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# PRODUCTIVE AGRICULTURE PROJECT ANNUAL PROGRESS REPORT

YEAR IV, OCTOBER 2012 – SEPTEMBER 2013



October 2013

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**ANNUAL PROGRESS REPORT**

**YEAR IV, OCTOBER 2012 – SEPTEMBER 2013**

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## Executive Summary

This year the Project directly supported 550<sup>1</sup> farms to access new productive technologies for early onions, orchards and hothouse tomatoes. The Project continued seeing strong increases in yield and income of the participating early onion and orchard farmers who used certified inputs and had access to agricultural extension services, mechanization, financial services and marketing facilitated by the Project. Even despite very low prices on early onions this year, which were sold at just 10 percent of the last year's price, early onion farmers showed a strong increase in their sales. Tomato yields have dropped compared to the baseline; and the reasons are currently being investigated.

Using local service providers the Project continued looking for new market opportunities for the farmers, identifying bottlenecks in the value chains and facilitating upgrades. Market research conducted this year helped identify the required upgrades in infrastructure and production and laid a foundation for Year Five workplan. The Project continued working with the partners on creating a marketing association in Khatlon in order to connect southern producers to northern processors and exporters of agro-products and southern agro-input dealers to northern agro-input suppliers and identify new markets. This work will continue into Year Five. The Project's marketing efforts included stakeholder meetings, open field days and fairs, which helped establish linkages between the value chain participants and resulted in a number of commercial transactions (sales of produce and inputs).

This year the Project continued supporting input dealers in developing their businesses, establishing stronger network of wholesalers and retailers and promoting demonstrations and embedded technical assistance for the use of certified inputs. The Project also worked on identifying weaknesses in pesticide regulations and legislation and addressing financing constraints in the input supply chain. These activities resulted in increased availability of certified inputs in Khatlon and increase in input dealers' sales. This year saw strong growth in the participating input dealer network in Khatlon, which grew from the total of six dealers in Year Three (two wholesalers and four retailers) to the total of thirteen dealers (three wholesale and ten retail dealers) in Year Four. To achieve the stated objectives, the project used a variety of tools including voucher programs, fairs, stakeholder meetings, demonstrations and training. A big highlight of the year was the first ever International Agro-Expo in Khatlon organized by the project in March 2013. The expo was attended by a number of high ranking US and Tajikistan Government officials, international agro-input companies and local wholesale and retail input dealers.

The Project facilitated almost \$1.3 million of private sector investment in agriculture including \$450,969 by farms, \$373,140 by input dealers and \$471,502 by AgSMEs. Fifty two farmers received incentive grants to purchase tractors to increase their farm productivity. These tractors were used as collateral to secure loans from financial institutions which helped finance this purchase. The Project also continued working with interested financial institutions on expanding their agricultural lending.

Building on the achievements of the prior years, in its final year the Project will focus its efforts on developing market linkages and facilitating investments that have the largest impact on the development of the targeted value chains in Khatlon.

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<sup>1</sup> 2012/2013 voucher program

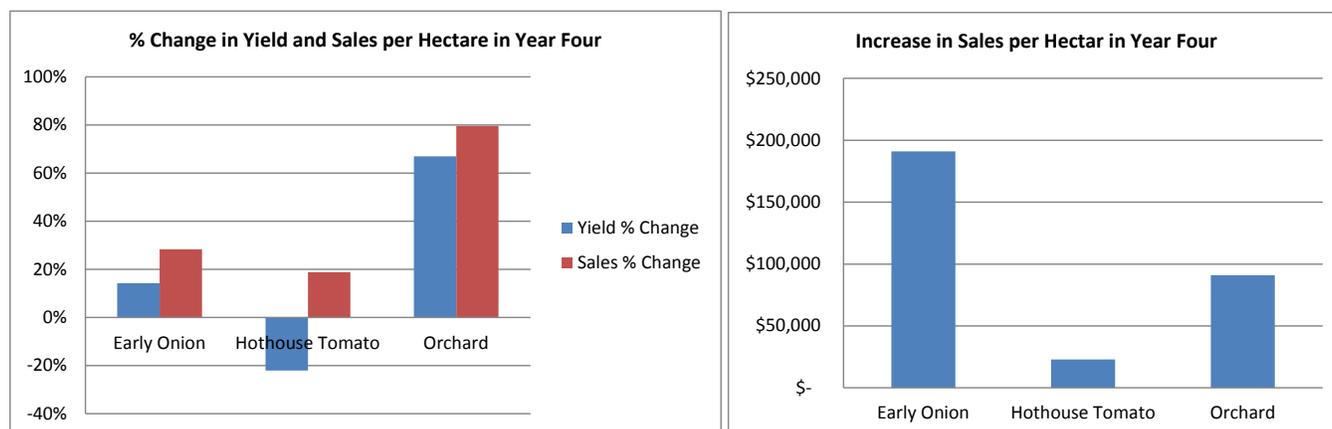
# Highlights of the Year

## Performance Against Key Indicators

### Farm Income increase

The project directly supported 550 farms to access new productive technologies for apricot, early onion and hothouse tomato production through its voucher programs during the 2012/2013 production season. This support coupled with increased access to extension, mechanization and financial services facilitated a 14% increase in yield for early onions and 67% increase for orchards. While yield of hothouse tomatoes has decreased compared to the unusually high baseline, it increased by 12% compared to the last year's baseline for male farmers.

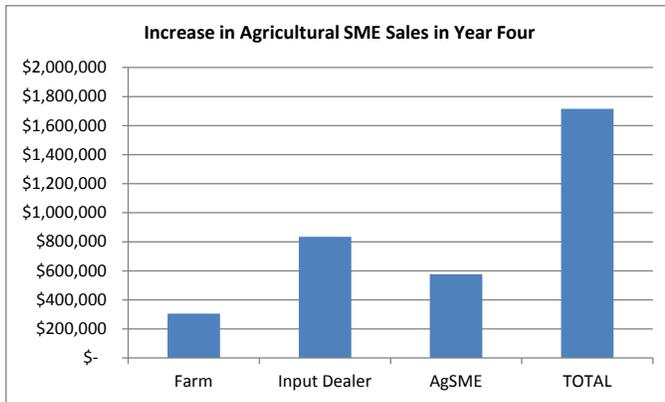
With the market development work on increasing access to profitable markets, through improved infrastructure, buyer-farm linkages and trade promotion most farms<sup>2</sup> also had bigger income/sales per hectare. This result is especially impressive for early onions, which in 2013 sold for only 10% of their 2012 price. This resulted in a cumulative \$304,799 of increased income/sales per hectare earned by farms.



### AgSME Sales Increase

This year the project supported 9 agribusinesses. The project provided various degrees of technical support with marketing, developing business and financing plans and developing vertical and horizontal linkages. Several agribusinesses also received matching grant support for investments in infrastructure, mainly in processing lines and cold storages. As a result, these firms reported an overall increase of \$576,472 in sales for the year. The project also supported 21 agro-input dealers by assisting with marketing of their products, establishing linkages, improving supply of certified inputs, building their capacity and participation in the voucher program. As a result, this group of agro-dealers reported an increase in their sales of \$835,023.

<sup>2</sup> Except female farmers growing hothouse tomatoes

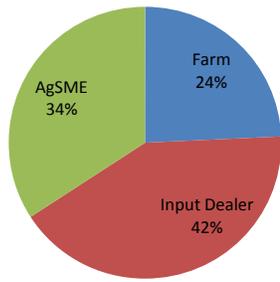


### Investment and Financing Increases

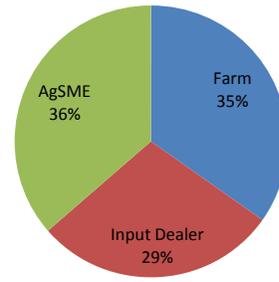
The project exceeded its Year Four investment target and underperformed on its finance target, reaching \$1,295,610 and \$1,558,610 respectively. Much of the investment was driven by the mechanization loan product. The increase in financial transactions is largely attributed to input dealers, which the project supported in accessing financing as part of the voucher program. Farms too borrowed to a limited extent for inputs, but to a larger extent for investment in new machinery.



**Finance by Actor Year Four**



**Investment by Actor Year Four**



### **Major Milestones Achieved (Success Stories)**

The following four “success stories” illustrate important initiatives undertaken by the Project in Year Four and their successes.



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## SNAPSHOT

### Increased Income Through Best Practices Adoption

**USAID project supports adoption of best agricultural practices by Tajik farmers to increase yield of high value vegetables**



Farmer Nuriddinov Safar in his onion field. Tajikistan, March 2013

***"I thank USAID for enabling me to improve the situation of my family and contribute to my community." –Nuriddinov Safar***

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Hoji Nuriddinov Safar is the head of "Ayon" farm in Qubodiyon district, one of the twelve Feed the Future target districts in Tajikistan. Nuriddinov Safar has been a farmer all of his life. An agricultural machinery operator under the Soviet Union, he received 55 hectares of land after the collapse of the Soviet regime. Since that time, he has grown primarily cotton, however, without access to quality agricultural inputs, the yield and quality of his crop have steadily decreased over time. Decreasing yields resulted in decreasing incomes, leaving Nuriddinov Safar searching for alternative ways to support the thirteen members of his family.

In 2012, Nuriddinov Safar attended an event where he was introduced to the USAID Productive Agriculture Project early onion voucher program. The voucher program is designed to offer farmers a discount on certified inputs for high value vegetable and fruit crops to support diversification. The program also trains farmers in best practice adoption techniques, which facilitate increases yield and sales.

Nuriddinov Safar used the voucher inputs on two hectares of land, and received ongoing training for best practice adoption techniques throughout the season. As a result of best practice adoption, he harvested 60 tons of onions per ha, which project data suggests is far above the average onion yield in Tajikistan. Upon harvest, Nuriddinov Safar displayed his onions at an agricultural fair, where buyers committed to purchase the entire crop. The average sales price for his onions was one Tajik Somoni (approximately .20 cents US) per kilogram, which resulted in a gross income of approximately US\$12,000 per hectare.

With the income, Hoji Nuriddinov Safar paid tuition for his daughter to attend medical school in the capital of Tajikistan and also donated a substantial amount of money to a local charity that supports the disabled. He also reinvested some of his profit into a new tractor, as part of the USAID Productive Agriculture Project's tractor leasing program. The farmer expressed, "thanks to USAID for providing more opportunities to farmers by introducing new onion technologies and providing assistance in obtaining farm machinery. Before, I did not realize we could obtain increased incomes by growing early onions instead of cotton. I thank USAID for enabling me to improve the situation of my family and contribute to my community."



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## SNAPSHOT

### Agricultural Input Dealer Builds Networks to Access Quality Seeds, Fertilizer, and Crop Protection Products

**USAID project supports systems to facilitate purchase of quality agricultural inputs that increase income of small businesses and farmers**



Photo: Nazar Nazarbekov

Bags of complex fertilizer NPK from Lithuania are properly stored until distribution to small commercial farmers. *Tajikistan, August 2013*

***“I will use the business model and the network built by the USAID voucher program to continue to grow my business.” –Ziyabudinov Dilovar***

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Ziyabudinov Dilovar is an agricultural input dealer in Qubodiyon district, one of the twelve Feed the Future target districts in Tajikistan. Since beginning his business three years ago, Dilovar has only been able to purchase seeds and chemicals imported from China delivered without certificates guaranteeing their quality. Dilovar has also had difficulties sourcing complex fertilizers, important to receiving optimal yields of high value products such as vegetables. Many dealers in Tajikistan have reported receiving counterfeit or adulterated agricultural inputs from suppliers, but without the capital or contacts to source from reputable suppliers in countries like Turkey, Lithuania, or Switzerland, dealers are limited to sourcing uncertified inputs. Not only does this system negatively impact yields and income of farmers, it negatively impacts the relationship between dealers and their customers and their long-term profit potential.

In 2013, Dilovar was invited to participate as a retail input supplier in the USAID Productive Agriculture Project's voucher program. The voucher program is designed to offer farmers a discount on certified inputs, and also offers an opportunity for retail dealers to source and build relationships with high potential wholesaler dealers in Tajikistan and international suppliers from Europe. Seven additional retail dealers and three wholesalers from Tajikistan participated in the program, which imported and distributed over US\$340,000 of certified inputs into the southern region of Tajikistan.

As part of the voucher program, Dilovar's down payment was aggregated with other retail dealers down payments to facilitate the purchase of inputs from international suppliers. Inputs were delivered to retail dealers' shops, located in remote districts of Tajikistan, and then sold to small commercial farmers to diversify their production. Dilovar earned a net profit of over US\$4000 in one month as a result of participation in the voucher program.

Through his participation in the voucher program, Dilovar gained invaluable exposure to quality inputs and mechanisms that can be leveraged to purchase them. Dilovar reported to the project that he is currently in negotiations with the supplier of Lithuanian NPK fertilizer to expand his warehouse space in Qubodiyon and become an official distributor of the product, which has never been offered in the district before the voucher program. Dilovar is excited about the new prospects for accessing certified inputs for the farmers in his district and stated, "I will use the business model and the network built by the USAID voucher program to continue to grow my business."



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## USAID PROART HELPED AGRICULTURAL STORE WITH QUALIFIED AGRONOMIST

**USAID ProAPT makes farmers' work in Shahritus, Nosiri Khisrav and Qumsangir easier**



Photo: Jamilia Majidova

The store owner Juraev Ismoil (left) and agronomist Mamadshoev Anvar (right) at the store. Shahritus district, Tajikistan, October 2013.

*"Cooperation with the project and in particular consultation by an agronomist helped increase melon yield. In the past, worms hurt the yield but this year Khatlon markets had lots of melons. This is the result of us selling modern pesticides and providing agronomic advice. I am confident that the yield of melon and other agricultural products will keep increasing."*

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The input store "Ismoil" is well-known to Dekhan farmers of Shahritus, Nosiri Hasrav and Qumsangir of Khatlon region. It gained popularity through its cooperation with the USAID Productive Agriculture Project. While this relation started fairly recently, the results are already very impressive.

In 2012, to increase the knowledge of farmers, the project helped the store hire a qualified agronomist, Mamadshoev Anvar, Ph.D., in agriculture. Half of the agronomist's salary was financed by the project and the other half by the store owner, Juraev. Since 2012, the farmers have been getting specialized agronomist's consultation at this store.

*"During a growing season from March to September up to 20 farmers per day, come here for consultation. Our agronomist advises farmers on how to care for their crops, when to plant, how to use crop protection products, and when and how to apply fertilizers. He provides detailed consultation on all agricultural issues," Juraev says.*

This year Juraev is paying the agronomist's salary by himself. Juraev believes that having an agronomist at his store helps his business. He noticed that timely consultation of an experienced agronomist helped Dekhan farms increase yields.

*"Cooperation with the project, and in particular consultation by an agronomist helped increase melon yields. In the past, worms hurt the yields but this year Khatlon markets had more melons. This is the result of us selling modern pesticides and providing agronomic advice. I am confident that yields of melon and other agricultural products will keep increasing."*

Under the agreement with the project, the store also sells pesticides, seeds and protective gear. This year, under the project's voucher program, the store sold onion seeds, pesticides and protective gear to 17 onion farms and 16 orchard farms. The farmers paid 60 percent of the price and the other 40 percent was subsidized by the project.



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## USAID PROART IS A STRATEGIC PARTNER OF AN AGRICULTURAL STORE

### USAID Productive Agriculture Project Lends Assistance to an Agricultural Store



Photo - Jamilya Majidova

The store owner Madrahimov Rahimjon (left) consults store clients. Qumsangir, Tajikistan, October 2013.

*“Cooperation with USAID’s Productive Agriculture Project affected to my business very positively. Day by day the number of store’s clients and its profit are increasing,” the owner of store, Madrahimov Rahimjon says.*

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USAID Productive Agriculture Project lends assistance to an agricultural store named after “Boboi Dehqon” located in the center of Qumsangir District of Khatlon region. Thanks to the project the store became famous among the district’s farms and now has more clients. The project’s officers visited the store in August 2012 during their field trip to Qumsangir district. The project was looking for a partner in the district. As a result the store and the project signed an agreement on cooperation.

*“Cooperation with the USAID Productive Agriculture Project positively affected my business, - says the store owner, Madrahimov Rahimjon. Day by day the number of store’s clients and its profits are increasing.”*

As a result of the agreement, just last year alone 50 Dekhan farms of nearby districts Khatlon region, in particular Qumsangir, Panj and Kolhozobod became regular store clients. This year 19 onion farms and 11 orchard farms purchased agricultural inputs from the store at a bargain price. The farmers paid 60 percent of the total price and the project subsidized the remaining forty percent. This year the project sent Madrahimov to Ukraine to participate in Syngenta’s open field day in Ukraine to learn new agricultural technologies and practices. During the four days Madrahimov visited four big farms in Kherson.

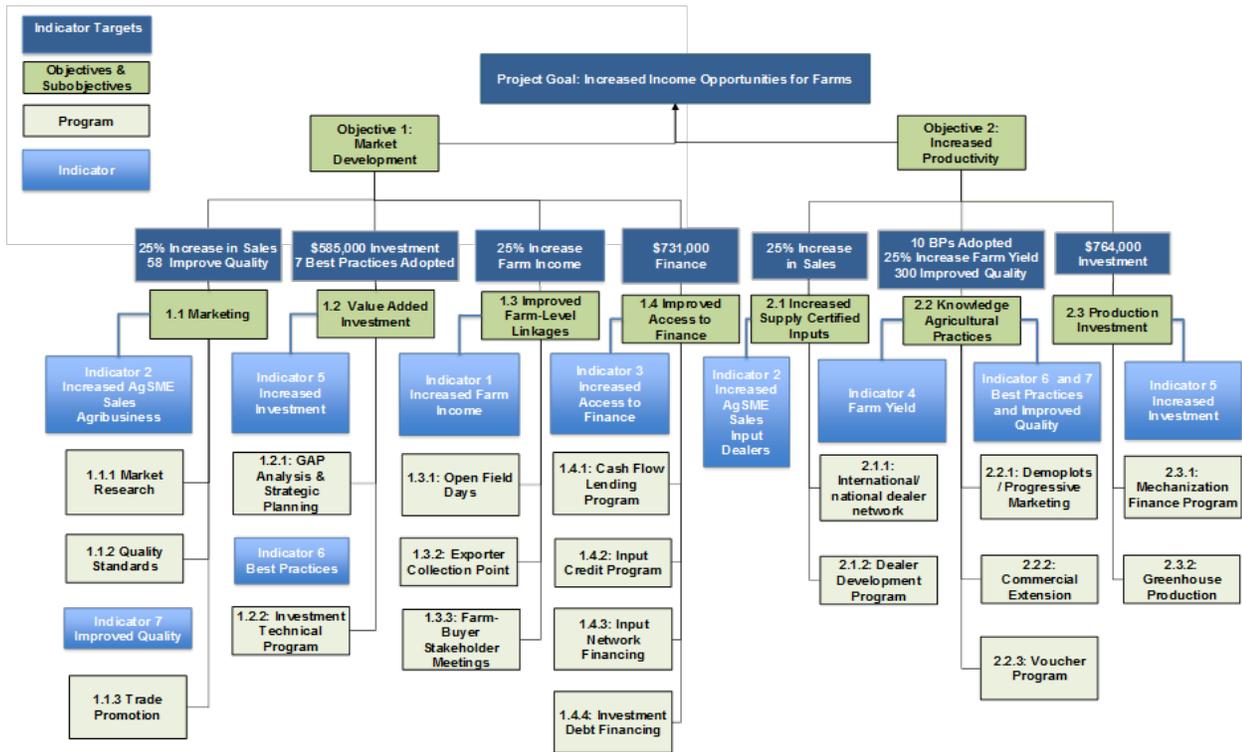
*“I am very thankful to the USAID Productive Agriculture Project for this trip to Ukraine where I had an opportunity to learn from my Ukrainian colleagues. Even during this short period I learned a lot about agriculture. Although I do not have an agricultural degree I can now advise my Dekhan clients on agricultural topics,” Madrahimov says.*

The project introduced Madrahimov to “Sugdagroservice”, a leading agricultural company in Sughd region.

*“There is a signed agreement between the store and the named company, Madrahimov says. According to the agreement our store can get good price on some agricultural inputs from the partner. In turn, the store sells these items to its customers for the best price,” Madrahimov says.*

In 2012 the dealer took its first long-term loan from a bank to purchase inputs. In order to encourage the dealer’s relationship with a formal financial institution, the project subsidized part of the loan’s interest. This year Madrahimov took another loan from the bank, now at a reduced interest rate and without the project’s help. Madrahimov hopes to open another input store and hopes to continue its fruitful cooperation with the project.

# Logical Framework



# **Objective 1: Market Development**

## **1.1 Marketing**

### **1.1.1 Market Research**

The Project continued investigating opportunities and determining gaps and bottlenecks in the links from farm to market. As part of this ongoing effort, the Project conducted market research on packaging and storing of fruit exports sourced from Western Khatlon for five orchard crops including apples, grapes, apricots, cherries, pomegranates and peaches. The purpose of research was to: 1) determine current methods of storing and packaging of fruit for export and 2) identify the needed upgrades in storage and packaging of fruit for export in accordance with WTO standards. The research was conducted in twelve districts of Khatlon region, three districts of Sughd, two districts of RRP and the city of Dushanbe. The research indicated that in the fall and winter the fruit is mainly stored on farms, in natural conditions. It further indicated that there are no specialized fruit storages in Tajikistan except small storages without specialized equipment that belong to Tajikpotrebsoyuz consumer cooperative. The number of private cold storages for fruit and vegetables in the country is limited. These storages do not have specialized equipment for maintaining the required temperature and they are designed for storing small volumes of produce in natural conditions. Furthermore, there is a shortage of packaging materials in the country, which will become more critical by 2020 when the amount of fruit produced in Tajikistan is projected to almost double. The research also provided information on consumer preferences for packaging; requirements for storing and packaging of fruits for export; main challenges faced by producers, buyers, exporters, truckers and retailers of fresh fruit as well as producers of packaging and suppliers of packaging materials. The research was shared with the potential investors during the two day two day seminar on investment opportunities which was held in August.

Another research was conducted on current domestic markets for five orchard/vineyard crops in Western Khatlon. The research was conducted by the Trade and Export Promotion Center (TEPC). TEPC presented the results of its research to a group of buyers and farmers. The participants were surprised to learn about profits taken by traders. TEPC facilitated a discussion on opportunities and obstacles for direct purchase of farm produce by buyers. The research also indicated that domestic markets operate on a commodity basis, meaning that value-added activities are limited to basic sorting and grading. Fruit processors are almost non-existent in Khatlon.

### **1.1.2 Quality Standards**

Quality standards remain a significant barrier to accessing high value markets for Tajik farmers. The Project held a number of meetings with AgSME investment partners, who confirmed their need for support to meet higher quality standards for accessing new markets. Research on storage and packaging mentioned above included sections on quality standards for the products currently produced by the partners in the markets currently served by those partners and in the markets into which partners wished to expand. Currently no processors in Khatlon have adequate moisture testing equipment, and there is growing demand for such equipment from farmers and AgSMEs engaged in dry apricots and other dried fruit value chains. In Year Five the Project will facilitate investment in moisture testing equipment by providing grants for partner associations and processors to procure the equipment and engage local service providers for support with installation and training on equipment use and maintenance.

In addition to the above activities, the Project continued leveraging its resources by tapping into technical assistance available through the USAID Farmer-to-Farmer project. Mr. Clive Keiser, Extension Horticulture Professor from Oregon State University and a Farmer-to-Farmer volunteer visited 10 farms in Project target districts to provide trainings to farms on harvesting, post-harvest handling and storage of fruit and vegetables. Additionally, at the Agro-Expo, in collaboration with the USAID Regional Economic Cooperation (REC) project, the Project conducted training on the requirements and procedures for exporting onions to Russia.

### **1.1.3 Trade Promotion**

During the year the Project explored the opportunities for creating a new marketing association in Khatlon and/or helping an existing association expand to Khatlon. The aim was to connect southern producers to northern processors and exporters of agro-products and southern agro-input dealers to northern agro-input suppliers and identify new markets. The Project organized meetings with two existing associations in Khujand: International Association of Agro-producers and Exporters of Tajikistan and Agribusiness Association of Tajikistan (AAT). The Project also held discussions with the Technological University of Tajikistan in Dushanbe, which had a limited laboratory facility and expressed interest in establishing a modern laboratory facility co-owned with the association.

The International Association of Agro-producers and Exporters of Tajikistan based in Isfara consists of 15 members that are engaged in production, processing and exporting of fruits. AAT operates in both north and south of the county. It has 70 active members, 15 of which come from the Khatlon region. AAT which has an existing branch in Khatlon is the strongest candidate for the marketing association. The Project and AAT signed a memorandum of understanding in which they committed to the following main areas of cooperation: a) developing a support system for members of the southern branch of AAT to access national and international markets; b) advocating for enabling trade and tax policies and c) promoting the creation of a resource center on specific commodities such as fruits, orchards, vegetables etc. so that members of AAT in the south stay current on key issues concerning these commodities.

As a result of meetings with various stakeholders, the Project decided to support the development of three agricultural associations and local service providers that best represent farmers' marketing interests. In Year Five the Project will carry out a competition for proposals for working with the Project on developing these associations.

The International Agro-Expo was a significant achievement in Year Four and offered opportunities for the Project, in partnership with representatives from the private sector, academia, government, and the non-profit sector to promote trade and continue to raise awareness of international quality standards. The event received extensive television coverage and was attended by the American Ambassador to Tajikistan Ms. Susan Elliott, Deputy Prime Minister of Tajikistan Mr. Alimardon, and the Chairman of Khatlon Region Mr. Afzal.

Also on February 27-28, in collaboration with the USAID REC, the Project conducted training on the requirements and procedures for exporting onions to Russia for a total of 27 trainees.

## 1.2 Increasing Value Added Investment

### 1.2.1 Gap Analysis and Strategic Planning

The Project continued providing training and individual coaching to its investment partners on developing business plans and obtaining funding from financial institutions.

### 1.2.2 Value Added Investment

During the year the Project invested significant effort in identifying partners for investments in value added infrastructure through meetings with local, district and regional government and outreach to farms. This outreach is done directly by the project staff as well as by partner NGOs, local government officials, financial institutions and other development partners. In its outreach, along with other marketing materials the Project uses a multi-media presentation developed earlier in the year. This presentation has also been distributed to other partners helping with outreach. Most recently, the Project held a two-day investment seminar in Khatlon to explain the type of investments supported by the Project and the process of applying for investment grants. During the year the Project built a strong investment pipeline as presented in the table below:

Table 1. Value Added Investments

<b>Investee</b>	<b>Description of Investment</b>	<b>Status</b>
Production cooperative Behbudi	Dry fruit processing equipment	Approved, equipment being procured
Production cooperative Bulquisyon	Dry fruit processing equipment	On hold, investee looking for an investment partner
LLC Badr and Co	Construction of fruit processing facility	Completed
OJSC Apricot and Co	Cold storage facility	Completed
PE Bobojonov Davron	Equipment for a slaughter house	Completed
LLC Safovot	Fruit processing equipment	Installing equipment
PE Alisher Ganiev	Equipment for a slaughter house	Completed
Water user association	Construction of onion storage	Completed
Production Cooperative Panjob	Construction of cold storage	Under construction
Forex Plus	Purchase of equipment for cold storage	Completed

The process for investment grants includes the following steps:

1. Initial environmental compliance assessment, approved by USAID, immediately following expression of interest by the potential partner
2. Developing a construction plan (where applicable) to ensure that an applicant obtains necessary permits and other documentation required by Tajikistan law, and the establishing of a monitoring /quality control system so the project is confident the firm abides by appropriate construction practices
3. A financial plan and support by the project staff in applying for financing needed
4. Developing a business plan to evaluate return on investment
5. Legal registration of partners establishing a new business entity. To access higher thresholds of grant support, investors must form joint-ventures with partial ownership of at least one farm.

## **1.3 Improved Farm-Level Linkages**

### **1.3.1 Open Field Days**

Open Field Days (OFD) are important for bringing together farmers, buyers, financial institutions, input dealers, local government officials and NGOs to demonstrate the results of new productive technologies and to establish linkages between the value chain participants. Onion buyers Maruf Oripov from Khujand, Muhidin Qutiev and Nematjon Madbubaev from Mokhtar participated in OFDs in four project districts. The buyers informed the project farmers of their variety and size requirements and purchased 360 tons of onions for export to Russia. Unfortunately, export options for Tajik early onions were limited this year due to the lifting of an export ban on Uzbek onions, which are often of higher quality and cheaper. This increased competition in the global market makes it even more crucial for Tajik farmers to have access to the right varieties and tools to grow onions in the most cost effective manner.

### **1.3.2 Exporter Collection Point**

Year Four workplan called for establishing an exporter collection point in Qurghonteppa. The collection point was supposed to become an incentive for the farmers to form an association. However, at the moment there is no economic incentive for the farmers to create and manage this collection point. In pursuit of this opportunity, earlier in the year the project linked Khatlon farmers with buyers. The farmers reported back that the prices offered by the buyers were the same as those offered by farm gate traders. This indicates two things: 1) buyers are aware of the farm gate price paid by traders and 2) buyers are attempting to realize all existing profit through the removal of the trader. This offer was unacceptable to the farmers. They would have to do extra work accessing buyers for no extra benefit compared to farm gate sales. The inability of the two sides to come to agreement indicates that traders provide a valuable service to both sides of the transaction.

### **1.3.3 Farm-Buyer Stakeholder Meetings**

The project organized a stakeholder meeting as part of the orchard market study mentioned in Section 1.1 above. The meeting took place in Qurghonteppa and brought together orchard farmers and buyers, as well as local government representatives and NGO partners. Trade and Export Promotion Center (TEPT) which conducted the study presented their findings. The feedback they received from the farmers and other attendees were incorporated into the final report. Buyers and farmers alike were astonished to learn the amount of profit taken by traders. TEPT also facilitated a discussion on opportunities and obstacles for direct purchase of farm produce by buyers.

The project facilitated participation of Safar Nuridinov, a 2012 voucher program recipient's in an agro-fair held in June 2013 in Dangara city, Khatlon region. At this fair Nuridinov displayed the onions he had grown using the seeds and inputs received through the project's voucher program. As a result, local buyers from Dushanbe purchased 30 tons of his onions.

The Agha Khan Foundation's Mountain Societies Development Support Program (MSDSP) organized a group of 20 farmers with the same interest in Qumsangir supported by the village community organizations. This was done to link input dealers with demand at the village and household level. A technical volunteer was elected by the group and linked to the project's input suppliers and dealers. The group attended the Agro-Expo in March, where they were introduced to the Project partner, input dealer Sulaymon Shafoev from Qurghonteppa, a distributor of Samiev. The group selected corn seeds from the catalogs.

## **1.4 Improved Access to Finance**

### **1.4.1 Cash Flow Lending Program**

The Project continued to roll out an agricultural lending framework, based on ACIDI/VOCA's Profit Planner cash flow tool (CFT), with six interested microfinance institutions seeking to expand into agricultural market. Earlier in the year the Project collected budget data on thirty crops to populate the tool, developed case studies (for larger and smaller farmers) and questionnaires and translated the CFT, user guides and other training materials. In January 2013 ACIDI/VOCA consultant Lorna Grace held individual meetings with the partner financial institutions and then conducted a two-day training session focused on the use of the CFT. The training included practical application of the CFT on the farms with real clients to determine the clients' repayment capacity.

The training participants liked the tool and the fact that it presented standard costs and timing that could only be changed or updated by a tool administrator thus mitigating the risk of using incorrect data provided by a farmer or manipulation of data by a loan officer. Several MFIs commented that the CFT would make their work easier. However, other institutions like FINCA did not have products which the CFT could conform to. They disburse a standard equal repayment-loan to all clients regardless of their activity. FINCA expects to modify its product in the future and once this happens would be interested in using the CFT. Five of the six MFIs got an approval from their management to pilot the CFT in their institutions to facilitate agricultural credit. The Project continued to provide coaching to the interested MFIs on the application of the CFT. Some initial feedback from the MFIs on the use of the CFT is that using this tool increases their loan appraisal time vis-à-vis their own tools; and that they question the crop budgets.

### **1.4.2 Input Credit Program**

In the beginning of Year Four the Project conducted a survey of input dealers to assess their systems for providing inputs on credit. The survey indicated that all dealers were providing inputs on credit – albeit a very small percentage of total sales (about 5%) and to clients they knew well – but without a formal risk assessment or system to track repayments. Three dealers expressed interest in developing a credit pilot for the following season. In preparation for January consultancy, the Project together with Lorna Grace developed a draft credit policy and procedures for providing agro inputs on credit for use by input dealers. During her assignment Lorna Grace met with all three input dealers to assess their interest in expanding and improving their input credit.

However, only one dealer (Mamasaidova Mastura of Qabadiyan) was available to discuss the process with Lorna Grace in January.

Lorna Grace and the Project staff also reviewed the use by the dealers of the 1C accounting program supplied by the Project. Three dealers were trained in the use of the program early in Year Four. One of them was no longer in the project area, one was no longer a project client and the other one was still working with the project, but did not use the system in the off season. The program is not particularly difficult, but for a dealer who has not been trained in either accounting or software, the expectation for rapid take up and use of the program may be overly optimistic. In Year Five the Project will look at equipping and training the dealers in the use of more user-friendly accounting software.

### **1.4.3 Input Network Financing**

The Project continued working with the input dealers and suppliers at each level of the input network to determine their financing needs and options for supplier credit. The project worked with them to establish the right mix of self-financing, supplier credit and loans from financial institutions. In Quarter One the Project interviewed the dealers on their use and financing of village input distributors as well as their use of financing sources.

Incentives for accessing formal credit provided to retail input dealer that participated in 2012 voucher program, were a success. Given his experience in the 2012 voucher program, a retail input dealer in Shahritus took out \$20,000 in bank credit, unsubsidized by the Project, to finance this year's voucher program.

### **1.4.4 Investment Debt Financing**

The Project continued working with investment partners who needed financing for their investments. The Project worked with these investments groups to help identify the best source and terms. The Project facilitated \$682,953 in loans to agriculture including 67 farmers and 2 input dealers.

## **Objective 2: Increased Productivity**

### **2.1 Increased Supply of Certified Inputs**

In Year Four the Project continued supporting the business development of input dealers, establishing stronger network of wholesalers and retailers and promoting demonstrations and embedded technical assistance for the use of certified inputs. The Project also worked on identifying weaknesses in pesticide regulations and legislation and addressing financing constraints in the input supply chain. These activities resulted in increased availability of certified inputs in Khatlon, increase in input dealers' income, farm productivity and quality of farm products.

#### **2.1.1 International/National Dealer Network**

Through the Project's efforts such as voucher programs, fairs, stakeholder meetings, demonstrations and training, this year the dealer network grew from the total of six partner dealers in Year Three (two wholesalers and four retailers) to the total of twelve dealers three wholesale and ten retail dealers). The Project continued

identifying international input suppliers and linking them to the local dealers through their participation in agricultural fairs such as those held in Osh, Kyrgyzstan and Qurghonteppa. Through their participation in the Project's voucher program the dealers were introduced to formal contracting procedures, down payments, bulk purchases, commercial loans and other transactions necessary for formal business relationships. This is no small feat in Tajikistan where informal business relationships are the rule.

On March 1 and 2, 2013 the Project held the first ever International Agro-Expo in Khatlon. The expo was attended by a number of high ranking US and Tajikistan Government officials: the American Ambassador to Tajikistan Susan Elliott, Deputy Prime Minister of Tajikistan Mr. Alimardon and the Chairman of Khatlon Region Mr. Afzal. Representatives of ten international agro-input companies and eighteen local wholesale and retail input suppliers also attended the event. During the expo, Mr. Tony Treen, an expert in pesticide legislation and registration, held a workshop with government officials and private sector representatives to identify bottlenecks in the pesticide registration process. Mr. Treen's final report included recommendations for improving the registration process of pesticides in Tajikistan and was provided to the Executive Office of the President, the Ministry of Agriculture, the Ministry of Health, and the Committee on Environmental Protection under the Government of the Republic of Tajikistan. At the Agro-Expo the Project presented the results of the research on the size and potential of the inputs market in Tajikistan. This information is essential for attracting international suppliers.

International suppliers of certified seeds and crop protection products, Syngenta and Bayram<sup>3</sup>, provided trainings to Project partner farms and input suppliers. Topics of trainings included use of certified crop protection products, planting techniques for high quality onion seeds, and techniques for identifying counterfeit or adulterated products. Bayram's training focused on providing support to farmers that experienced problems with onion bolting, identifying optimal planting times for their respective agro ecological zones and optimal dosage and timing for fertilizer application. The project also arranged for Syngenta to meet with the GIZ-supported cooperative Sarob, which is tasked with sourcing certified inputs for sale in the Tajik market. Sarob is planning on opening two agro-shops and has been talking to SAS about supplying them with certified inputs. Syngenta and Bayram are now funding their own visits to Tajikistan, as ongoing engagement with farmers and dealers helps them build product recognition in what they now view as a viable market.

The Project also arranged a meeting of the project tomato farmers from Bokhtar and input dealers with the Central Asia representative of the Netherlands-based Nickerson-Zwaan, a producer and suppliers of vegetable seeds. The representative made a presentation on new hybrid seeds of cucumber, tomato, cabbage and sweet pepper. A farmer in Bokhtar created a demo plot for cucumbers and tomatoes for Nickerson Zwaan. For comparison, the farmer also planted Syngenta tomato seeds



Figure 1 A project partner retail dealer offers certified onion seeds from Turkish company "Bayram" to farmers

<sup>3</sup> Bayram's onion seeds Bay Ersoy were used in the Project's onion voucher program and demo plots in 2013

donated by SAS. Syngenta tomatoes yielded 200 kg per 10 sq. meters versus 86 kg per 10 sq. meters by Zwaan tomatoes.

### **2.1.2 Dealer Development Program**

Under the early onion and orchard voucher program the Project worked on building capacity and access to certified products of agricultural input suppliers. Through a competitive process, the project selected Burkhiyon, Shohon, and Sughd Agro Service as wholesale input suppliers to source inputs from international suppliers. The certified inputs offered as part of the voucher package are rarely, if ever, available in the remote areas of Tajikistan where voucher input packages were distributed. The Project facilitated down payments to wholesalers from eight retail input dealers based in target districts of Khatlon. Each retail dealer made a down payment of \$3,000 to \$5,000. Four of the eight retail dealers made down payments on agricultural inputs for the first time in the history of their business. The other four had made down payments for the first time as part of the Project's year three voucher program. Down payments from retailers help suppliers overcome demanding upfront payment and minimum order requirements imposed by international suppliers. Down payments and contracts reflecting these arrangements are also mechanisms to build trust for future partnerships along the input supply chain.

During the year the Project continued to link input dealers at all levels and enhance their knowledge of certified inputs. The Project sent ten new input dealers to the Agriculture Trade Fair in Osh, Kyrgyzstan, where they made contacts with Kyrgyz and international input suppliers. Upon completion of the 2013 voucher program, the Project supported four retail dealers to travel to Khujand to discuss formal distributorships with Sughd Agro Service; and supported the retail dealer from Kumsangir to participate in Syngenta's open field day in Ukraine. Two other retail dealers were invited to attend Bejo's open field days in Holland, where they will be introduced to new varieties of certified vegetable seeds and crop protection products.

The project continued providing small grants to input dealers to improve their stores. In March the Project gave a small grant to SAS to improve their retail store in Qurghonteppa. Furthermore, upon completion of the 2013 voucher program all partner retail dealers applied for and received approval for upgrading their stores. These upgrades include cosmetic repair, equipment (refrigerator for storing pesticides and pheromones, air conditioner, voltage regulator, generator, scale, computer, printer, etc.), furniture (shelves, desk, chairs, etc.), windows, doors and signs. The grants were approved in September and the payments will be made in the first quarter of Year Five.

During the year the Project installed and trained in the use of 1C accounting software two retail dealers: Juraev Ismoil and Begakov Saikhuja from Shahritus who did not have computerized accounting records. This was done in order to build their relations with international suppliers. However, the dealers found this software difficult to use and in Year Five the Project will look at equipping and training the dealers in the use of simpler and more user-friendly accounting software.

## **2.2 Knowledge of Agricultural Practices**

### **2.2.1 Demonstration Plots/Progressive Marketing**

This year the Project had nineteen demonstration plots for early onions and ten plots for orchard crops. The Project's demonstrations were designed to illustrate that although certified inputs (including complex fertilizer, crop protection products and R1 seeds) cost more than inputs frequently used in Tajikistan (such as urea, pesticides imported from china, and local reproductions of seeds) certified inputs can provide greater profits due to increased income and sales price of products. The demonstrations culminated in Open Field Days (OFD), where the farmers and other stakeholders learned about economic benefits of using certified inputs. In Year Four the Project conducted 29 OFDs on Project demonstration sites in Khatlon, training 1,252 participants on the use and benefits of certified inputs. OFDs were also used to promote the Project's voucher program.

In establishing demonstration plots the Project continued engaging local and international input dealers. For example, SAS provided Ridomil Gold fungicide from Syngenta and Bi 58 insecticide from BASF for all eleven orchard demo plots; and Khorus fungicide by Syngenta for an orchard demo plot in Bokhtar. A Russian company Alsico Agroprom provided Folinor fungicide for an orchard demo in Vakhsh. Netherlands-based Nickerson-Zwaan, a producer and suppliers of vegetable seeds provided cucumber and tomato seeds for a demo plot in Bokhtar.

### **2.2.2 Commercial Extension**

In addition to providing voucher inputs to farms, the Project provided training and support to farmers in the proper application of the inputs. The Project provided group training on the demonstrations fields and individual extension services and field oversight to the voucher farmers. The Project has done extensive research to identify reliable and knowledgeable extension agents to support voucher farmers, but the reality in Tajikistan is that: 1) state extension services in Tajikistan are designed to communicate crop targets, as opposed to providing individualized support; 2) agronomists who were trained under the Soviet regime and remain in Tajikistan have had very little opportunity to update their knowledge and 3) the Agricultural University in Tajikistan produces graduates that have very little knowledge of modern agricultural technology practices. This puts an enormous burden on development organizations to provide basic foundational training for extension agents.

In response to these challenges, the Project has run pilot extension programs with SAS Consulting, two NGO partners, and two retail input suppliers to identify the best possible strategy for extension support. In year four the extension agents provided ongoing technical assistance to 550 voucher program participants (including 289-onion, 212-orchard and 50-tomato). In Year five the project is also planning on supporting extension services by partner associations. The effectiveness and sustainability of these various extension services will be evaluated in year five.

Currently, the Project is piloting an extension system with two NGO partners, Mehrubon and Parvozi Parastu to support our most recent voucher recipients. The NGOs oversee 10 field agronomists and 2 senior agronomists to provide ongoing technical support. Each extension agent/agronomist was trained by the Project agronomist in the proper use of voucher inputs and by the Project's Environmental Officer in integrated pest management, proper storage and disposal of pesticides, safe handling and protective equipment, and emergency measures to

be taken in the event of an accident involving pesticides. Extension agents/agronomists attended voucher distributions to provide advice to farmers and are tasked with providing ongoing support to all voucher farmers throughout the season. A brief preliminary evaluation of the NGO extension/agronomist pilot program indicates that voucher recipients are receiving appropriate support, but also that reporting systems must be simplified and that additional training for extension agents/agronomists is required to enhance effectiveness. Extension agents also reported that farmers request and pay market prices for the services they value. As stated above, a full evaluation of the extension services will be undertaken in year five and adjustments will be made to address shortcomings.

To supplement the support of extension agents/agronomists, the Project also engaged international suppliers and experts in the training of extension agents, dealers and farms. At the International Agro-Expo held in Khatlon, Abubakr Diangne, an American tomato production expert trained 50 tomato growers. Representatives from Turkish and Swiss firms Bayram and Syngenta visited Tajikistan and provided training on the proper planting of certified onion seeds and use of crop protection products to partner extension agents/agronomists, dealers, and farms. International Farmer to Farmer experts Deron Beck and Wayne Williams provided technical assistance to onion and orchard voucher recipients including advice on water requirements, soil fertility management, intercropping, timing of planting and harvest of onions, pest control, and pruning of orchards.

### 2.2.3 Voucher Program

The Project's voucher program involves cost sharing between the Project and farmers to bring the price of certified agricultural inputs down to the price of more commonly used agricultural inputs in Tajikistan. The reduced cost allows risk averse farmers to test certified products, observe their effectiveness for themselves, and then purchase them at full price the following season if they so choose. Past voucher recipients supported by the Project have shown significant increases in yields and incomes over control farms. Aggregate results for year three/four onion, orchard, and tomato farmers show increased incomes, sales and yields over the baseline. This is despite late freeze, which caused bolting in onions and impacted some farmers' yields and low market prices for onions due to flooded markets.

In quarter four of Year Four, the project distributed early onion voucher packages to 100 farmers and orchard voucher packages to 193 farmers. Voucher packages were chosen by the Project's Agronomist based on best practices tested in demonstration plots and were to be used on 1 ha of land. The Project covered 40% of the cost of the products and farmers covered the remaining 60%. In total, almost US\$365,000 of certified products were distributed to local farmers through a local network of wholesale and retail input suppliers. Voucher packages included the following inputs:

**Table 2: Early Onion Voucher Package**

Commodity	Application	Amount	Total Commodity Distributed
Stomp	Herbicide	4 L	400 L
Ridomil Gold	Fungicide	2 Kg	200 L

Folicur BT	Fungicide	2 L	400 L
Bi-58 new	Insecticide	2 L	400 L
NPK	Complex Fertilizer	500 Kg	50 000 kg
Bay Ersoy	Seeds	7 Kg	700 Kg
Protective Clothes	Health & Safety	1 Set	100 Sets

**Table 3: Orchard Voucher Package**

Commodity	Application	Amount	Total Commodity Distributed
Folicur BT	Fungicide	2 L	386 L
Chorus	Fungicide	1 Kg	193 Kg
Carbophos	Insecticide	4 L	772 L
Bi-58 new	Insecticide	2 L	386 L
NPK	Complex Fertilizer	500 Kg	965 000 Kg
Back Pack Motor Sprayer	Chemical Application	1 Unit	193 Units
Protective Clothes	Health & Safety	1 Set	193 Sets

To identify voucher recipients, the Project announced the program in local newspapers and on local radio. NGO partners and extension agents/agronomists were also tasked with informing local farmers about the opportunity. A project committee reviewed 458 voucher applications (174 onion and 284 orchard) and selected voucher recipients based on established selection criteria. All voucher participants made a 10% down payment to their retail input dealer and were required to pickup and pay for their input package on a set distribution day.

Inputs were delivered by wholesalers to a warehouse in the capital city of Khatlon, tagged with inventory numbers by Project staff, then picked up by retail dealers for transport to the 12 target districts. Upon purchase of the products, farmers were provided a receipt that reflected prices and inventory numbers of each item. The early onion and orchard voucher programs were thoroughly reviewed by the Project's Environmental Officer to assess potential environmental consequences and mitigate any concerns.



**Figure 2 A voucher recipients' irrigated field, prepared and planted with early onion voucher inputs**

## 2.3 Production Investment

In Year Four the Project continued identifying production investment needs. Tractor and equipment demonstrations at the Agro-Expo introduced the Project farmers to new farming machinery and equipment. A large number of voucher recipients are now eligible for, and have expressed interest in grants for tractors and other farm machinery. Working with IFC, the Project identified the need for and the sources of small farming machinery and equipment such as mini tractors, sprayers, tillers, etc. and built a pipeline of such investments, which will be funded in Year Five.

## Lessons Learned

**Efforts are needed to formalize off field buyer/seller arrangements.** Onion prices in 2013 were low, particularly impacting farmers who sell their product late in the season. In addition, Uzbekistan has significantly increased its onion exports in recent years, putting downward pressure on regional onion prices. In this context, it is critical to begin formalizing buyer/seller relationships to take advantage of the early harvest in Tajikistan or premium prices for stored goods in the off season market. One barrier to formalizing buyer/seller relationships is that products sold from the field are often not sorted/graded and there is a lack of storage facilities that allow for aggregation. Furthermore, there is distrust among farmers and buyers required for formal contracts. As such, the Project will explore forward contracting with established partners, opportunities for aggregation and cold storage facilities, and PHH training for farmers and extension agents in year 5 to ensure higher value market opportunities for onions and orchard fruit.

**Additional Foundational training for extension agents is needed.**

There is very limited knowledge of modern agriculture practices in Tajikistan, including the use of crop protection products and fertilization, and also integrated pest management (IPM), integrated soil fertility management (ISFM), intercropping, etc. Although the Project has piloted and supported numerous extension initiatives, extension agents/agronomists require ongoing training to effectively support partner farms. In addition, the Project could do more to leverage the ingenuity of extension agents/farmers, combining effective traditional practices and knowledge of modern technology, to enhance productivity. Investing in high potential extension agents/agronomists will continue to be a priority in year five.



Figure 3. An orchard voucher recipient in Yvonne district with his project-assigned extension agent

**Concentration of support from international organizations in**

**Khatlon has created confusion among partners.** The multitude of projects in Khatlon causes confusion among farmers about the goals and requirements of one project versus another. Additionally, many projects offer generous subsidies or free agricultural inputs, which reduces the incentive of farmers to understand the commercial aspects of farming and engage in cost sharing for certified agricultural inputs. This puts an additional burden on PRO-APT to invest heavily in marketing and provide extensive training regarding the importance of investment. Furthermore, there are very few local organizations with the capacity to provide sub-contracting services to international organizations, thus the resources of these organizations are stretched very

thin trying to accommodate the specific needs of many projects. As such, in year five, the project will continue to invest in already commercially oriented farmers and commercial value chain actors to reduce its dependence on local organizations.

**Delivery of inputs into Tajikistan is highly unpredictable and depends on a number of external factors.** A relatively consistent critique of the voucher programs has been that input delivery did not occur in a timely manner. However, it is important to note that a. in the last two years, inputs were offered to farmers before the required planting time and b. there are external factors that limit ordering/delivery times. Some of those factors are as follows: First, the Productive Agriculture Project's voucher programs required wholesale partners to import products for which they did not have established supply chains. Supporting partners in establishing these supply chains was a critical success of the project, but also exposed the Project to the risks of international trade in Central Asia, which include frequent road closures, border restrictions, lengthy customs inspections, poor infrastructure, and unpredictable changes in policies/regulations. Second, the absence of a project-length waiver for specific agricultural commodities contributed to ordering delays of voucher inputs. Finally, bulk shipping of seeds and fertilizer are restricted by harvest and processing times for these goods, limiting the shipment window. The project was able to mitigate these risks through building relationships with international suppliers, submitting waiver approval requests early, supporting wholesalers in understanding and managing international supply risks, and having dedicated staff and retailers that can quickly move inputs to farmers upon their arrival in country. However, the uncertainties of international input supply into Tajikistan remain and must be considered when designing future projects.

**Measures to reduce or manage upfront cash requirements for high value voucher packages helped the project meet its distribution goals.** Over the course of the project, vouchers were provided for high value products that require significant investments into agricultural inputs. For onions in particular, the cost of production is very high. The price of a full package of inputs was prohibitive for many farmers, particularly as purchase was required before the cotton harvest; which provides the main source of income for many farms. The Project tested a number of strategies which succeeded in lowering cash requirements for voucher participants. The first was to offer inputs for one crop in two separate distributions: one in the fall and one in the spring. This strategy seemed to better align with farmer cash flow, however, required much heavier investment of project time and resources. The second was to offer farmers support in accessing credit. Third, in year three of the project, Tier 2 voucher recipients were selected to replace any Tier 1 farmers that could not produce the cash required to purchase the inputs. In the most recent voucher program, the Project required farmers to make a down payment of 10% before distribution. This requirement incentivized farmers to plan their cash flow appropriately, and was by far the most effective strategy to increase farmer turnout.

**The complex nature of Tajikistan's input market and agricultural landscape required learning over time to develop optimal logistics, distribution, and contracting mechanisms for a distinctive voucher program.** The voucher programs in Tajikistan were unique in that they required the establishment of



Figure 4 Voucher inputs tagged with inventory stickers

international input supply chains and offered full voucher packages for high value crops (seeds, fertilizers and crop protection products (CPPs)). These nuances increased the complexity of the program and the voucher price for farmers, as noted above. This unique voucher program was extremely valuable in that it created sustainable linkages among international, wholesale, and retail input suppliers and it allowed small-holder commercial farmers to diversify their production into high value crops. The project learned valuable lessons about logistics, distribution, and contracting, some of which are as follows: **1.** The elimination of paper vouchers through setting specific distribution days and directly involving project staff at each distribution increased reliability of documentation. **2.** Down payments by retail dealers, initiated in year three, facilitated predictability of participation by retail dealers and supported the construction of a more sustainable supply chain. A tripartite contract between wholesale suppliers, retail suppliers, and the project provided the foundation for down payments in a system where there is limited contract enforcement and distrust among market actors. **3.** Distribution of inputs from a centrally located warehouse to retail suppliers, as opposed to direct delivery of inputs to retail suppliers by wholesale suppliers, increased project control over input movement. **4.** The inventory system developed in year four, which required each input item to be tagged with a specific inventory number, and then tracked from the warehouse to the farmer, supported increased control of inputs by the Project. This system should be computerized in future programs, however, to reduce the enormous burden on staff that had to manually tag and track thousands of input items. **5.** Increasing the number of wholesale and retail dealers spread the upfront cash burden and risk among more actors, allowing for needed flexibility in distribution dates given the unpredictable supply chain.

## Indicators

		Yield - Kg/Ha				Income -USD					
		#4 - Change in Yield				#1 - Change in Income (Sales)				#5 - Gross Margin	
		Baseline	Actual	Value Change	% Change	Baseline	Actual	Value Change	Target 15%	Target	2013
<b>Total</b>		11,072	18,139	7,067	64%	\$ 908,888	\$ 1,213,688	\$304,799	34%		945
<b>Early Onion</b>	Total	25,564	29,212	3,648	14%	\$ 673,191	\$ 864,116	\$190,926	28%		1003
	Male	25,186	29,210	4,023	16%	\$ 651,482	\$ 831,724	\$180,242	28%		1018
	Female	43,175	29,265	(13,910)	-32%	\$ 21,708	\$ 32,392	\$ 10,684	49%		651
<b>Hothouse Tomato</b>	Total	40,519	31,598	(8,922)	-22%	\$ 121,563	\$ 144,506	\$ 22,944	19%		15100
	Male	38,527	33,159	(5,367)	-14%	\$ 106,979	\$ 133,539	\$ 26,560	25%		16831
	Female	63,636	23,308	(40,329)	-63%	\$ 14,583	\$ 10,967	\$ (3,616)	-25%		5914
<b>Orchard</b>	Total	1,286	2,148	862	67%	\$ 114,135	\$ 205,065	\$ 90,930	80%		179
	Male	1,403	2,200	798	57%	\$ 109,469	\$ 169,988	\$ 60,519	55%		163
	Female	468	1,874	1,406	300%	\$ 4,666	\$ 35,078	\$ 30,411	652%		265

	# 3 - Ag Loans		# 7 - Investment	
	Target	Actual	Target	Actual
<b>Total</b>	<b>\$ 2,200,000</b>	<b>\$ 1,558,610</b>	<b>\$ 450,000</b>	<b>\$ 1,295,610</b>
<b>Farm</b>		\$ 378,158		\$ 450,969
<b>Input Dealer</b>		\$ 647,636		\$ 373,140
<b>AgSME</b>		\$ 532,816		\$ 471,502

	<b># 2 Incremental Sales</b>			
	Baseline	Actual	Increase	% Increase
<b>Total</b>	\$ 9,190,297	\$ 10,906,592	\$ 2,430,070	26%
<b>Farm</b>	\$ 908,888	\$ 1,213,688	\$ 304,799	34%
<b>Input Dealer</b>	\$ 6,806,384	\$ 7,641,408	\$ 835,023	12%
<b>AgSME</b>	\$ 1,475,024	\$ 2,051,496	\$ 576,472	39%

	Target	Actual
<b>#6 - Improved HA</b>	539	567
<b>#8 - Farms Apply Tech</b>	352	550
<b>#9 -</b>	10	30

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