possible to increase on-farm finance for AgFin+ beneficiaries by $570,000. Because the project was closed down by the Government of Uzbekistan, $160,000 invested by AgFin+ for credit activities remained unused by FV-MARD/ACDI/VOCA.
- **Coolhouse+:** AgFin+ conducted all preparatory work needed for procurement and construction of the coolhouse in Andizhan. This included negotiating with coolhouse equipment producers in FSU countries, calculating capacity based on technical requirements, building marketing linkages in Russia, performing a cost-benefit analysis for building the coolhouse, assessing the legal aspects of the project, developing a business plan, negotiating vegetable production requirements, finding the optimal way of transporting cooling equipment, and assembling its parts. Given that the FV-MARD project component was shut down by the Government of Uzbekistan, farmers will have to look for other sources of loans to build the coolhouse. The coolhouse will significantly increase personal income for tomato producers in the Ferghana Valley. The activity linked a large number of farmers to an association that is capturing a market for their tomatoes. The success of the association in terms of increase in exports as well as the success of farmers in terms of increase in income will constitute a model for as many as 30 percent of all households that are growing tomatoes in the Ferghana valley.
- Several trial shipments were completed, among them a shipment of Uzbekistan loofah products—one of the most high-value crops—to the Kazakhstan market.
- AgFin+ developed a database for Uzbek agribusiness entrepreneurs involved in production and processing of agricultural crops.
- Several study tours have been organized for vegetable producers to the agricultural exhibitions in the region, FSU republics, and Turkey.

GREENHOUSE+

The overall objective of this activity was to assist greenhouse farmers to continue to generate good returns, but on a much more solid foundation. Greenhouse+ sought to strengthen and expand the greenhouse sector in the Andijan region, first through creating a credit line for working capital focused on new greenhouse growers, and secondly through new crop development. The credit line was to be managed by FV-MARD/ACDI/VOCA (LSP) and linked to a greenhouse management/training center

developed by an association grant to the Andijan Farmers Association from the EDP project. This subactivity was to provide additional credit to the sector and training in greenhouse management.

Secondly, AgFin+ sought to create—with the help of the LSP AgriMan—a center for new greenhouse crop development. The activity was to take an area of 5,000 square meters, introduce new growing technologies in two high-value crops, and introduce new more fuel-efficient greenhouse constructions, as well as an advanced irrigation and fertilization system. The product of these trials was originally to be transported and marketed by the Marketing+ LSP to high-value markets in Russia and China. As these crops become commercially viable, the technology would be extended to the advanced greenhouse growers.

This component was not completed, as activities had to be curtailed due to the political situation. This was true even though AgFin+ efforts had no political content and only concentrated on the economic development of small farmers. The only notable success was the creation of a link to FV-MARD, which provided some working capital credit to the farmers. However, as mentioned earlier, this was shut down. Only the results below have been recorded.

GREENHOUSE+

Indicator Name	Yearly Target	Cum per LOP
ON-FARM		
1.3 On-Farm Finance Increased for AgFin+ Beneficiaries	150,000	250,432
Male	90,000	24,1492
Female	60,000	8,940
1.3.1 On-Farm AgFin+ Loans Facilitated (#)	500	625

VALUE CHAIN COOLHOUSE/CHILLROOM+

INCREASING VALUE AND REDUCING LOSSES OF EXPORTED GREENHOUSE PRODUCTS—CORPORATE TECHNOLOGY CENTER (CTC)

Central Asia's domestic and export markets for fresh tomato had been stable and growing in recent years. However, the supply of good-quality tomatoes, and the opportunity for farmers to benefit from price premiums, was very limited due to inefficiencies along the value chain leading to tomato spoilage and lost profits.

Most good-quality tomatoes were sold in the domestic market, not in large, upscale markets in Russia. This situation provided an opportunity for AgFin+ to expand the tomato business and grow the income of tomato producers on a sustainable basis.

Farmers saw tomato-growing as an opportunity with great potential to improve their livelihoods. A study of the agriculture sector revealed that among various alternatives available to tomato growers, improving tomato quality would have the greatest impact on village economies. This was especially true in the Fergana Valley of Uzbekistan where there are great opportunities to export fresh tomatoes. In Soviet times, this was one of the main supply areas for fresh tomatoes.

However, the knowledge and skills to obtain quality marketable tomatoes is lacking. Agronomists and growers were generally weak in the area of production, pest and disease control, as most had never been

involved in wide-scale commercial production before. As a result, AgFin+ sought to instill business planning knowledge into tomato growers, structure the process of distribution based on modern practices, and train and empower village-based field advisors and spray contractors.

The activity linked a large number of farmers to an association that was seeking to capture a market for their tomatoes. As a result, the association became stronger and proved able to guarantee a market and prices that were attractive to farmers, leading the farmers to make further investments. Exports rose, as well as farmers' incomes. The association now constitutes a model that can be replicated inside and outside the area as a result of AgFin+'s work. Unfortunately, due to political difficulties, the activity was never fully implemented. In particular, much-needed credit from FV-MARD was cut off when FV-MARD was closed by the Uzbek government.

AgFin+ also performed market research in Russia determining the potential of and possible clients for fresh Uzbek tomatoes. The research, which covered Moscow, Moscow oblast, and Siberian towns, focused on tomato consumption tendencies and perspectives in different Russian market segments; tomato production in the Fergana Valley; tomato supply in the Russian market, broken down by importers and producers; the volume of imported tomatoes; and characteristics of the Russian tomato market, by quality, price (wholesale and retail), brands, and historical consumption.

AgFin+ work also included investigation of legal and institutional aspects of vegetable supply within Commonwealth of Independent States. This research examined bilateral and multilateral agreements, taxation and trade barriers in Central Asia and Russia, analysis and registration according to the current legislation regarding cold storage facilities, requirements of government agencies (ecology, energy, water supply, etc.) affecting construction and operation of the facilities, analysis of economic investment legislation (in particular, tax legislation), and defining potential barriers or benefits and incentives for investment.

The work also provided:

- A cost-benefit analysis for building a cold storage facility.
- A model of the investment.
- A description of the advantages and limitations of the investment, which include economic and financial aspects of the project.
- Assessment net benefit-investment ratios, with reinvestment of returns.
- An analysis of financial impact on the farm.

The established farmer groups were united to form larger groups or cooperatives that included most of the tomato growers in a village. These cooperatives then sought to collect larger quantities of a uniform product to gain market advantages. AgFin+'s cooperative specialists facilitated the cooperative-building process and trained cooperative managers in financial management and trade issues. The level of formalization of these cooperatives was left up to the members, and the next level of this pyramid was the Association of Fresh Vegetable Producers (AFVP), another project partner.

COOLHOUSE+

Indicator Name	Yearly Target	Cum per LOP
ON-FARM		
1.2: New On-Farm Products Increase Profitability ($)	720	—
OFF-FARM		
2.1: Off-Farm Profitability Increased for AgFin+ Beneficiaries ($)	10,000	—
2.1.1: Input Techniques Improved (#)	3	—
2.1.2: Products Linked to Processors/traders (#)	3	—
3.1: Project Implementation Abilities of LSPs strengthened (Assessment Score)		—
3.1.1: LSPs Created (#)		—
3.1.2: AgFin+ Funds Committed ($)	—	149,048
3.1.3: Dollar Amount of LSP Funds Expended ($)	118,095	47,238
3.1.4: LSP Training by Project Staff (# days)	4	4
3.1.5: External Donor Funds Leveraged ($)		—

Since this component could not be fully implemented, no concrete results are recorded. However, by the end of the project the coolhouse storage unit for greenhouse growers in Ferghana was nearing completion, and it should be a future benefit to farmers.

CREDIT+

FV-MARD

FV-MARD, an existing USAID-funded microcredit bank based in Andijan, received a contract from AgFin+ in early 2005 to provide finance for greenhouse growers for production of two crops—cucumbers (from late fall to early winter) and tomatoes (from early winter to spring). FV-MARD was not as successful as other AgFin+ credit initiatives due to the situation in Uzbekistan. The bank had a 99 percent repayment of loans but had not expanded significantly from its original baseline. In addition, USAID is aware that the government of Uzbekistan investigated the bank for tax violations. Due to the investigation, credit activities were suspended. In the end, FV-MARD greatly fell short of LOP targets in terms of on-farm finance and number of loans made owing to its abrupt closing by the government. Before its closing, FV-MARD had made 1,301 loans, with a repayment rate of 99 percent. Loans for greenhouse operations showed strong promise over the LOP, as greenhouse products from Central Asia will continue to enjoy strong demand in Russia markets and also within the region itself.

FV-MARD

Indicator Name	Yearly Target	Cum per LOP
1.3: On-Farm Finance Increased for AgFin+ Beneficiaries ($)	150,000	535,592
Male	100,000	515,013
Female	50,000	20,579
1.3.1: AgFin+ Facilitated Loans (#)	500	1,301
1.3.2: Percentage of Loans Repaid (percent)	97	100
Male	99	100
Female	95	100
1.3.3 Credit Training Delivered	1000	1,666

Male	750	1,619
Female	250	47
3.1 Project Implementation Abilities LSPs Strengthened (Assessment Score)	4.0	3.0
3.1.1 LSPs Created	4	3
	—	—

Under this component, 146 project beneficiaries received credit for greenhouse activities (about $90,000) through FV-MARD, with loans 100 percent repaid. The loans made it possible to increase on-farm finance for AgFin+ beneficiaries by $535,000. When the project was closed by the Uzbek government, $160,000 invested by AgFin+ for credit activities remained unused by FV-MARD/ACDI/VOCA.

V. REGIONAL ACTIVITY: MARKET+ ACTIVITY PROFILES/ACCOMPLISHMENTS

MARKET+

AgFin+ worked to help farmers to better understand aspects of the market economy across the countries of Central Asia. As part of this process, the project completed a number of studies that provided detailed knowledge of many aspects of farm economies, production, and marketing.

Below is a list of examples of many of the completed studies.

MARKET+ STUDIES

Study	Country	Benefit of Study to Country
Village Milk Collection	Tajikistan	Understanding the evolution of small farmers vis-à-vis poverty
Watermelon Market Appraisal	Uzbekistan	Understanding the problems of and common mistakes in watermelon marketing
Tomato Market Appraisal (I)	Kyrgyzstan	Understanding the problems of grading, packaging, and transporting tomatoes
Fresh Vegetables Study	Kyrgyzstan	Understanding wholesale and retail pricing for farmers with vegetables
Maize	Kyrgyzstan / Tajikistan	Understanding hybrid production for maize
Tomato	Kyrgyzstan	Understanding potential to replace cotton with tomatoes
Baby Corn	Kyrgyzstan	Understanding baby corn as a substitute crop
Chip Production	Uzbekistan	Understanding the processing potential of chips in the market
Sunflower Seeds	Uzbekistan	Understanding the potential of sunflower seed processing in the market
Cheese Sticks	Uzbekistan	Understanding the potential of processing cheese sticks in the market
Dried Fruits	Uzbekistan	Understanding the potential of processing dried fruits in the market
Packaging	Uzbekistan	Understanding the types of packaging for dried fruits and vegetables
Greenhouse Equipment	Uzbekistan	Understanding the proper inputs for greenhouse operations
Vegetable and Dried Fruit Production	Kazakhstan	Understanding the transport requirements for bringing to market
Processing Oil	Kazakhstan	Understanding technological process of processing oil and equipment
Dairy Feasibility	Tajikistan	Understanding the types of farms involved in dairy today
Soy	Kyrgyzstan/Tajikistan	Understanding hybrid production for soy
Sunflower	Kyrgyzstan/Tajikistan	Understanding hybrid production of sunflower

Study	Country	Benefit of Study to Country
Berries	Kyrgyzstan	Understanding the potential of berries in the market
Nuts	Kyrgyzstan	Understanding the potential of nuts in the market
Small Package Snacks	Kyrgyzstan	Understanding the potential of small package snacks in the market
Tetra Pak Juice	Kyrgyzstan	Understanding the market dynamics of TetraPak juice
Yogurt	Kyrgyzstan	Understanding the market dynamics of yogurt
Transportation	Kyrgyzstan	Understanding transportation routes in bringing product to market
Chinese Agricultural Equipment	Kyrgyzstan / Tajikistan	Gaining a better knowledge of equipment for success in production
Greenhouse Cooling and Heating	Uzbekistan	Gaining a better knowledge of equipment (26 inputs) for success in greenhouse management
Loofah Products	Uzbekistan	Understanding the market dynamics of loofah products
Tomato Market Appraisal (II)	Kyrgyzstan	Understanding the problems of grading, packaging, and transporting tomatoes
Honey Production	Uzbekistan	Understanding the market dynamics of honey production
Coolhouse Equipment	Uzbekistan	Gaining a better knowledge of equipment for success in coolhouse creation
Honey Packs	Uzbekistan	Analysis of HONEY packs
Tomato Varieties	Kyrgyzstan	Study on varieties that yield market tomatoes
Wool	Central Asia	Understanding the wood market in northwestern China—buyer standards, timing, and volume
Sausage	Central Asia	Understanding the sausage market in northwestern China—buyer standards, timing, and volume
Cucumbers	Central Asia	Understanding the cucumber market in northwestern China—buyer standards, timing, and volume
Economic Benefits of Tomato Production	Kyrgyzstan	Understanding the market principles behind tomato production
Study on the Packing and Transportation of Fresh Tomatoes	Kyrgyzstan	Understanding the market principles behind tomato production, barriers to exporting, and modes of transport
Tomato Market in Russia	Kyrgyzstan	Understanding how to meet the needs of the market for tomatoes in Russia
Market Study of Russia and China	Central Asia	The potential for 33 Central Asian agriproducts to meet Russian and Chinese demand.
Juice Market Study in Almaty	Kyrgyzstan	Understanding how to meet the juice needs of Almaty, Kazakhstan, using Kyrgyz exports
Juice Market Study in Astana	Kyrgyzstan	Understanding how to meet the juice needs of Astana, Kazakhstan, using Kyrgyz exports
Juice Market Study in Karaganda	Kyrgyzstan	Understanding how to meet the juice needs of Karaganda, Kazakhstan, using Kyrgyz exports
Biological Insecticide	Central Asia	Understanding biological insecticide on crops
Feasibility Study: Tomato	Central Asia	Understanding the market dynamics of switching to tomato from cotton
Feasibility Study: Onion	Central Asia	Understanding the market dynamics of switching to onion from cotton
Feasibility Study: Cucumber	Central Asia	Understanding the market dynamics of switching to cucumber from cotton
Triticale	Central Asia	Understanding the market dynamics of triticale
Winter Wheat	Central Asia	Understanding the market dynamics of winter wheat
Dairy Products	Kyrgyzstan	Understanding the dairy market and applying market principles to dairy

Study	Country	Benefit of Study to Country
Apple Juice	Kyrgyzstan	Understanding the apple juice market and potential opportunities
Soybean Production	Uzbekistan	Understanding the market for soybean and potential opportunities

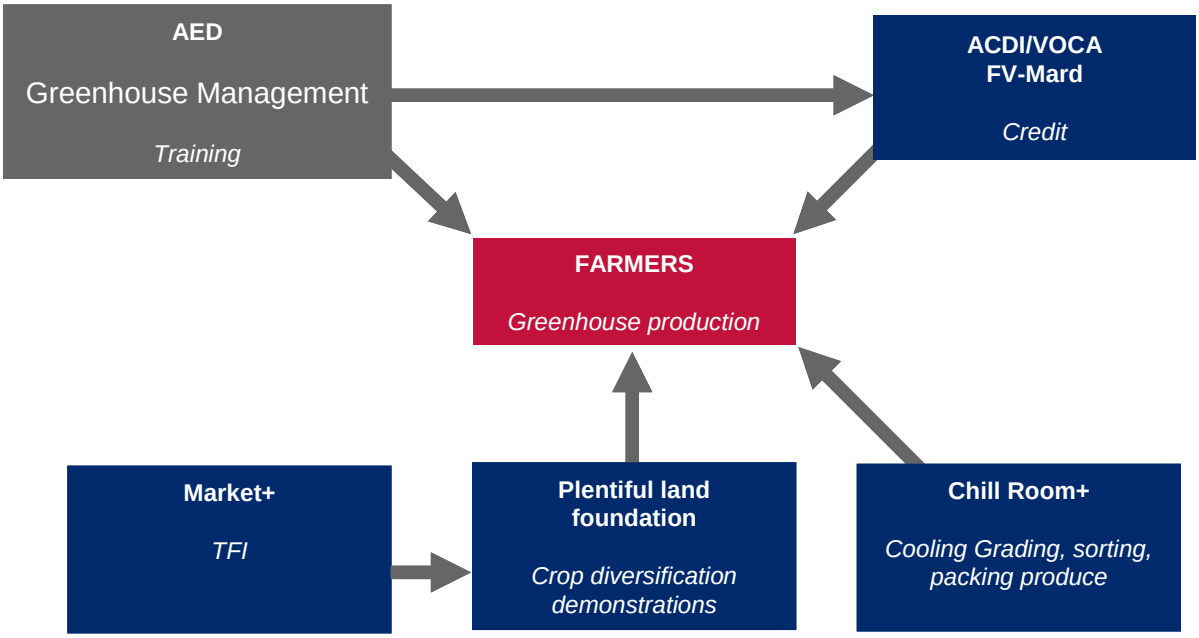
The aim of AgFin+ activities was product sales, with a clearly specified goal to improve on-farm and off-farm profitability. At the core of these activities was the need for real market information. Practical market information did not exist for these specific commodities. Processors and farmers required specific information, precise and available for their next growing season. All donor agencies designing projects with a market orientation also needed detailed market information, and AgFin+ found that this information was often generic or buried in large reports that were outdated and did not offer the reader ways of finding current real market prices. Marketing+ was a way to provide that information for both businesses and other donor projects at a fee.

ASTI (Association of Scientific and Technical Intelligentsia), a consulting firm based in Khujand, was contracted by AgFin+ to conduct market studies. These were specific product studies identifying real market prices and contacts that businesses can use to update prices and specifications. ASTI offered its services to other international donors and developed relationships with private sector clients in the region.

Essentially, Marketing+ was created under the AgFin+ program to fill a long-existing gap in acquiring market information for value chain participants: project LSPs, entrepreneurs, agribusinesses and farmers in the three target Central Asian nations. For example, livestock farmers had difficulty marketing even small amounts of fresh milk. In order to make use of the surplus, they produced small amounts of low-quality cheese in their homes. This cheese, although transportable, received very low prices in the domestic market. An improved range of dairy products needed to be developed for both domestic and regional markets. The markets for such improved products required further research and formalization. This activity was priority for AgFin+ with the work of the Marketing+ activity.

ASTI was identified by AgFin+ to investigate new markets for bulk commodities as well as value-added products. ASTI conducted the required market studies on crops specified by AgFin+, and responded to requests from other donor projects, local farmers, and agribusinesses. Under AgFin+, ASTI's output was market information in a form that could be used by farmers, processors, and traders. This led to new knowledge and understanding in the field of farming from an economic market perspective

FIGURE 4: AGFIN+ SCHEMATIC OF INTER-RELATIONSHIP AMONG LSPS IN GREENHOUSE+, CHILL ROOM+, AND MARKET+ EMPLOYED



AgFin+ found that the notion of farmers cooperating to market a wide quality range of commodities was a difficult concept for farmers to understand. The overall benefits were easy to sell, however. Marketing+ carried out marketing studies for products, including soy oil, cheese, dried berries, wool, and sausage in Northwestern China, focusing on the features of nontraditional products that could be sold and existing products that could target new markets by identifying buyer requirements in such areas as standards, volumes, and timing. For example, Marketing+ investigated the Moscow markets for 12 products, both traditional and nontraditional, including tomatoes, cucumbers and dried fruits and nuts. The program also provided market contacts for AgFin+ beneficiaries and organized "experience exchanges" between participants from different regions, such as cheese producers interested in creating a network of milk collection centers. In Kyrgyzstan, Marketing+ investigated the possibility of exporting Kyrgyz juices packed in TetraPak containers to Kazakhstan.

The Market Development Component assisted food processors, wholesalers, retailers, and food service operators to increase their supply of high-quality raw material, reduce their procurement costs, and increase efficiencies, as well as improve their product marketing practices and facilitate mutually profitable contract relations with farmers.

The Market Information Component improved techniques, marketing and other business decisions of the participants through greater access to market information and regular training.

The Packaging and Promotion Component provided packaging services to the processors and producers to make their clients' product more attractive to consumers. This included packaging for such foods as dried tomatoes, peanuts, dried fruits, and fresh baby corn (vacuum-packed). This component offered a better opportunity to promote products of Market+ clients so as to develop acceptable regional markets,

as well as bring additional income to Market+ activities. It also promoted the products in certain segments of defined markets, and worked closely with entrepreneurs to sell samples of goods for defined markets.

The Trade, Finance, and Investment (TFI) project assisted AgFin+ by creating charts of regulatory costs and processes, from origin to destination, for each good. This included costs, legal terminology, and how they were implemented in practice. Second, as the work was underway and goods were shipped, TFI directly assisted AgFin+ clients with trade facilitation, helping them maneuver the regulatory landscape and intervening where necessary. Focus work included the following:

- Provided supported farmers with information about market needs and how to make the products competitive in the market.
- Created online web-market and online advertisements page on Market+'s website.
- Provided the list of firms and companies involved in agribusiness products in the website.
- Developed affordable market information services that help market participants to identify market demands and needs for their current and potential products.
- Identified prices, new markets and marketing channels to assist in business planning
- Developed consulting and research activities.
- Provided marketing information to international organizations in the region and carried out marketing research based on the needs of their customers.
- Developed communications between suppliers, producers and traders in response to market needs.
- Facilitated and promoted private sector business linkages between the agribusinesses in Tajikistan, Uzbekistan, and Kyrgyzstan.
- Provided information on prices and the seasonal fluctuation for selected agricultural products in the main local markets in Tajikistan, Uzbekistan and Kyrgyzstan.

Market+'s work focused on entrepreneurs, agribusinesses, and farmers that had been involved in producing vegetables and fruits (fresh and processed) as well as other selected alternative products, such as honey, herbs, hides, wool, and cheese, that present profitable opportunities for small producers. Market+ worked with both established and new marketing channels, with a special focus on farmer-owned organizations.

MARKETING+

Indicator Name	Yearly Target	Cum per LOP
1.2.1: Market Studies Completed (#)	9	36
1.2.2: Processing Studies Completed (#)	6	42
1.2.3: Input Analysis Completed (#)	14	43
1.2.4: Economic Crop Studies/Business Plans Completed (#)	7	19
1.2.5: Logistical Studies (#)	14	8
1.2.6: Trial Shipments Completed (#)	4	1
1.2.7: New Market Trial Products Sold (#)	2	0
2.2: New Value-Added Products Sold (#)	4	17
2.2.2: New Markets for Existing Products Developed (#)	6	10

Indicator Name	Yearly Target	Cum per LOP
2.2.3: New Products Developed (#)	5	6
2.2.4: Logistical Links and Nodes Created (#)	6	4
2.2.5: Value of Raw Materials Delivered ($)	40,000	191,597
3.1: Project Implementation Abilities of LSPs strengthened (Assessment Score)	4	4
3.1.1: LSPs Created (#)	—	4.0
3.1.2: AgFin+ Funds Committed ($)	—	3
3.1.3: Dollar Amount of LSP Funds Expended ($)	—	120,000
3.1.4: LSP Training by Project Staff (# days)	—	0
3.1.5: External Donor Funds Leveraged ($)	—	39

For example, at least 15 regional marketing studies were completed for Uzbekistan in 2005–2007 with the help of Central Asian service providers. Four new markets for tomato were identified in Russia (in the Moscow region and in Siberia). Analyses and recommendations on the use of regional trade regulations, transportation channels, and economic benefits from tomato production were made. Other studies included reports on 18 products and commodities, including soy oil, kernel oil, dried fruits and berries, loofah products, honey, and honey packs; Chinese agricultural equipment for agribusiness development; and cooling and heating equipment for greenhouses, as well as logistical studies of packaging and transportation.

For Tajikistan, the project completed at least 10 regional market studies and input analysis. For Kyrgyzstan, the project provided targeted farmer groups with information on specific markets and facilitated them to minimize transfer capacity and maximize opportunities for success. Studies included reports on dried fruits and berries, nuts, sunflower seeds, snacks and small packages of food, soy, cheese, TetraPak juice, and yogurt; Chinese agricultural equipment for agribusiness development; and cooling and heating equipment for greenhouses, as well as logistical studies on packaging and transportation. Potential markets for Kyrgyz commodities were identified in Russia (Moscow oblast and Siberia) and in Western China (Xingjian-Uighur Autonomous Region).

This component also facilitated study tours. For example, in April 2007 a group of vegetable producers from Andijan, Uzbekistan, together with delegates from Turkmenistan and Kyrgyzstan, visited the Fresh Antalya Exhibition in Turkey, where they familiarized themselves with greenhouse production and distribution systems based on advanced technologies. All activities for this study tour were arranged by the Corporate Technology Center (CTC), an LSP.

CTC also held negotiations with coolhouse equipment producers and contractors in Russia, Kazakhstan, Uzbekistan, and Kyrgyzstan on the design of the major components of the coolhouse. It was these types of activities through LSPs that provided real value under AgFin+, because the program not only taught new principles but built an in-country capacity for future development.

Marketing+ exceeded LOP targets for the number of studies completed on fresh and processed products as well as input analyses. It also hit 90 percent of the target for economic crop studies completed and business plans prepared. Marketing+ helped the project exceed its target for the number of new value-added products sold, as well as the target for the value of raw materials delivered to market. Shortcomings in the number of logistical studies conducted and access to new markets are discussed above and are due in part to the high transaction costs associated with transport throughout the FSU.

VII. AGFIN+ GENDER

In Central Asia, women's roles vary by country, commodity, and position in the value chain. In Tajikistan, there is a high rate of seasonal out-migration of men for construction and other jobs in Russia, leaving many women as household heads for much the year. Traditional gender-based divisions of labor are still strong in other parts of Central Asia, but are changing as women often manage farms, households and families on their own. To ensure that the project targeted women appropriately, AgFin+ considered how women are involved along the different value chains from inputs to marketing, and a consultancy was completed to address gender issues within the project.

AgFin+ developed a gender strategy that guided the following actions:

- Established a baseline to determine where women are in the different value chains.
- Conducted a workshop for staff and local partners on gender analysis and issues with respect to training and extension. This two-day training was conducted in January 2006 and held in each country. Targets for gender had been introduced, and staff as well as partners needed to be trained on the best ways of meeting targets as well as becoming sensitive to gender issues.
- Ensured that each commodity and product assessment included a gender assessment.
- Focused on women in geographic areas such as Tajikistan, where a high number of women are heads of households.
- Included women in all trainings, but gave additional focus when promoting crops/tasks they traditionally are involved in.
- Understood workloads and limitations women may have in terms of attending trainings and meetings.
- Encouraged male farmers working with the program to involve their wives, sisters, and daughters.
- Collaborated with other gender strategy programs.
- Supported women working in agriculture by developing Women in Agriculture Associations.
- Disaggregated data by women (see Results section).

Under the USAID/CAR Agricultural Development Program (ADP), AgFin+ required gender balance as a core practice, raising gender awareness by demonstrating that everyone benefits from the full participation of every member of the community. The ADP directed that these steps be followed:

- Establish a baseline to describe the current gender situation.
- Model justice and equality.
- Incorporate gender-balancing strategies in workplans.
- Include gender issues and data in reports.

AgFin+ strove to include women in its initiatives and designed training programs and activities aimed at attracting women.

VIII. LESSONS LEARNED

1. Agriculture plays a significant role in the economies of the following Central Asian republics—40 percent of GDP and 50 percent of employment in the Kyrgyz Republic; 27 percent of GDP and 50 percent of employment in Tajikistan; and 25 percent of GDP and 40 percent of employment in Uzbekistan. Therefore, focusing USAID's resources on agricultural development has made good economic sense from a development perspective.

2. Farmers need to see the entire process (value chain) from crop production to marketing before being convinced to adopt a new commodity. Procedures for testing crops do not verify every link in the value chain, and therefore agribusinesses are often skeptical of trials as well. For example, a variety may yield well but be unsuitable for its intended market. In addition, suitable packaging might not be available, the proper transport might not be identified, or the market price might be unclear until product is supplied. If any part of the value chain is not tested, the farmer will not be convinced of the viability of growing a crop.

3. In Central Asia, because men generally take overall responsibility for farm management, male beneficiaries outnumber female ones. The project recognized, however, that women are often responsible for much of the day-to-day activities. Therefore, AgFin+ sought to include women in project trainings and other assistance at all times to increase women's involvement and proficiency in this field.

4. Rather than creating new MFIs or other organizations to fit a specific project task, more effort should be put into working with existing organizations to meet needs and/or adjusting project interventions to take advantage of existing financial products. This may create a higher success rate.

5. Agriculture in Uzbekistan, as in the rest of the Uzbek economy, is constrained by Government of Uzbekistan policy. The political climate in Uzbekistan made project efforts very difficult and inevitably led to programming changes and delays. Further, the project location in the Ferghana Valley and its political ramifications made activities even more difficult. Project staff and partners were detained and questioned about their activities, leading to a potentially dangerous working atmosphere.

6. Because of the relative lack of development in the processing sector throughout the region, direct on-farm assistance and marketing of fresh products tended to have more benefits than those supporting processing.

7. One legacy from the Soviet period is that farmers do not trust processors, owing in large part to processors' poor management of past contracts.

8. Activities supporting processing tended to be expensive and time-consuming, due to their complicated nature. These types of activities need to be started earlier in the project to allow enough time for full completion and follow-up by the contract end date. This was a recurring problem with AgFin+, particularly in Cheese+ in Tajikistan and coolhouse development in Uzbekistan.

9. In Kyrgyzstan, the results of meetings in the Kojo village and the villages of Mamajan and Bolshevik demonstrated that farmers had a strong interest in growing tomatoes for drying, due to a) profitability of the crop, b) suitability for small farms, c) risk reduction, d) and job creation potential.

10. AgFin+ taught farmers the importance of early identification and treatment of pest and disease problems, and provided them access to credit and inputs needed to address these problems. In addition, AgFin+ helped farmers develop a relationship with a local processor to give them an alternative for selling to the fresh market. However, the high prices for tomatoes on the fresh market, while good for tomato producers, meant that producers did not deliver their tomatoes to the local processor. AgFin+ discovered an opportunity to work further down the value chain and export dried tomatoes. Our work also indicated that women were getting involved in marketing and drying tomatoes. The project developed training aimed at attracting women in tomato drying, linking them to the growing market for dried tomatoes, and helping them access credit.

11. There were major shortfalls in the improvement of the apple juice production value chain in Kyrgyzstan. No commercial banks were willing to extend a loan to allow the processor to make capital improvements. Thus flexibility is required in each project activity: banks may not be willing to support the projects identified, even with USAID support, and backup plans should be considered.

12. Because it was started late in the project, the outcome of the work in the Kyrgyzstan apple processing is incomplete. However, there appears to be good potential for additional work in the apple value chain, especially for juice processing. There appears to be ample supply of lower-quality apples suitable for processing. Considerable marketing advantages exist, particularly due to the widely held view that the Issyk Kul region is environmentally pure; this belief gives products from there a reputation for high quality. There is also adequate domestic market demand and also in Kazakhstan and beyond. The main difficulty faced is in obtaining financing to improve processing and packaging.

13. AgFin+ learned that private livestock farmers throughout the region have a very poor understanding of animal nutrition, a problem leading to extremely low milk yields. Extension and training in livestock production must be developed to improve economic yields. Follow-on projects, such as AgLinks, will need to take this into account.

14. High-protein feeds must be available to small farmers so they can supplement livestock nutrition and improve their yields of butterfat, produce a higher-quality product, and earn a better return.

15. Market studies need more analysis of transportation challenges, the costs they add to a product, and how that affects the product’s competitiveness in the market involved.

IX. ADMINISTRATIVE

OFFICES

AgFin+ had its head office located in Osh, Kyrgyzstan, with country offices in Uzbekistan and Tajikistan as well. The Osh office coordinated AgFin+ activities for the region, and offices in Andijan and Khujand focus on implementation of AgFin+ activities in Uzbekistan and Tajikistan respectively. Each country office had a staff of four consisting of a Country Director, Administrative Assistant, Bookkeeper, and Driver. The Regional Head Office in Osh was staffed by a Country Director, an Office Manager, Chief Accountant, Interpreter and Driver.

PERSONNEL

During the course of the project, the Chief of Party was mobile between the three country offices. Country Directors were trained and acted for Kyrgyzstan, Uzbekistan, and Tajikistan. All administrative staff were trained regionally on issues to ensure the project goals were met by the project in Kyrgyzstan, Uzbekistan, and Tajikistan.

PROCUREMENT

All offices maintained equipment on an NXP/EXP List.

ENVIRONMENT

An Initial Environmental Examination (IEE) for the SO 1.6. qualified AgFin+ activities as Categorically Excluded, and the project monitored and discussed this periodically with the USAID CTO. The project fell under negative determination with conditions, as it was providing credits for agricultural activities. Technical assistance falls within the classes of actions listed in paragraph (c) (2), Categorical Exclusions of Section 216.2 Applicability of Procedures of Title 22 CFR Part 216, USAID Environmental Procedures.

COMMUNICATIONS

The key aspects of the AgFin+ communication plan were:

- Identifying successes and sharing the information with a wider target audience,
- Sharing information and lessons learned among offices,
- Collaborating with other projects in the area, and
- Communicating with USAID.

Identifying successes and sharing the information with a wider target audience

In each country and each task, the project staffs summarize successes of seminars, trainings, consulting activities and also highlight how the farmers have implemented activities. In cases where the information

was new and had wide applicability, the project developed one-page fact sheets that were distributed throughout the extension services, LSPs, relevant associations, and the Ministry of Agriculture. In addition, information regarding upcoming trainings and seminars was widely distributed, even using local radio when possible. Women were targeted with tailored messages in order to increase their participation.

Sharing information and lessons learned among offices

The COP regularly visited each project office and informally shared information about the activities in each country. Starting in 2006, AgFin+ held quarterly staff meetings, to review progress to date and share successful project approaches.

Collaborating with other USAID projects

The COP regularly met with other projects. The COP was in constant communication with other Winrock projects in the region—Farmer-to-Farmer and WUSAP. In addition, once a month he attended partner meetings sharing information about the status of the project and identified ways to collaborate with other donor-funded projects. The COP attended monthly meetings and visited other donors in the area at least once in 2006.

Communicating with USAID

The COP provided timely updates with quarterly reports, workplans, and regular verbal communication. Moreover, the COP visited USAID personnel on a weekly if not daily basis.

X. FINANCIAL

The project's budget was divided between three bilateral budgets and regional funds. While the contract was for a total of $4,767,841, the final obligations from USAID totaled $4,697,540.30. The life of project expenditures per country are presented below in the following table.

FINANCIAL SUMMARY OF PROJECT EXPENDITURES.

Kyrgyz Republic	Republic of Tajikistan	Republic of Uzbekistan	Central Asian Republics (Regional)	Total
$1,759,145.75	$1,089,631.90	$1,186,671.54	$662,091.11	$4,697,540.30

The table below shows the comparison between the original budget contract line items and the final expenditures. Since the vast majority of the work under the project was carried out by Winrock under subcontract, most of the labor included in the original contract line items was Winrock labor; these were moved to the subcontractor line. This table therefore presents the actual use of funds between the major contract line items.

TABLE 2. COMPARISON OF BUDGET LINE ITEMS AND ACTUAL COSTS

Line Items	Budget	Actual Costs
DAI Labor	$919,483.00	$88,843.79
DAI Indirects	$338,744.00	$255,096.90
Winrock Subcontract	$2,847,912.00	$4,247,152.01
ODCs	$661,702.00	$106,447.60
Total Ceiling	**$4,767,841.00**	
Total Obligation		**$4,697,540.30**