PRIVATE SECTOR COMPETITIVENESS ENHANCEMENT PROGRAM

FINAL REPORT

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PRIVATE SECTOR COMPETITIVENESS ENHANCEMENT PROGRAM

FINAL REPORT

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COTR: Aytan Gahramanova

COVER PHOTO: Lankaran Business Development Service Provider offers technical advice to Optimal-1, a fruit processing company.
CONTENTS

Acronyms........................................................................................................................................................1
Executive Summary..................................................................................................................................................2

Section I. About the Program...............................................................................................................................4
  Targeted Sectors.................................................................................................................................................4
  Pillars of the PSCEP Approach ..........................................................................................................................5
  Managing for Results .......................................................................................................................................6

Section II. Aquaculture: Revitalizing an Ailing Sector .........................................................................................10
  Overview and Impact ......................................................................................................................................10
  Challenges Facing Carp and Trout Farmers ....................................................................................................10
  PSCEP Solutions: Improved Fish Feed, Eggs, and Hatchery ........................................................................11

Section III. Dairy Sector: Building a Reliable Supply Chain ..............................................................................15
  Overview and Impact ......................................................................................................................................15
  Challenges Facing Dairy Farmers and Firms .................................................................................................15
  PSCEP Solutions: Improved Quality and Quantity of Milk Supply ................................................................16

Section IV. Poultry Sector: Enhancing Productivity ............................................................................................19
  Overview and Impact ......................................................................................................................................19
  Challenges Facing Poultry Firms ..................................................................................................................19
  PSCEP Solutions: Improved Feed Quality and Strategic Planning ...............................................................19

Section V. Fruits and Vegetables: Targeting Seasonal and Value-Added Opportunities ....................................23
  Overview and Impact ......................................................................................................................................23
  Cold Storage Subsector ..................................................................................................................................23
  Greenhouse Subsector ....................................................................................................................................25
  Processed Fruit and Vegetable Subsector ......................................................................................................26

Section VI. ICT Sector: Building Global Development Alliances ......................................................................29
  Overview and Impact ......................................................................................................................................29
  PC Software Anti-Piracy Alliance ...................................................................................................................30
  Barama Innovation Center Alliance ...............................................................................................................31
  Cisco Networking Academies Alliance ...........................................................................................................32

Section VII. Finance Sector: Expanding the Range of Financial Products for SMEs ........................................33
  Overview and Impact ......................................................................................................................................33
  PSCEP Solutions: Bank Lending, Loan Facilitation, and Equity Financing ..................................................33

Section VIII. BDS Sustainability: Equipping Partners for Growth ....................................................................40
  Overview and Impact ......................................................................................................................................40
  PSCEP Solutions: Careful Partner Selection and Capacity Building ..............................................................40
  Summary Status of BDS Providers ..................................................................................................................43

Section IX. Lessons Learned and Recommendations ........................................................................................45
  General and Sector-Specific Lessons Learned ..............................................................................................45
  Recommendations for Future Programs ........................................................................................................48
<table>
<thead>
<tr>
<th>ACRONYMS</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIC</td>
<td>Azerbaijan Investment Company</td>
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<tr>
<td>AIM</td>
<td>Agro-Information Center</td>
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<td>Azerbaijani New Manat</td>
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<td>BDS</td>
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<td>British Petroleum</td>
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<td>CBA</td>
<td>Central Bank of Azerbaijan</td>
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<td>CIIC</td>
<td>Caspian International Investment Company</td>
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<td>COTR</td>
<td>Contracting Officer’s Technical Representative</td>
</tr>
<tr>
<td>D/C</td>
<td>Documentary collection</td>
</tr>
<tr>
<td>DRC</td>
<td>Domestic Resource Cost</td>
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<td>European Bank for Reconstruction and Development</td>
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<td>GDA</td>
<td>Global Development Alliance</td>
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<td>GMM</td>
<td>Ganja Meat-Milk</td>
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<td>Government of Azerbaijan</td>
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<td>Hazard Analysis and Critical Control Points</td>
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<td>Information and Communication Technology</td>
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<td>L/G</td>
<td>Letter of Guarantee</td>
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<td>Ministry of Education</td>
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<td>Memorandum of Understanding</td>
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<td>Non-Governmental Organization</td>
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<td>PSCEP</td>
<td>Private Sector Competitiveness Enhancement Program</td>
</tr>
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<td>Small and Medium Enterprises</td>
</tr>
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<td>STP</td>
<td>Sector Transformational Plan</td>
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<td>TIRSP</td>
<td>Trade and Investment Reform Support Program</td>
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<td>United Kingdom</td>
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<td>United States Agency for International Development</td>
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EXECUTIVE SUMMARY

Increased oil and natural gas exports have spurred rapid economic growth in Azerbaijan in recent years. In spite of growing wealth, the country risks becoming overly dependent on a single sector at the expense of economic diversity and sustainability. As a result, the Azerbaijani government has made economic diversification one of its highest priorities.

Launched in 2008, the USAID Private Sector Competitiveness Enhancement Program (PSCEP) targeted select non-energy sectors of the Azerbaijani economy—such as aquaculture, dairy, poultry, fruits and vegetables, ICT, and finance—through a value-chain approach that sought to enhance competitiveness of not just individual firms but of the entire value chain. To tackle diverse competitiveness constraints unique to each target sector, the program used an integrated package of technical assistance, training, business linkages, loan facilitation, and leveraging of resources through public-private partnerships.

The PSCEP contract specified 16 performance indicators by which to measure results. This report describes program achievements, challenges, and lessons learned over the course of implementation, along with recommendations for follow-on programming. This final report incorporates the last three months of the program and meets the requirements for quarterly reporting. Program strategies, activities, and impact are presented for each target sector. The information, results, and figures contained in this report represent the accumulation of regular monitoring and evaluation (M&E) data tracked by the program and its partner organizations.

PROGRAM HIGHLIGHTS

- PSCEP’s work in the aquaculture sector significantly improved the genetic vigor of local fish stocks. Hatchings from imported eyed trout eggs consistently exceeded 90 percent, with most reaching 98 percent. As a result, a second and larger eyed trout egg order was imported in late 2010. In addition, a PSCEP cost-share grant enabled the construction of a carp fingerling hatchery. The new trout eggs and carp hatchery provide an improved supply of high-quality fish for producer rearing.

- For the first time, Azerbaijani fish farmers attended an international aquaculture fair. As part of PSCEP’s efforts to modernize the aquaculture sector, a group of local fish producers attended the Future Fish Eurasia Fair in Izmir, Turkey. There, they were exposed to new production methods and equipment, attended workshops, and made international contacts.

- PSCEP and its partners addressed and improved the quality of animal feed as well as feeding and watering practices. The focus on improved animal husbandry is especially important due to the more stringent care requirements of newly imported, improved animal varieties. Technical assistance emphasized the role of nutrition in improving yields and revenues and in maintaining animal health.
Through cost-share grants, PSCEP helped create a fish feed importation channel, rehabilitate an existing animal feed mill, and establish an animal feed analysis laboratory. A PSCEP business development service (BDS) provider set up an independent company to handle the importation of eyed trout eggs and fish feed, and is coordinating the founding of a local aquaculture association.

- PSCEP efforts in the dairy sector in the Lankaran region demonstrated how simple, low-cost improvements in animal husbandry and milking practices—in addition to adherence to contract requirements with milk buyers—can result in significant improvements in milk yields, a decrease in buyer rejections of delivered milk, increased buyer confidence, and an overall increase in farmer revenues. With BDS assistance, better farming practices and buyer support also have led to improved access to credit through the banking and financial sector for further enhancements. These activities and results are applicable to other dairy regions of the country.

- PSCEP successfully negotiated, signed, and implemented Global Development Alliance (GDA) grants with large international and regional information and communication technology (ICT) private sector companies and the Azerbaijani government. A software anti-piracy GDA alliance with Microsoft and the Softline Company trained Central Bank IT auditors to identify unlicensed software used in the nation’s commercial banking industry and to work with medium- and large-scale corporations to tackle unlicensed software use in their firms. A second GDA with Azercell supports its Barama Innovation Center, an incubator for young entrepreneurs, in the development of innovative and marketable ICT products.

- In the financial sector, PSCEP’s partner banks reported $137.9 million of credit extended to SMEs during the period of program assistance. PSCEP provided formal and on-the-job training to selected banks, some of which went on to use PSCEP materials in their own internal training sessions and to engage bank staff trained by PSCEP to deliver training to their peers.
I. ABOUT THE PROGRAM

PSCEP aimed to foster economic growth in Azerbaijan by improving the competitiveness, employment, and income-generation potential of private enterprises in key sectors of the rural economy. To achieve this objective, the program adopted a transformational value-chain competitiveness approach centered on six sectors and eight subsectors of the Azerbaijani economy. Implementation was guided by PSCEP’s original contract design and performance indicators, which lay out 16 output targets defining program success. With a contract value of nearly $6.6 million, PSCEP was envisioned as a three-year program effective September 25, 2008, through September 30, 2011, but actually ended eight months early for budgetary reasons.

PSCEP was designed during a period of spectacular growth in the country’s Gross Domestic Product. Shortly after its launch, however, the world economic crisis set in and began to be felt in Azerbaijan. Already lagging non-oil growth slowed even further, hindering investments in the sectors that needed it the most. In light of this situation, PSCEP achieved good overall results against its performance indicators, but fell short against some targets. These shortfalls can be attributed to a combination of factors, including the economic cycle, programming considerations, budgetary constraints\(^1\), and extremely ambitious target dates.

In its second year, under the leadership of a new chief of party, PSCEP explored lessons learned from its first-year activities to gain a deeper understanding of what was working, what was not, and what was likely to deliver results by the end of the program. In consultation with the USAID COTR, the program revised its range of sectors and subsectors, and readjusted its staffing and management strategy accordingly.

TARGETED SECTORS

Based on project design, PSCEP established initial sectors and subsectors based on a comprehensive and extensive analysis. This analysis included a comprehensive Domestic Cost Resource (DRC) analysis, a methodology for uncovering sectors that offer the best comparative advantage. In this process, a PSCEP consultant reviewed existing information on specific sectors and spoke with stakeholders to determine the sectors and subsectors of the Azerbaijani economy with the highest comparative advantages.

In its second year, PSCEP explored the lessons learned from its first year activities and, in consultation with the USAID Mission, revised its range of sectors and subsectors (as well as project activities), taking into account import substitution, local market demand, impact on local businesses, and increased value chain revenues. Table 1 on the next page shows the change in sectors from Year 1 to Year 2.

\(^{\text{1}}\) See Budgeting, Page 8.
In parallel with revising its target sectors and considering the limited amount of remaining program resources, PSCEP instituted a more thorough budget review and cost projection process, along with budget revisions to decrease the program’s spending rate while maintaining a critical focus on contractual obligations. Improvements were introduced in the program’s M&E system to enhance data collection, analysis, and reporting of results and impacts. In addition, the program’s grants component was retargeted from an initial focus on business productivity and ICT innovations by private firms and NGOs, which did not yield a sufficient pool of suitable partners, to an emphasis on: (a) factors limiting success in the targeted sectors and subsectors, (b) GDAs in the ICT sector, and (c) sustainability of BDS providers. With these changes, grant proposals and activities took off during the second year of the program.

**PILLARS OF THE PSCEP APPROACH**

The PSCEP technical approach rested on three critical pillars central to all program activities.
Leveraging capital, know-how, and human resources to effect transformational change and ensure sustainability. PSCEP made a concerted effort to leverage finance, GDAs, as well as cross-cutting and intra-sectoral interventions where USAID assistance could serve as a catalyst in bringing to bear additional resources for maximum impact.

Building on and further developing key institutional relationships with program stakeholders, including government ministries and Regional Executive Committees to ensure buy-in from the Government of Azerbaijan (GOAJ); a broad base of local financial institutions, such as the Azerbaijan Investment Company (AIC), the Caspian International Investment Company (CIIC), commercial banks, leasing companies, and microfinance organizations to facilitate lending; other USAID and donor programs to coordinate activities, pool resources, and create synergies; international companies such as Microsoft, Adobe, Cisco, and Softline to promote growth in the ICT sector; national and regional private sector companies to foster collaborative business relationships; and linkages between firms, BDS providers, and local technical experts and technicians to sustain results.

Strategic engagement of local organizations as a mechanism for the delivery of USAID assistance and local capacity building. PSCEP subcontracted local BDS providers to facilitate relationship-building at the community level, close-contact support to target beneficiaries around the country, and the transfer of knowledge and skills to local organizations and professionals that could continue to promote development of the target sectors and subsectors beyond the life of the program.

MANAGING

PSCEP sought to transform non-oil sectors of the Azerbaijan economy and to create sustainable drivers of sales, jobs, and investments, with a view to diversifying the economy and decreasing dependence on the energy sector. To translate this vision into reality, PSCEP promoted transformational change in six key areas.

Promotion of the value-chain concept. PSCEP followed a value-chain methodology by analyzing all levels of the targeted sectors and subsectors, including input supply, production, processing, distribution, and marketing. The value-chain concept charts the value added to a product as it moves across the chain and
provides a systemic view of business interactions that underscores the relationships between transactional actors. PSCEP mapped the value chains of targeted sectors during its first year and, through technical assistance and stakeholder participation, added value to multiple products. While that value was measurable, program interventions also broadened the perspectives of value-chain participants so they could perceive each other as partners in a “win-win” situation rather than competitors in a “win-lose” relationship. This approach worked in the aquaculture sector in the northern parts of the country, and to a certain extent, in both the cold storage in the Guba area and the dairy sector through the milk collection centers in the south.

**Introduction and dissemination of management and technical best practices and technologies.** When new practices or technical innovations alleviate critical sector-wide constraints, the basic structure and possibilities of the sector are enhanced. An improved cold-chain and post-harvest handling system is expanding seasonal marketing patterns for much of the fruit and vegetable industry, moving from a low-priced, bulk harvest sales industry to one where high-priced marketing periods and markets are reached. The program’s ICT component, focusing on anti-piracy initiatives and increased access to ICT, addressed issues hampering the competitiveness of the country’s private sector. Furthermore, improvements in basic management practices like recordkeeping, accounting, and business planning enable the correct estimation of product cost, profitability, opportunity costs, and long-term investment decisions, thus broadening and deepening business planning horizons.

**Life-of-business finance and investment instruments.** Even in favorable times, access to finance is a challenge for many Azerbaijani firms. This challenge has become more pronounced in the aftermath of the global financial crisis. Many businesses struggle to stay afloat on small amounts of retained earnings and sporadic financial help from personal resources. The limited bank debt financing available in Azerbaijan has focused mainly on specific, short-term requirements. The near-absence of intermediate and long-term financing, coupled with the uncertainty of financing from personal resources, has forced businesses to adopt a quick-return, short-term view. PSCEP took steps to improve longer-term equity investment, introduce a wider range of short-term lending, augment medium-term lending for capital equipment through leasing facilities, and foster the adoption of cost-cutting measures and greater efficiencies to increase the amount of earnings retained in the business for working capital and capital investment requirements. These financing mechanisms have facilitated a shift from a short-term to a long-term “ongoing” business perspective, an expansion of current operations, and a longer planning horizon for capital investments, wider markets, and longer-term risks.

**Promotion of sectoral cohesiveness and associative development.** A corollary of the value-chain effort was the promotion of sectoral cohesiveness to change the “win-lose” mentality into a “win-win” one. A pervasive aspect of the business environment in Azerbaijan is the pronounced suspicion of cooperative or associative structures at the enterprise level. The resulting mistrust between enterprises truncates sectoral growth by inhibiting synergies and the collection of market information. By developing associative relationships, enhancing collaboration, and facilitating transactions that also improve market efficiency within the sector, PSCEP activities served as a catalyst for cohesion...
and enhanced performance in the dairy, aquaculture, and finance sectors as well as the greenhouse, cold storage, and fruit and vegetable processing subsectors.²

Promotion of demand-pull over supply-push strategies. In a developed market, supply is based on demand in the form of verbal or written contracts, i.e. “demand pull.” In developing markets, supply is often generated with the expectation of demand, but without substantial cues evident in the marketplace. The results are often unsold products or products sold below cost. Businesses using this “supply-push” strategy typically run into major difficulties and do not survive for long. PSCEP’s sectoral interventions promoted a market demand strategy and equipped BDS providers to share information on production, processing, and market trends (e.g., through support in developing and expanding their websites).

Improved business environment. Improving the business environment can change the paradigm of a sector or subsector entirely. For instance, the PSCEP GDA anti-piracy program in the ICT sector enhances demand for legitimate software, thus contributing to an increase in the quantity and quality of options made available by software providers.

BUDGETING

PSCEP’s first-year burn rate was higher than anticipated. This required PSCEP to reforecast its remaining budget carefully by reevaluating activities and their associated costs, and determining whether those activities could yield significant results within the remaining life of the program—i.e., through January 2011. Based on this analysis, subcontracts with international consulting companies providing short-term technical assistance to the financial sector and for the development of GDAs were shortened, and cost savings put back into the operations budget. Subcontracts with local BDS providers, which were due to expire in January 2010, were renewed with declining monthly fees to gradually lower payment amounts reducing dependence on USAID funding. At the same time, the program increased collaboration and leveraging of resources with other development projects and organizations.

STAFFING

The program’s second year was a period of substantial personnel changes. PSCEP welcomed a new chief of party and deputy chief of party, as well as other long-term personnel replacements. Overall staffing was streamlined for budgetary reasons, with the remaining staff assuming additional functions to fill the gaps. The number of foreign consultants engaged by the program was also reduced, and off-site days substituted for more costly days spent in-country whenever possible.

² Several BDSs were able to achieve successes through this multifaceted approach. Most of the project’s BDSs have developed experience and a certain minimum level of expertise in several of the project’s target sectors and subsectors: the Lankaran Business Center/Azerbaijan Agribusiness Center (LBC) in the dairy sector and greenhouse and fruit and vegetable processing subsectors; Sheki Business and Innovation Center (BIC) in the aquaculture sector; Guba Marketing Center (GMC) in the cold storage sub-sector and to a limited extent in aquaculture; and Ganja Young Agrarians (YA) in finance, dairy, and aquaculture sectors and in the greenhouse and cold storage subsectors.
Chemonics managed a transition to the new program leadership, ensuring that momentum improved and became more focused. With USAID’s guidance, the new chief provided overall strategic direction; managed key institutional relationships with AIC, partner banks; and supervised financial and value-chain specialists. The new deputy chief of party oversaw the M&E and communication functions; directed office management and operations; and managed capacity building and relationships with regional BDS providers.

**COMMUNICATING**

For technical and management information to be actionable, PSCEP quickly shared its technical and analytical reports with local BDS providers, including electronic versions in English and Azeri, for posting on their websites. The program team held lectures and discussions on technical issues, methodologies, and opportunities at the State Agrarian University in Ganja and with partner investment companies. An emphasis was placed on systematic data collection, analysis, and reporting on program indicators, and on the role of the BDS providers in M&E. PSCEP helped the BDS providers improve their data collection and reporting techniques, and conveyed the importance of M&E to their post-program prospects. Overall, these efforts resulted in more thorough information as well as clarity on program successes and areas requiring adjustments.

In addition, the program consulted with the USAID Mission on a weekly basis and organized field trips with USAID staff to provide first-hand information, solicit suggestions, and address implementation issues. PSCEP accompanied the COTR and her staff to each of the program’s BDS providers to provide a more thorough understanding of program activities, share information, and participate in opening ceremonies. USAID’s regional environmental officer and PSCEP’s deputy chief of party worked together on environmental monitoring and mitigation plans for grantees. USAID’s country representative visited a number of PSCEP-assisted fish farmers and the opening ceremony for a program-supported animal feed analysis laboratory. USAID’s regional director participated in BDS and GDA events and met with several beneficiaries. Based on PSCEP’s experience with GDAs, the program’s value-chain specialist, along with USAID’s COTR and activity manager, participated in a USAID training session on GDAs in Washington, D.C., to discuss lessons learned and answer questions. Furthermore, at the request of the COTR, PSCEP accompanied a visiting representative.
from the U.S. Department of Agriculture (USDA) on field visits and meetings to identify areas where USDA funding could complement ongoing USAID agricultural efforts.

A cold storage expert works with the NAA Company in Ganja to upgrade its cold storage/warehouse facility. (February 2009)
II. AQUACULTURE: REVITALIZING AN AILING SECTOR

OVERVIEW AND IMPACT

PSCEP had a major impact on revitalizing Azerbaijan’s aquaculture sector, specifically carp and trout farming. Growing interest in expanding existing operations and in new investments in the sector is largely attributable to program interventions. PSCEP fostered better awareness of the opportunities aquaculture offers, modernized practices dating back to Soviet times, and forged strong relationships among sector firms by bringing stakeholders together—often for the first time—to solve collective problems. With an eye on sustainability, the program helped to develop and promote the use of Azerbaijani experts and service providers, local feed production and supply, and local sources of carp fingerlings previously sourced through imports.

Program activities ranged from technical assistance to improve production facilities, rearing and feeding practices and sources of feed; support in sourcing, hatching, and rearing fingerlings from improved stocks of eyed trout eggs; and advice to potential investors. Through small grants, PSCEP supported the import of quality fish feed not available locally, rehabilitation of a fish feed mill that will dramatically increase local feed supply, and establishment of a carp hatchery to substitute costlier imports of fingerlings and stimulate local fish production. Efforts to foster collaboration led to the formation of an association for joint capital investment in the carp hatchery, bulk orders of high-quality fish feed, and bulk procurement of imported eyed trout eggs with superior hatching rates. PSCEP also organized aquaculture conferences and supported the first-time attendance of Azerbaijani fish farmers at an international aquaculture fair, providing further opportunities for producers to network, gain new knowledge, and develop international contacts. Together, these efforts helped to address key constraints in the aquaculture value chain, stimulate local industry and commerce, and promote intra-industry cooperation.

CHALLENGES FACING CARP AND TROUT FARMERS

Though local demand for fish is high, aquaculture production in Azerbaijan decreased by 95 percent in the last two decades—from approximately 60,000 metric tons in 1988 to 3,000 metric tons in 2007, right before the start of PSCEP. Meanwhile, seafood imports increased by nearly 500 percent over the same period. While well-developed in the Soviet era, many pond and raceway facilities fell into disrepair and there were no government bodies, extension agents, or NGOs passing on updated knowledge to survive in the industry.

Initial PSCEP investigations found that primarily small and medium-sized aquaculture activities existed in most regions of the country, but that farmers lacked formal training and had outdated skills based on a low-cost, low input supply system. Most facilities were in disrepair and operating below capacity. Considered a “common people’s food,” carp could be found in open markets at a relatively low price of 5-6 AZN/kilogram. Carp farmers had no problems with sales as dealers bought virtually all of their production.
right at the farm, but the industry faced an array of issues thwarting growth and profitability: one harvest per year; limited access to carp eggs and fingerlings; lack of information on modern production and management methods; undercapitalization; and lack of affordable financing.

Introduced by the Soviets in the 1960s, trout production reached its peak in the 1980s, only to face unprecedented decline in the early 1990s. Trout farming is an intensive activity demanding high levels of investment, sophisticated management, and a well-organized farming system. PSCEP’s sector study revealed a unique situation with the trout market, with one kilogram of trout sold at a price ranging from 15 to 30 AZN at the farm. Perceived as a niche product, local trout could only be found in some restaurants at specific times of the year at a price as high as 70 AZN/kilogram. These extraordinary prices were a function of very limited supply coupled with the significant purchasing power of a small portion of the Azerbaijani population. Most of the existing trout farms had reemerged between 2007 and 2009, attracted by the high market prices, but they faced a range of problems: a weak brood stock with limited growth potential; obsolete farm facilities and old raceways in need of reconstruction; lack of a commercial business approach and knowledge of modern production methods; limited access to nutritional fish feeds and sources of eyed trout eggs and fingerlings; absence of a cold chain, preventing sales during warm months; and limited access to credit and investment.

**PSCEP SOLUTIONS: IMPROVED FISH FEED, EGGS, AND HATCHERIES**

PSCEP addressed these constraints through a combination of technical assistance and training, grants to tackle immediate and longer-term issues, efforts to foster collaboration and formal association, coordination with local government, and dissemination of information through the media and translated documents—all aimed at introducing carp and trout farmers to international best practices and increasing their access to high-quality fish feed and eggs at affordable prices.

*Enhanced farm management capacities.* PSCEP international and local experts provided technical assistance to fish farmers to improve production facilities, water quality, spatial designs, rearing and feeding practices, and feed sources. Farmers learned new techniques such as improved water flow and oxygen, water reuse, and multi-cropping of mutually supportive animals within the same body of water (e.g., carp, trout, and ducks). The program’s partner BDS providers helped fish farmers develop business plans to facilitate access to commercial loans to finance upgrading of their farms.

To build local capacity in tackling technical and management issues, Azerbaijani professionals—from the program’s own team and BDS providers—were teamed with short-term international consultants providing hands-on assistance and advice to fish farmers and potential investors. This equipped local professionals with the knowledge and skills to deliver direct technical assistance themselves. During their assignments, international experts also held seminars with students and faculty at the State Agrarian University. To maximize the transfer of knowledge, technical reports were translated in Azeri and widely circulated to local stakeholders.
**Increased feed supply and quality.** In addition to improving farm management capacities, PSCEP worked with farmers to tackle issues with feed quality and quantity, a key limiting factor for the development of the aquaculture industry. Inadequate feeding of the fish lengthens the production period, hampers the ability of the fish to reach their genetic production potential, and results in increased costs and smaller revenues for the farmers. To improve the supply and quality of fish feed, PSCEP provided grant support to a newly formed association to organize the bulk procurement of imported fish feed that is not produced or widely available in the local market. Despite difficulties with the import process, an initial 17 tons of fish feed was successfully imported from a Georgian distributor, meeting local demand from trout growers for approximately three months. While the initiative helped to create a fish feed distribution channel, multiple bureaucratic and administrative issues came into play, underscoring the importance of simplifying customs procedures and improving the legal environment for continued growth of the sector. A second order of fish feed for fish fry was put on hold until import arrangements and hindrances are resolved.

In addition to import facilitation, PSCEP worked with farmers to begin local small-scale production of nutrient-rich granulated and powdered fish feed in line with sanitary standards. Through grant support, PSCEP helped refurbish an old fish feed mill at Girkhlulag Fish Farm, just outside Sheki, to provide trout and carp producers in the western regions with a reliable supply of fish feed. Rehabilitation of the mill is expected to increase feed production from 5 tons a year to up to 12 tons per shift (10 hours). Issues with feed quality continue to limit feed sales, however. Until a stable source of “fish meal” is available or produced in Azerbaijan, the mill will find it difficult to produce high-quality trout feed. Instead, plans are for the mill to start with the simpler carp feed and to market this to local farms in the Sheki/Zagatala region.

**Modern carp hatchery.** Through a grant and technical assistance, PSCEP supported the establishment of an association-based carp hatchery in Hajibulag village in the north-west. This cascade type of hatchery, which is unique in Azerbaijan, has the capacity to produce 2 million carp fingerlings, covering the demands of local fish farms that currently import fingerlings from neighboring countries. PSCEP helped formalize an association of lake-fish farmers to facilitate joint capital investments in the carp hatchery, which will provide a constant supply of high-quality fries and fingerlings to lake fish farms in the north-western regions, thus enhancing the cost-efficiency and competitiveness of the country’s lake-based aquaculture sector. The hatchery opened in October.
2010, with the first hatch expected in May 2011. It was designed to supply the domestic market with ecologically clean, high-quality carp, silver carp, and grass carp, but can later be expanded to also hatch other varieties of fish fingerlings, including trout, tilapia, and catfish.

**Bulk imports of trout eggs.** To improve the local trout brood stock, PSCEP worked with a local BDS provider to organize the country’s first consolidated order for imports of eyed trout eggs, along with technical assistance in handling and incubating the eggs to optimize hatch rates. Eyed trout eggs are more viable than locally sourced eggs, providing an opportunity to increase the farmers’ rate of return. Four fish farms jointly procured 500,000 eyed eggs from a major U.S. company and one of the leading trout-focused firms in the world, Troutlodge. The imported eggs reduced hatching times from 72 to 20 days and all farms reported hatch rates between 90 and 98 percent—well above the local industry norm of 60 percent. The resulting fingerlings developed well, with little mortality, and were three times bigger than fingerlings hatched from local eggs. The superior hatching rates that resulted from this effort led to a second, larger order of 1 million eggs for 8 fish farms—twice the number of farms involved in the first order.

The egg imports helped regenerate and improve the genetics of the local brood stock, increase production by saving space for grow-out of fish that would otherwise be used for breeding, and reach market size in 6 to 8 months as opposed to 12 to 18 months. For farmers, this meant a tripling of harvests and thus higher incomes.

**Conferences and fairs.** PSCEP seized every opportunity to bring together local fish farmers and other stakeholders at seminars and conferences to promote associative
relationships. The program organized two annual aquaculture conferences that attracted trout and carp farmers, BDS providers, local government representatives, investment companies, banks, fish feed and egg suppliers, aquaculture experts, and research institutions such as the State Agrarian University and Agro-Information Center (AIM). The conferences addressed key production and marketing issues related to aquaculture. A Troutlodge representative attended one of the conferences at his own cost to discuss commercial growth of trout.

Recognizing the importance of exposure to international best practices, as well as potential buyers and suppliers in regional and global markets, PSCEP supported the attendance of Azerbaijani fish farmers at an international aquaculture fair through a cost-share arrangement. In September 2010, six participants attended the Future Fish Eurasia Fair in Izmir, Turkey, where they observed the latest innovative products and services available in the industry today. The fish farmers met with producers of sorting and grading machines, fish processing and packaging equipment, aeration tanks, and fish feed. The fair helped to enhance the producers’ knowledge and reinforced the benefits of sector-wide networking and cooperation. For all six participants, this was their first time attending an international fish fair. Upon returning to Azerbaijan, they shared their experience with other farmers during a PSCEP aquaculture conference.
III. DAIRY SECTOR: BUILDING A RELIABLE SUPPLY CHAIN

OVERVIEW AND IMPACT

Dairy products are an important part of the Azerbaijani diet. Major dairy firms have in the past relied on imports of powdered milk for much of their processed dairy products due to difficulties sourcing milk locally, including low milk volumes, poor quality, and an unreliable supply from a large number of small farmers. In the southern region of Lankaran, PSCEP worked with both anchor firms and small farmers to develop the supply chain, educating farmers in the means to improve milk quantity and quality, and facilitating direct and indirect linkages between hundreds of producers and the two major dairy companies active in the area—PalSud and MilkPro—while developing and testing sustainable models with the potential for replication in other regions.

Large dairy firms like PalSud and MilkPro continue to seek new sources of raw milk in the regions, where proper feeding, care of dairy cattle, and hygienic handling of milk require attention. PSCEP efforts to address these issues in Lankaran yielded striking results, with a 270 percent increase in production at PalSud milk collection centers, 10 to 20 percent increases in milk yields for a vast majority of assisted farmers, and higher sales for 88 percent of farmers reached by the program.

Milk testing at a PalSud collection center.

CHALLENGES FACING DAIRY FARMERS AND FIRMS

The major constraint to growth of Azerbaijan’s dairy sector is the low quality and quantity of raw milk received by processors from small farmers supplying their collection centers. Most local cattle are of old Soviet stock and produce low volumes of milk, though they are able to fend for themselves on poor husbandry and feeding practices. Past donor attempts to introduce better milk-producing breeds have failed for the most part due to poor husbandry and nutrition practices. The uncertain quality of cattle feed compounds the problem. Proper feeding is a key ingredient to maintaining cattle health and improving raw milk yields, underscoring the importance of training in cattle care, especially for the newly introduced high-yield but also high-maintenance breeds.
PSCEP SOLUTIONS: IMPROVE QUALITY AND QUANTITY OF MILK SUPPLY

PSCEP’s strategy in the dairy sector focused assistance efforts in southern Azerbaijan, where BDS providers had experience working with dairy producers, to demonstrate sustainable, replicable ways to establish a reliable supply chain through improvements in milk quality and volumes. PSCEP engaged international experts and local BDS providers to work with dairy farmers and leading anchor firms PalSud and MilkPro, as well as Bilasuvar Agro Company early in the life of the program.

More than 6,000 dairy farmers received direct or indirect support through the dairy firms’ collectors and collection centers, leading to improved milking practices, cattle nutrition, and husbandry. PSCEP organized trainings, demonstrations, and training of trainers on milk quality, hygiene, and cattle feeding, in tandem with extensive public outreach through the dissemination of brochures, posters, and training materials. As a result, dairy farmers were able to enhance milk quality and quantities to meet PalSud and MilkPro standards and contracts. Milk yields increased and rejection rates dropped, leading to greater volumes of milk supply and higher revenues for the suppliers.

Trained Farmers Boost Yields and Sales

To assess the direct and indirect impact of the program on Lankaran’s small dairy farmers, PSCEP and its local BDS partner surveyed a random sample of BDS-assisted dairy farmers in August 2010. The survey sought to determine whether dairy farmers had received PSCEP technical assistance or information—either directly or indirectly through milk collectors, milk collection points, or from neighbors—and, if so, to uncover the impact of this assistance. Results showed that more than 75 percent of the farmers surveyed reported receiving some type of assistance or training. Of the surveyed milk producers who had received recommendations and/or training, more than 90 percent recorded increased milk yields of 10 to 20 percent on average and better milk quality over the past year. Furthermore, 88 percent of those surveyed saw increases in their milk sales, which contributed to social welfare increases reported by 64 percent of the surveyed farmers who received technical assistance.
Training trainers. The Lankaran Business Center, PSCEP’s partner BDS provider, gradually expanded its role in the region’s dairy sector by training a growing number of farmers, farmer groups, and milk collectors. The BDS center provided training of trainers to all 53 PalSud milk collectors, along with pamphlets and posters, so they could in turn train their milk suppliers. Similar efforts were initiated with Yusif Farmer, a large MilkPro collector that works with 2,700 dairy producers in the area. In both cases, average monthly milk yields and producer revenues increased significantly through simple, low-cost improvements in hygienic practices, milk collection techniques, and cattle nutrition. Seeing the improvements in yields, milk acceptances and, most importantly, increased payments, several of the trainees’ neighbors replicated the improved practices on their own farms.

Data on milk collection rates from the five PalSud milk collection centers showed continual increases in production. While growth rates slowed from Year 1 following initial jumps in production and collection, year-on-year growth rates ranged from 8 to 20 percent, depending on the collection center. Total increases in production from the start of the program ranged between 161 and 638 percent, averaging at 271 percent. Encouraged by these results, PalSud is looking to increase milk collections in the southern region and is interested in working with the Lankaran Business Center to train more farmers, particularly in remote villages. The BDS provider estimates reaching more than half of the 9,000-plus farmers in the region.

Increased access to finance. The Lankaran Business Center introduced small dairy farmers supplying PalSud and MilkPro to local microfinance institutions Access Bank and Agrarkredit to facilitate access to credit for expanding herd size and improving farm facilities. The financial institutions value the contracts that producers have with the milk companies and the breadth of technical services provided by the BDS center, including development of business plans to support credit applications; provision of on-farm consulting and farm development; and sourcing of pedigree dairy cattle, cattle feed, and dairy equipment. As a result of these efforts, Access Bank provided 880,000 AZN in small loans to 304 dairy farmers in 2009 and 2010, while Agrarkredit disbursed 375,000 AZN in loans to 105 farmers over the same period.

Expanded dairy farm operations. The Lankaran Business Center also helped its large dairy sector clients expand their operations, including PalSud, Yusif Farmer, and Elbrus. The center provided advisory services to PalSud, which is planning a significant investment to enlarge its own farm and import pedigree cattle. For Yusif Farmer, the

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1 Some collection areas for PalSud and MilkPro overlap; in these cases, farmers provide milk to both processors.
BSD center provided loan facilitation through Access Bank to finance the purchase of dairy cattle, advised on the expansion of the stable complex, and recommended cheese-making and milking equipment. For Elbrus, the center advised on stable expansion and facilitated access to finance and the import of pedigree cows.

Early in the program, PSCEP’s BDS partner in Jalilabad helped the Bilasuvar Agro Company, the only producer of powdered milk in Azerbaijan, set up a milk collection center in Imishli and provided training to the company’s two other collection centers. Despite these efforts, the company preferred to continue to import its raw milk material and the relationship did not continue.

However, PSCEP’s BDS partner in Ganja—Young Agrarians—successfully expanded its activities in the dairy sector based on lessons learned from PSCEP’s work in the South, working with both milk producers and processors to source suppliers, equipment, financing, and improved dairy cattle. The project facilitated the BDS’s growth through targeted subcontracts to focus BDS assistance, required biweekly or monthly reports and corresponding PSCEP feedback and input, joint technical assistance with on-site assistance from technical experts and subsequent practical technical reports, ongoing communication with PSCEP value chain staff, and specific BDS training workshops. As a result, the Young Agrarians were able to focus its strategy, for example, on supporting its long-time client the Elba Company in establishing a new dairy operation in Dashkesan. The BDS provider assisted with legal registration of the new operation, facilitated the procurement of cooling tanks and dairy processing equipment, and helped identify collection points. It also identified farmers willing to supply the company with specified daily quantities of raw milk, which will increase as Elba expands its production volume and diversifies into other dairy products. Erkal Uzeyli, a Turkish milk processing company, was contracted to deliver training to small producers on milk quality and collection methods. The Turkish company FRENOX visited Azerbaijan and signed a contract for the construction of 1,000 tons of refrigeration capacity for the new dairy facility. To help finance the investment, Young Agrarians assisted Elba in negotiating a loan from the State Entrepreneurship Fund through Demir Bank.

As a result of PSCEP facilitating linkages among milk suppliers, the Ganja BDS provider was able to help the Gilan Holding Company expand its dairy and cheese production facility in Tovuz by facilitating linkages with milk suppliers, assisting with procurement of dairy equipment, and securing a credit line from Xalg Bank. Young Agrarians met with farmers in Samukh, Dashkesan, Akstafa, and Goy-Gol to discuss the dairy company’s operations and identify milk collection points. The BDS provider visited the Jalilabad region to view Turkish milk holding tanks and interact with Turkish specialists, then coordinated the import of two-ton capacity milk tanks from Turkey. Four milk tanks, out of the planned eight, arrived and were installed at select milk collection points in Samukh, Goy-Gol, and Dashkesan. A Turkish specialist from the supplier company trained the collection point representatives on tank maintenance, collection point hygiene and sanitation, and use of instruments and meters for milk testing.
Through the assistance of project competitiveness specialists, the Young Agrarians also worked on a business plan for a client’s dairy cattle breeding operation, assisted another client with a leasing application for the purchase of Australian-bred milking cows, and held discussions with a third client on the installation of feed storage units and development of a client base for dairy cattle feed. At the request of a plant in Shemkir, Young Agrarians developed a business plan, bankable documents, and made a submission to Xalg Bank for the construction of a dairy processing facility. During a September 2010 industrial fair sponsored by the Ministry of Economic Development, the BDS provider demonstrated new vacuum milking equipment imported from the Lucas Company in Turkey; the three demonstration models were sold during the exposition and additional orders were placed.
IV. POULTRY SECTOR: ENHANCING PRODUCTIVITY

OVERVIEW AND IMPACT

Poultry rearing for local market meat and eggs is widely practiced in Azerbaijan by backyard producers, small and medium-sized farms, and larger enterprises. PSCEP worked primarily with larger firms to address competitiveness constraints affecting the value chain as whole. In addition, the project targeted support towards associative relationships by strengthening the national poultry association and introduced integrated technical and financial business models to improve strategic planning, spur investments, and enhance access to finance.

CHALLENGES FACING POULTRY FIRMS

A key constraint facing the poultry industry is access to high-protein feed essential for productivity and quality products. Since the process of importing feed ingredients and transporting them to production and storage sites is a costly operation for industry players, methods for determining least-cost yet high-quality feed formulations are important to profitability and growth of the sector. In addition, major poultry firms lack knowledge of strategic planning tools that combine technical and financial information to identify trends, pinpoint productivity issues, and plan for growth, highlighting the need to transfer modern methodologies to support management decisions.

PSCEP SOLUTIONS: IMPROVED FEED QUALITY AND STRATEGIC PLANNING

PSCEP’s strategy to enhance the competitiveness of the poultry sector targeted larger-sized firms with a view to improving and expanding their operations. This strategy included targeting assistance towards the Azerbaijan Poultry Association to foster industry cooperation. While this seemed feasible during project design, project resources such as short-term technical assistance to work directly with the association proved ineffective. While individuals from the association were able to benefit from this assistance, the association remained just a legal entity.

The project did effectively improve sector competitiveness by developing strategic company plans and customized poultry business models; enhancing productivity by addressing constraints such as reliable access to quality feed, hatchlings, modern equipment, and improved production infrastructure; and

ASR broiler, Ganja.
increasing access to finance by establishing financial tools for the industry and the financial community, and facilitating negotiations with credit and investment sources. The program worked primarily with seven major poultry companies: Davachi Broiler, OZ-AK, Samukh Broiler, Ganja Meat-Milk, ASR Goy-Gol, Imishli Broiler, and ASENACo.

**Industry cooperation.** First-year efforts concentrated on strengthening industry cooperation while addressing the critical issue of feed quality. PSCEP organized Azerbaijan’s Third International Conference on Modern Feed Production and Feeding Methods in collaboration with members from the Poultry Association, feed mill manufacturing company ASENACo., and feed premixes manufacturer AVC BAYFAB. Four U.S. specialists discussed global trends affecting the poultry industry, feed safety considerations, protein and energy quality in poultry feeds, and options for feed production in Azerbaijan. The conference hosted 65 participants, including companies from Georgia, Kazakhstan, Moldova, and Russia. Approximately 20 PSCEP client companies from the aquaculture, poultry, and dairy sectors participated.

PSCEP also formed an informal advisory group led by Davachi Broiler, ASENACo., members from the Poultry Association, and representatives from medium-sized companies. The advisory group met periodically to review the program strategy, plan events, and provide PSCEP with regular feedback on industry thinking.

**Access to quality feed and hatchlings.** PSCEP provided technical assistance to feed manufacturers to improve the quality and availability of poultry feed. Gizil Yem, a feed mill company in Ganja, was the first to “graduate” from the PSCEP portfolio. With the support of PSCEP’s local BDS provider in Ganja, the company successfully applied for a $45,000 grant from the Ministry of Agriculture and the World Bank’s Agricultural Development Project to fund the construction of an 8 ton/day feed mill and grinder mill, along with technical assistance.

As access to hatchlings is also an important component of industry operations, PSCEP helped develop an ownership transition plan for OZ-AK, the only major hatchery operation in the country. OZ-AK, a joint venture between Davachi Broiler and a Turkish company, faced management problems as the Turkish investors had decided to divest from the company. A PSCEP poultry consultant facilitated the negotiation process and brought the parties to agreement on the sale of shares so Davachi could take over and continue to run the Turkish company’s technology and investment. Both parties reviewed and accepted the transition plan through a memorandum of understanding (MOU) on August 7, 2009, including a schedule for staff recruitment and training, as well as performance penalties under the transition. However, the effort ground to a halt when the two companies could not come to agreement on the share price, making it impossible for PSCEP to assist with implementation of the transition plan.

**Improving strategic planning and stimulating investments.** PSCEP constructed integrated technical and financial business models for nine poultry companies to help them assess profitability and cost factors, analyze financing options, and facilitate business decisions.
At the same time, PSCEP assisted with potential investments and access to finance. The poultry business models were introduced to partner BDS providers, PSCEP’s pilot banks, and the Caspian International Investment Company (CIIC) to support its loan and investment assessments. PSCEP worked intensively with CIIC and the Azerbaijan Investment Company (AIC) on technical due diligence for potential broiler investments, and analyzed possible internal investments by the poultry companies themselves. Facilitated by PSCEP’s recommendations, Davachi Broiler proceeded with a new slaughtering line that will significantly increase the company’s productivity and competitiveness. In addition, PSCEP assisted the Elba Company, a processed meat/meat products manufacturer and poultry company, in identifying vacuum packaging equipment for its new processing facility and in securing sources of finance.

In the second year of the program, PSCEP conducted an internal review of first-year activities in light of the program’s remaining budget, priorities, and target results. Given limited investments and concrete actions taken by the targeted beneficiaries, coupled with their reluctance to share market information, PSCEP readjusted its strategy by focusing support to partner BDS providers working with the poultry industry. Short-term international technical assistance was only provided to partner investment companies once investments were already made or were about to be made.

As a result, short-term technical assistance was limited to a follow-up technical due diligence assignment from a poultry expert on a potential AIC investment in a poultry broiler operation in Shemkir, including pullet rearing, breeder operations, broiler grow-out, value-added processing, a hatchery, a feed mill, and a slaughtering plant. The PSCEP expert helped AIC identify a partner to construct the facility in Shemkir. AIC signed an MOU with its implementing partner, but subsequently decided to revise its strategy and proposed investment. PSCEP also assisted CIIC with analysis of shortlisted poultry investment partners in Ganja. Although CIIC decided not to invest due to the possibility of other large poultry sector investments occurring at the same time, assistance and training of CIIC staff in the use of PSCEP’s integrated business model transferred skills in risk assessments to facilitate future investment opportunities.

*BDS support to poultry clients.*
Young Agrarians, PSCEP’s BDS provider in Ganja, made significant contributions to sector activities by bringing together three of its poultry clients in business ventures, helping the Ministry of Economic Development and the State Entrepreneurship Fund promote poultry production in the western regions, and assisting the Elba Company’s slaughtering line with development and launch of a

*Beylagan broilers: feeding at the chick house. (May 2009)*
company website, product logos, and labels. Funded by PSCEP, Young Agrarians worked with Ganja Meat-Milk (GMM) to refurbish its broiler production facilities and facilitated arrangements between GMM and Gilazi Broiler, a large broiler breeder company in Baku, for the purchase of 30,000 six-day-old broiler chicks. The BDS provider assisted GMM in negotiating leasing arrangements for an investment in slaughtering line equipment, and made arrangements with the Timuka Company in Turkey to consult on renovating the ventilation system in the Gilazi Broiler poultry houses. Young Agrarians then facilitated a business deal between GMM and Elba to grow, slaughter, cut, and clean 25,000 birds for use in Elba’s sausages while providing GMM with eggs for incubation and rearing. The BDS provider also helped a large broiler poultry farm expand its poultry operation and facilitated the purchase of Turkish poultry production equipment.
V. FRUIT AND VEGETABLE SECTOR: TARGETING SEASONAL AND VALUE-ADDED OPPORTUNITIES

OVERVIEW AND IMPACT

Azerbaijan has a profitable fruit and vegetable industry, especially when steps are taken to prolong and target selling seasons. Selling most production at harvest translates into low prices, while targeting seasonal markets with the right quality of fruits and vegetables means a more lucrative business. Along with market analysis and selection, opportunities in seasonal marketing also require appropriate production and post-harvest systems, including the selection of storable varieties, production techniques that produce storable products, proper harvest scheduling and post-harvest handling, and cold-chain management. As with the agricultural sector as a whole, major constraints to competitiveness in the fruit and vegetable sector include old infrastructure and methods inherited from the Soviet era, which stifle seasonal and value-added opportunities, underscoring the need to modernize technical practices, enhance management systems, and promote a commercial business approach.

To address these issues, PSCEP’s strategy targeted select subsectors: cold storage, greenhouse production, and processed fruits and vegetables, in addition to fresh fruits and vegetables in the first year of the program. The strategy centered on regionally and nationally focused technical and business management assistance from PSCEP and its BDS providers; improved access to investment and finance; firm-level assistance to key “anchor” enterprises; and development of associative relationships. This assistance helped facilitate investments in improved cold storage facilities, modernize greenhouse operations, and add value to processed food products.

COLD STORAGE SUBSECTOR

Opportunities in seasonal marketing render the cold storage subsector an attractive area for investors, both for new facilities and related value-added auxiliary operations. In the last few years, Azerbaijan’s agricultural sector has paid increased attention to cold storage, with private investors, government credit facilities, the banking industry, and investment companies providing financing for the construction of new cold storage facilities. Given the relative newness of the sector, however, management and technical issues need to be addressed. A major issue has been the focus on only one aspect of the cold chain—namely the cold storage chambers themselves—when seasonal marketing opportunities require a broader systems approach involving

New Technology to Upgrade Old Infrastructure

Cold storage is particularly important in the Guba and Ganja areas and will become increasingly relevant in grape- and strawberry-growing areas like Jalilabad and Agiebeddi in the future. PSCEP helped introduce cold storage managers to technological innovations to enhance their operations, such as the use of hand-held cold storage and post-harvest testing equipment. As a result of the interest expressed by cold storage managers in Guba, PSCEP’s local BDS partner—the Guba Marketing Center—is exploring the possibility of becoming a distributor of modern equipment such as sugar refractometers, ethylene monitors, air circulation meters, and ethylene removal material.
production, harvesting, post-harvest handling, and a complete and satisfactory cold chain.

PSCEP’s analysis of cold storage and cold-chain facilities revealed almost universally that companies lacked experience in operating and maintaining modern cold storage facilities, especially within a free market competitive system, and that the concept of a cold chain did not exist. Entrepreneurial efforts were almost entirely focused on storing products in cold storage units, but experience in the construction and management of the new cold storage units was limited and based on outdated technology and information. Cold storage facilities in general are adequate, but all visited facilities had the common problems of slow initial reductions in temperatures, poor air circulation, limited humidity controls, and inadequate ethylene ventilation. Preventative maintenance was virtually non-existent. Management and marketing problems and lack of knowledge of potential value-added opportunities often resulted in units sitting empty. On a broader level, the fruit and vegetable sector as a whole lacked fundamental expertise with regard to post-harvest handling and the role of production and variety selection in providing storable commodities.

PSCEP approached the cold storage subsector through a multifaceted approach that included the following activities:

- Analyzing the existing situation from a technical and business perspective
- Promoting a value-chain approach to enhance product quality
- Improving management practices and technology by fostering stakeholder collaboration, promoting a commercial business approach, and delivering technical assistance through short-term international experts, local BDS providers, and related local organizations, such as the State Agrarian University in Ganja and the Agro-Scientific Center in Guba
- Facilitating loans and internal financing through business plan development, linkages with the banking industry, and assistance to financial institutions and cold storage companies
- Providing technical advice to partner investment companies AIC and CIIC, and facilitating CIIC’s first investment
- Assisting in sourcing tools, equipment, and short-term regional technical assistance

### Facilitating CIIC’s First Investment: Cold Storage in Ganja

Founded in 2008, CIIC turned to PSCEP a year later to seek help in ensuring its first investment went right. CIIC saw investment in the Ganja-based NAA Company, one of the country’s largest cold storage facilities, as attractive, but an area in which it lacked technical knowledge. PSCEP quickly responded by providing CIIC with technical expertise in cold chain and warehousing, greenhouse production, and packaging materials. An analysis of NAA asserted that the investment was sound from a technical standpoint, while identifying numerous areas where small changes could have a big impact. CIIC went forward with the transaction by purchasing a stake in NAA, which provides cooling, deep frosting, and storage of fruits and vegetables. With the CIIC investment, NAA will be able to offer additional services such as cleaning, sorting, drying, packing, and processing. Sales increases for NAA alone were estimated at 4.5 million AZN in 2010. Hundreds of farmers will benefit from access to the enhanced NAA facility, which allows them to store their goods and market them when prices are more favorable. PSCEP’s efforts gave CIIC the level of comfort it needed for its first transaction and ensured it proceeded smoothly, paving the way for additional investments in the sector.
Increasing efficient cold storage use through new value-added opportunities, the production of fruits and vegetables by cold storage owners, and the establishment of producer-cold storage contracts and relationships for supply sources and renters

GREENHOUSE SUBSECTOR

Based on a DRC analysis, PSCEP identified greenhouse horticulture production as a potentially highly profitable subsector. Although attractive Russian (and local) markets exist for off-season greenhouse production, Azerbaijan generally only exploits opportunities for tomato and cucumber exports. As the greenhouse subsector continues to develop into an important component of commercial agriculture, greenhouse producers are faced with the challenge of refining their business practices, improving production technologies, and addressing capital and technical constraints to growth.

The range of technology used in most commercial greenhouses in Azerbaijan varies from that approaching modern standards to that which is several decades old. Producers identified heating and temperature control as particularly critical issues for improving profitability. The DRC analysis revealed that heating accounts for at least 20 percent of operational costs, the local natural gas supply is not a reliable heating source, and older Soviet heating systems are not cost-effective. To address problems facing the greenhouse sector, PSCEP’s BDS subcontractors, value-chain specialists, and international experts helped to:

- Facilitate internal and external financing and investment to expand and modernize operations and construct new facilities
- Suggest improvements in productivity—e.g., greenhouse construction and construction material; production technology related to shading and sunlight, fertilization, growing mediums, seed quality and variety; disease and insect control
- Identify new market and product opportunities—seed and seedling production, transplant nurseries, and other high-value greenhouse crops (e.g., strawberries, other berries, ornamental plants and flowers)
- Source equipment, including reliable temperature control equipment, materials, and production inputs
- Assist with market identification, market promotion, product labeling, and the development of new marketing tools such as websites
- Promote long-term sustainability by increasing the capacity of BDS providers and university instructors and students to support development of the greenhouse

Solving a Major Constraint to Greenhouse Competitiveness in Lankaran

PSCEP assistance to Canub Agro, a large greenhouse operation in Lankaran, resulted in increased investments that are expected to nearly double the firm’s workforce in the near future. The Lankaran Business Center—PSCEP’s BDS partner in the area—and an international expert worked together to examine Canub Agro’s old heating systems, recommending new technologies and sources of equipment. As a result, the company invested more than 450,000 AZN of its capital to completely rework its temperature control system and is also expanding its facilities, which will result in an additional 38 full-time jobs and more than 100 seasonal jobs.
Another important component of the fruit and vegetable sector is the processing subsector, which contributes seasonal marketing and value-added activities to non-storable, fresh marketable or lower-quality produce. Azerbaijan’s processed fruit and vegetable industry focuses on a limited number of products—such as pickles, juices, compotes, tomato paste and sauce, and dried fruits—destined for the domestic and Russian markets. Azerbaijani companies are capable of penetrating additional value-added domestic and international markets, but safety and quality procedures, international certifications, and a competitive cost structure are critical to making this happen. To address competitiveness constraints, PSCEP provided technical support, either directly or through its BDS partners to:

- Facilitate financing and investment
- Deliver short-term technical, business management, operations, and planning assistance
- Assist with market identification, marketing promotion, and improved packaging and labeling
- Provide training on international certifications
- Build business linkages between processors and producer-suppliers, along with production advice to suppliers
- Develop new value-added opportunities, such as chocolate-covered hazelnuts, dried fruits and vegetables, and flash-freezing operations
- Enhance computer skills, develop company websites, and assist with internet marketing and sourcing, a technology rarely used in rural agricultural enterprises but vital for increased competitiveness
- Promote business ties with similar Turkish companies for joint marketing and production activities
- Source and analyze new and used equipment (for processing, packaging, and labeling) and inputs
Building producer-processor linkages. PSCEP encouraged fruit processors to reach existing farmer-suppliers and to identify and support new ones. Through a combination of training for groups and individuals and informational materials on new varieties and best practices in production, harvesting, and management, PSCEP and BDSs collaborated with the processors to increase yields and quantities, improve quality and regularity of fresh fruit and vegetables supplied, extend market windows and options, and facilitate business relationships to increase revenues for all involved. For example, in Lankaran, LBC worked with two processors to improve the quality and quantity of yields from 370 farmers in the region. In Jalilabad, JABC worked through nine large potato producer-wholesalers to reach another 153 small farmers, whom they supply with potato seeds in the fall and purchase their potatoes for export in the spring. Through its targeted technical assistance, training, and loan facilitation, PSCEP opened the items it produced and processed to include a wide range of fruits and vegetables, such as feijoa, apples, pomegranates, hazelnuts, cherries, grapes, onions, garlic, pumpkin, parsley, leeks, sugar beets, and rosehips.

In addition, PSCEP gave specific attention to developing the relationships between the producers and processors. With the technical assistance mentioned above, PSCEP also worked jointly with the producers and processors to establish trustworthy relationships, with emphasis on the importance of all parties honoring contract obligations. In addition, the program helped identify and implement interrelated value-chain opportunities to expand cold storage operations to include fruit and vegetable drying or processing into compotes, jams, and juices, as well as opportunities on the production side, such as raisin production and supply of drip-irrigation equipment and steel stakes.

Marketing assistance involved not only research into export markets such as Russia, the European Union, Central Asia, and Australia, but also facilitation and negotiations between potential buyers and suppliers. Product and BDS client promotion initially occurred on BDS websites and was eventually transferred to a few newly constructed client websites.

### Value-Added Operations Benefit Producers and Processors

PSCEP assistance followed a dual track of technical and business support, with enterprises receiving one or the other, or both. This approach had a considerable impact on the processed fruit and vegetable subsector, with assisted firms expanding or about to expand into new value-added operations—such as fruit and vegetable drying, jam and juice production, and flash-freezing—and/or improving existing operations through new financing, input and equipment sources, expanded markets and business relations, and a more reliable supply of produce. Improved processing operations translated into expanded relationships with producers, benefiting both buyers and suppliers. In the process of securing produce suppliers for processors, one of PSCEP’s BDS providers helped rejuvenate the dormant table grape industry in the Jalilabad area.

As access to suitable, affordable, and timely credit was an all-encompassing problem throughout the sector, PSCEP provided assistance through contacts with local and international credit sources, review of business operations to generate internal financing, and support for the development of business plans and bankable documents for processors and suppliers.

### Food safety standards

Certifications related to food safety are key constraints to Azerbaijani food exports to the European Union and similar markets. Food product safety
and quality, Good Agricultural Practices (GAP), ISO, and HACCP certifications and traceability systems are a must if Azerbaijan is to have globally competitive fresh and processed food industries. With this in mind, aspects of food safety and certifications were intertwined with PSCEP technical assistance. However, it became evident that food safety issues were not a primary concern in the targeted sectors and, given limited program resources, PSCEP assistance was adjusted accordingly. Adhering to food safety standards and seeking certifications is a business investment decision based on an analysis of market requirements as well as initial and recurring costs and benefits. Azerbaijani fruit and vegetable processors (and fresh producers) depend almost solely on markets where these requirements are absent or laxly enforced. Moreover, most of these operations do not have the short- or medium-term strategy or resources to target other markets where food safety regulations come into play. For these reasons, operators in the PSCEP-targeted sectors and subsectors did not see progressing to food safety certifications as being in their business interests and were reluctant to make the necessary financial and human investment.

In the few instances where businesses were motivated to proceed with these expenses, PSCEP provided support either directly or through its BDS providers, including:

- Delivered training and materials on hygienic practices and safety rules to processors
- Provided training in proper use, handling, and timing of agricultural production inputs for processor suppliers
- Participated in food safety workshops in Baku and Ganja
- Advised on Halal certification
- Assisted NAA Company in meeting Unilever requirements (ISO and HACCP certifications) for exporting dried vegetables, a new export product for Azerbaijan
- Held a workshop at the State Agrarian University in Ganja on international best practices in post-harvest technology, packaging techniques, and food safety. The workshop was attended by 22 students and 3 faculty
- Organized an HACCP certification and food protection/hygiene training for senior and middle managers at three industry leaders in the north-western region: Balacans (juice processor), OON (hazelnut processor), and Azertejihizat (greenhouse). Altogether, 12 people received certificates from Michigan State University attesting to the quality of the HACCP training completed. This training is a prerequisite for the companies to apply for HACCP certification and prepares them to

PSCEP-assisted glass greenhouse.
begin the certification process.

Food packaging. In the first year of the program, PSCEP also targeted food packaging—an important element in the fruit and vegetable value chain—as a subsector, providing assistance to investment companies and key producers to enhance productivity, access financing, and improve operations for corrugated cardboard and box lines, a recycling operation, and waste management. The program’s strategy also emphasized the development of internationally accepted grades and standards, with plans to assist in creating a national packaging body to set and oversee these standards. However, other priorities required PSCEP to abandon packaging as a target subsector in the second year in light of budget considerations, staffing limitations, and the limited number and geographic dispersion of packaging firms.
VI. ICT SECTOR: BUILDING PARTNERSHIPS

OVERVIEW AND IMPACT

ICT is one of the highest priorities of the Government of Azerbaijan (GOAJ). Except for telephony and other communications and some software development for the oil industry, Azerbaijan’s ICT sector is small and underdeveloped compared to the overall economy. There are less than 15 large or medium firms and dozens of two- to five-person “shops” involved in ICT. The dearth of ICT-related human capital in Azerbaijan is a major sector constraint. An estimated 2,000 to 2,500 people are directly employed in the sector, excluding those working in the IT departments of non-ICT companies. Moreover, the ICT industry is heavily reliant on government support. About 55 to 60 percent of total industry revenues are generated by GOAJ procurement. PSCEP’s initial analysis uncovered the following issues in the ICT sector:

- High levels of software and intellectual property piracy
- Absence of local software development and localized software
- Weak ICT legal and regulatory environment
- Inadequate high-speed national backbone and network infrastructure
- Limited number of university ICT programs and poor quality of the imparted knowledge in technical colleges
- Limited number of ICT trained and certified professionals
- Low PC and internet penetration, especially in rural regions
- Limited knowledge of business skills, product development, IT and systems management, and English

To address these issues, PSCEP adopted a multi-stakeholder approach through USAID’s Global Development Alliance (GDA). GDA is a tool for combining the efforts of the private sector, the public sector, and USAID to address major constraints and jointly define development objectives. This approach enabled PSCEP to effectively leverage monetary and managerial resources. The program identified activities and partners; drafted basic agreements and budgets; and negotiated MOUs and grant agreements for two GDA activities: the PC Software Anti-Piracy Alliance and the Barama Innovation Center. PSCEP also took a third GDA activity, the Ministry of Education’s ICT Innovation Center Alliance, all the way through the negotiating process. However, it became apparent that the activity would be more appropriately housed elsewhere since it involves governance issues, and PSCEP handed it over to USAID’s Democracy and Governance section for follow-up and implementation. The fourth GDA activity, the Cisco Networking Academies Alliance, went through the MOU process up until signing, but could not be finalized due to time constraints in the PSCEP contract, which meant that implementation would have extended beyond the program’s end-date.

PSCEP also supported other partnerships as well, including one with Bestcomp Computer Company. Building upon an existing public private partnership, PSCEP worked with
Bestcomp to secure an additional $800,000 financing from two of its partner banks to expand the People’s PC Project (see text box below).

PC SOFTWARE ANTI-PIRACY ALLIANCE

The PC Software Anti-Piracy Alliance includes partners Microsoft, Softline (a large Russian software company), USAID, the Ministry of Education (in the later phases of alliance activities), and the Central Bank (as a non-signatory partner). The purpose of the alliance is to address one of the world’s highest rates for illegal use of software products in the ICT sector. Illegal software use is not only harmful to the business interests of legitimate software vendors, but also limits the motivation of local software creators, who cannot safeguard their copyright and property interests. In addition, pirated software exposes the user to malicious software risks and computer downtime if the software fails, potentially causing serious disruptions when used in a business environment.

In Part 1 of Phase I, Softline undertook initial steps in April 2010, including surveys and pre-tests, to develop a training curriculum for auditors at the Central Bank of Azerbaijan (CBA). In June 2010, Softline trained 20 CBA staff to detect the usage of unlicensed software during CBA’s regulatory monitoring of commercial banks. For security reasons, CBA policy requires commercial banks to use software that is supported by the vendor. Originally, the CBA was to assign its regular bank auditors to participate in the training. The CBA later decided that participants should be members of its IT Supervision Division since they are mandated to monitor the IT systems of commercial banks for compliance with security standards, and are also better qualified to educate the banks on deficiencies detected during the audits. The auditors are expected to inspect nearly 5,000 computers at more than 35 commercial banks in Azerbaijan. The CBA team will provide audited banks with a report on their system security and the corrective measures required to become compliant with CBA regulations. Over the next two years, CBA’s IT Supervision Division will educate commercial banks on the risks of using unlicensed software and the improved security, benefits, and protection provided by legal software.

In Part 2 of Phase I, Softline seeks to work with the Tax Inspectorate to train 35 tax inspectors in software product licensing models and the use of audit software to detect the illegal installation of PC software at commercial firms. It is anticipated that the tax inspectors will audit more than 50,000 computers at 500 commercial firms. However, the tax authority has not yet decided whether to participate in this activity.

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These actions will directly increase the security of the Azerbaijani financial system, and can serve as a model for other public institutions.

After completing the CBA training, Softline’s activities shifted to Phase II, which targeted commercial users of PC software—i.e., large businesses with more than 250 computers and medium-sized enterprises with at least 20 computers. In August 2010, Softline trained 15 companies and more than 150 staff specialized in IT outsourcing. The workshops were oriented to directors and mid-level managers, with a focus on copyright, license management, the importance of acquiring software licenses, software anti-piracy issues, and intellectual property protection. This activity helped to raise awareness of the negative impact of pirated software on the business community, the economy, and the country’s overall image.

Additional phases for the GDA were planned but could not be implemented due to time constraints. The draft MOU for Phase III was reviewed, cleared, and substantial changes—including proposing the Copyright Agency as an alliance partner—suggested by the Cabinet of Ministers, Copyright Agency, and six ministries (Education, ICT, Economic Development, Justice, Foreign Affairs, and Finance). The changes required new negotiations among all parties. Given the time remaining on the PSCEP contract, it was not possible to complete the negotiations, sign the MOU, and deliver results before the program ended. As a result, USAID and PSCEP decided not to move forward with this phase of the GDA. Instead, the other alliance partners plan to carry out activities on their own, and can themselves negotiate and sign an MOU without PSCEP involvement.

Phase III will focus on software piracy awareness and education activities targeted at future ICT professionals. Softline will work with the Ministry of Education (MOE) and the Ministry of ICT to train teachers and faculty on the use of licensed software; raise awareness among future ICT professionals, faculty, and students at four universities; and partner with Madat, an Azerbaijani NGO, on its MOE-supported software training program by incorporating content on the benefits of licensed software into the curriculum and training the Madat trainers on this content. The alliance will also focus on raising awareness among a wider audience by participating in events and collaborating with the American Chamber of Commerce and the Azerbaijan Chamber of Commerce and Industry. The alliance will form a committee to prepare and release a competitive solicitation to public relations firms; the winning firm will be responsible for undertaking Phase III activities under the committee’s supervision.

**BARAMA INNOVATION CENTER ALLIANCE**

The education system in Azerbaijan does not provide up-to-date technical or business skills in the ICT field, and even technically equipped young enthusiasts lack basic knowledge on start-up business procedures, patenting, marketing, and other critical business skills. As a result, there are limited entrepreneurial activities for young Azerbaijanis to develop new marketable products and services. Fomenting the growth of entrepreneurial, visionary small companies that can increase innovation across the economic landscape would be a significant contribution to the Azerbaijani economy.
With this in mind, the Barama Innovation Center Alliance between Azercell Telecom, Cisco Systems, and USAID fosters innovation through the establishment of an ICT incubation center that will allow approximately 45 young innovators each year to take their ICT innovations to market and to launch new businesses. The alliance supports the Azercell ICT incubator (“Barama”) to stimulate mobile technology, related services, and software applications through business training and support to entrepreneurs. The incubation center provides budding ICT innovators with a physical space and resources to help them develop ICT concepts into viable market-driven solutions and services. With room for approximately 20 participants at a time, the center is designed to support each entrepreneur for 6 to 12 months, depending on the complexity of his or her concept. Azercell offers technical support, while Cisco’s Entrepreneur Institute provides entrepreneur-specific business support, including business planning skills and Cisco’s internet business solutions, as well as an online network of human resources. The center estimates about 30 percent of entrepreneurs will develop a marketable concept, meaning 13 to 15 entrepreneurs will start successful businesses each year.

In the first session, five innovators were invited to develop their products at the center, with the first expected to launch a product in early 2011. Two of the more promising projects involve SIM card marketing and availability, and an online educational testing tool for legal exams. PSCEP also sponsored an internship program for 10 ICT and business students from local universities to introduce them to Barama’s services and promote the development of new ICT-related innovations starting at the academic level. Two of the interns are in the process of securing future positions at Azercell and a student tariff rate proposed by the interns is in the testing phase for launch in early 2011. Azercell plans a second internship program for the summer of 2011.

**CISCO NETWORKING ACADEMIES ALLIANCE**

Considerable program efforts went into the preliminary identification, conceptualization, and negotiation phases of the third GDA, the Cisco Networking Academies Alliance bringing together Cisco, the MOE, USAID, and AzEduNet as the implementing partner. The alliance was designed to establish or expand sustainable academies at seven universities and at least 50 secondary schools classified as e-schools by the MOE—i.e., institutions with broadband network connectivity and established technological capability. Under the alliance, Cisco was to teach its Certified Networking Associate courses at the universities and its IT Essentials courses at the secondary schools.

PSCEP started consulting with Cisco and the other GDA partners in July 2009. A draft MOU was developed and approved by the parties in December 2009. Based on these approvals, PSCEP staff began the five-month process of clearing the MOU with the Azerbaijani government. After approval from the MOE, the draft MOU went for review to the Cabinet of Ministers, and then to the Copyright Agency and five ministries (ICT, Justice, Foreign Affairs, Finance, and Economic Development). Unfortunately, given PSCEP’s end-date, final negotiations and MOU signing would have pushed implementation beyond program closeout. With no other viable alternative, the GDA process stopped and PSCEP was unable to continue to participate in the alliance. However, USAID encouraged Cisco, MOE, and AzEduNet to continue discussions to develop the alliance on their own.
VII. FINANCE SECTOR: EXPANDING THE RANGE OF FINANCIAL PRODUCTS FOR SMEs

OVERVIEW AND IMPACT

As access to finance is a critical element of value-chain development, PSCEP worked with Azerbaijani commercial banks to strengthen existing financial products and introduce new short- and medium-term financing mechanisms. The program also supported BDS providers working with regional banks and facilitated long-term investment financing with local equity companies. Short-term mechanisms included SME working capital credits, purchase order financing, factoring, and trade financing, along with improved transaction flows through bank-level assistance with individual transactions and strengthening of bank-BDS relationships. Medium-term mechanisms focused on initiating, broadening, and strengthening leasing arrangements. Longer-term equity investment activities involved technical assistance and analysis of agricultural projects and potential investments for the Caspian International Investment Company (CIIC) and the Azerbaijan Investment Company (AIC).

During the period of PSCEP support, the program’s six partner banks reported $137.9 million in SME lending. BDS providers facilitated access to $42 million in financing for their clients. And PSCEP assistance with technical due diligence supported CIIC’s first investment, worth approximately $6.8 million, for expanding the operations of a cold storage facility in Ganja.

PSCEP SOLUTIONS: BANK LENDING, LOAN FACILITATION & EQUITY FINANCING

COMMERCIAL BANK LENDING

PSCEP signed MOUs with six mid-sized commercial banks as core pilot partners for its commercial bank financing activities: Mugan Bank, Rabita Bank, Bank of Baku, Royal Bank, Azerdemiryol Bank (Demir Bank), and Bank of Azerbaijan. The MOUs committed each bank to approximately 5 million AZN in new credits for the short-term credit instruments introduced by PSCEP. Given the high cost of funds and the world financial crisis affecting Azerbaijani banks, no bank provided long-term financing except through the State Entrepreneurship Fund offering subsidized credit.

SME LENDING

PSCEP’s SME lending activities aimed to increase the capacity of its partner banks to provide appropriate short-term working capital. The program provided formal and hands-on training to strengthen the range of credit options available to SMEs.

Streamlined Loan Application Process

To accelerate the SME lending process, PSCEP’s financial team developed an initial loan application form for use by its partner banks. As a result, it now takes only three business days for partner banks to review and provide feedback on credit applications versus the several weeks it used to take before introduction of the form.
in the pilot banks. The large number of Azerbaijani banks and their significant regional branches belie the fact that several institutions lend almost exclusively to their own holding company operations. Many of those lending to the public employ overly conservative and staid methods that do not take advantage of newer collateral sources, and offer loan terms that are not conducive to business borrower needs or reduced bank risk. The evaluation of lending risks based on different types of borrowers was not well-understood and risk analysis not widely practiced. Despite business needs for capital, the range and depth of the pool of potential borrowers was seriously limited by the lack of proactive marketing, the large number of bank branches in the regions "competing" for a limited base of qualified clients, the unattractive credit terms offered, and the conservative collateral requirements.

To address these constraints, PSCEP paired international short-term consultants with long-term staff to deliver technical assistance aimed at demonstrating how cash flow-based lending—i.e., structuring disbursements and repayments to coincide with cash flow—could result in increased bank profitability and lower risk, thus enhancing the prospects for sustainability. Assistance focused on:

- Reviewing bank policies and procedures, and developing work plans, loan templates, and documentation for each bank
- Helping the banks analyze the borrower’s business project and provide appropriate credit and terms, and delivering on-the-job training and mentoring to loan officers—from the initial credit application stage through credit analysis, SME cash-flow analysis, and loan approval
- Introducing new short-term lending packages, such as purchase-order financing, factoring, and accounts receivable financing
- Training bank staff in client risk analysis and procedures, and designing a credit grading and scoring system to classify risks by economic sector, client, and business type; the system also helps banks maintain the quality of their loan portfolios by enabling them to take preventive actions to guard against identified risks
- Promoting proactive marketing to potential clients and developing a marketing brochure for purchase-order financing that can be adapted to other banking instruments or as a general bank marketing document
- Providing continued follow-up support and assistance through PSCEP local staff.
Approximately $138 million in SME lending was reported by the 6 pilot banks during the period of PSCEP support. Though it is not possible to determine the exact level of commercial bank lending that is directly attributable to PSCEP assistance, the incorporation of PSCEP forms, procedures, recommendations, and training methods into the banks’ operations, coupled with direct PSCEP formal and on-the-job training, suggest a strong indirect influence on increases in bank lending.

TRADE FINANCE

Letters of credit (L/Cs), letters of guarantee (L/Gs), and documentary collections (D/Cs) are important tools that facilitate international trade by reducing the risk of non-payment, especially between parties that have done limited or no business together. Though this service is offered by many local commercial banks, its actual application is limited. Azerbaijan’s banks frequently receive rejections from international banks due to improper forms, applications, and terms of conditions for specific trade deals. Recognizing that they have limited experience with trade finance instruments, particularly the assessment of associated levels of risk and liability, the PSCEP partner banks requested assistance in strengthening and enhancing their knowledge and skills in line with international best practices. PSCEP initiated this support during the program’s second year by teaming international short-term experts and long-term field staff to:

- Conduct a preliminary assessment of the current status of the partner banks’ trade finance operations, including a review of their L/C, L/G, and D/C portfolios and trade finance systems and procedures; agree on issues and objectives; and develop short-term plans and training to increase the banks’ capacity to offer L/Cs, L/Gs, and D/Cs as financing tools to SME clients, with less risk to the partner banks and in accordance with international best practices
- Hold a series of formal training workshops for bank credit officers and back-office staff, followed by hands-on training
- Continue to provide follow-up support and assistance through PSCEP local staff.

PSCEP developed and disseminated training materials and a booklet on “Guidelines for Trade Finance Policies and Procedures Development” in English and Azeri. Two banks used the materials for internal trainings at their branches, with some of the PSCEP trainees subsequently serving as trainers to their peers. As part of on-the-job training, PSCEP also assisted several banks with specific trade finance deals. By the end of the program, four of the six PSCEP pilot banks reported trade financing valued at approximately $31 million from the time of PSCEP’s initial involvement in this activity in April 2010 through December 2010.

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5 PSCEP is still awaiting reports from two other banks.
LEASING

Leasing options are a good source of intermediate-term financing that can help solve collateral issues for farmers needing investment funds. Azerbaijan’s leasing industry consists of leasing companies and bank leasing departments. Both have conservative portfolios composed primarily of vehicle leases, though other opportunities like equipment leasing are available and fairly common in some neighboring countries. Most leasing organizations in Azerbaijan do not work in the agricultural sector due to competition from the Agro-Leasing Company, which has the advantage of lower customs and VAT duties.

PSCEP initiated assistance to the leasing industry and bank leasing departments in the second year of the program by addressing management and business practices inherited from the Soviet period. The program made considerable progress in:

- Fostering the establishment of new leasing companies and leasing units (Bank of Azerbaijan, Demir Bank, Mugan Bank, and MCB Leasing Company)
- Strengthening existing leasing operations (Bank of Baku)
- Increasing the interest of potential entrants (Yapi Kredit Bank, Bank Respublika, and Access Bank)
- Enabling industry stakeholders to understand the types of leasing arrangements and the risks and advantages involved
- Expanding the vision of business leasing opportunities beyond those for vehicles

A regionally experienced leasing specialist worked alongside the program’s local staff to improve and develop leasing operations with PSCEP’s partner banks and other interested financial institutions. The advisor met with senior management at the PSCEP partner banks, leasing companies, the Azerbaijan Leasing Companies Association, donor stakeholders such as the European Bank for Reconstruction and Development (EBRD) and the International Finance Corporation (IFC), and with the USAID-funded Trade and Investment Reform Support Project (TIRSP) to develop an action plan for the industry. Individual meetings were held with each partner bank and leasing company to develop leasing strategies, design lease templates and procedures, and finalize MOUs with partner banks for leasing activities. In coordination with TIRSP, a two-day seminar on leasing was held in late 2009, which was attended by 15 banks, 2 leasing companies, the leasing association, EBRD, IFC, and one of the “big four” accounting companies, PriceWaterhouseCoopers. The seminar addressed issues of corporate governance, legislation reform, refinancing, accounting, and risk management. Several ideas were exchanged, particularly the need for the Central Bank to begin overseeing this area.

Similar to activities in SME and trade financing, PSCEP provided hands-on assistance to loan officers in reviewing leasing transactions and processing lease applications. The program also supported organizations interested in establishing leasing operations. Based on PSCEP recommendations, Demir Bank spun off its leasing division into a separate
company and the program helped develop its business plan. The Bank of Azerbaijan, which is establishing a leasing division, received assistance in revising its corporate structure and developing legal documents, strategies, procedures, and opportunities for leasing activities. Similar support was provided to Mugan Bank, which expressed interest in starting a leasing company. Learning from PSCEP’s international consultant, PSCEP’s former local financial specialist attracted a foreign investor to establish a local leasing company. Through this collaboration, MCB Leasing Company, a subsidiary of the Pakistani MCB Bank, officially opened in Azerbaijan, with PSCEP’s former financial specialist serving as managing director. In addition, Gafqaz Leasing Company, one of the participants in the leasing seminar and a recipient of PSCEP documents and assistance, started leasing trucks in Ganja.

Other participants in the leasing seminar also expressed interest in initiating leasing activities, including Bank Respublika, Yapi Kredi Bank, and Access Bank, but were concerned by the lack of leasing legislation. Although there is significant interest in expanding and broadening leasing activities in Azerbaijan, real progress is hampered by the lack of appropriate legislation to sufficiently guard the lessor’s rights to the leased assets. Because of this, PSCEP shifted its focus from helping to establish new leasing operations and expand existing leasing businesses to a strategy of support to implement appropriate leasing laws through collaboration with TIRSP, other donor organizations (EBRD and IFC), local leasing companies, and the Azerbaijan Leasing Companies Association. During a roundtable meeting, these stakeholders developed a time schedule and work plan for preparing draft leasing legislation and agreed that the Leasing Association would gather comments on the draft legislation from the banks and leasing companies, while TIRSP would identify the appropriate counterpart in the Cabinet of Ministers through which to advance the legislation. As the TIRSP and PSCEP programs were coming to a close, the Leasing Association’s legal advisor informed the parties that the draft was still under review.

**LOAN FACILITATION BY BDS PROVIDERS**

Most of PSCEP’s BDS providers facilitated financing for their clients. Drawing on their knowledge of the local banking community, the BDS providers helped develop work plans, financial and sales projections, and bankable documents. In addition to commercial bank loan options, BDS providers explored alternatives involving state-funded credit opportunities, non-Azerbaijani sources of credit, as well as buyer-supplier, equity, and internal company financing. PSCEP complemented BDS efforts by:

- Assisting with the facilitation process as needed and suggesting alternative financing sources (e.g., company self-financing, buyer or supplier financing)
- Providing agricultural technical assistance and advice to BDS clients seeking financing
- Helping to reinforce the BDS-client-bank relationship

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6 BDS clients often found the interest rates (frequently greater than 25 percent), collateral requirements, loan periods, repayment terms, and extra-official banking charges did not make for a profitable use of
• Drafting marketing brochures to highlight the capabilities of BDS providers to assist banks in reviewing technical issues in the targeted agricultural sectors and subsectors
• Helping the BDS providers better analyze and report on financial sector successes in order to generate future business

By December 2010, PSCEP-assisted BDS providers had leveraged a total of $42 million for their clients, with another $57 million in the pipeline.

EQUITY FINANCING

PSCEP signed MOUs with AIC and CIIC for equity financing activities. After extended negotiations, a third MOU with the Kuwait-Azerbaijan Investment Company was abandoned due to changes in the company’s personnel and corporate strategy. Assistance to AIC and CIIC focused on both capacity building and transaction support. For example, PSCEP assisted the AIC and CIIC in co-sponsoring major equity financing conferences in Guba (December 2008) and Sheki (March 2009). Since equity financing is uncommon in Azerbaijan, the purpose of the conferences was to educate the local business community, local authorities, and other stakeholders on the key attributes of equity financing. More than 100 companies and the media attended these events. Through its BDS providers, PSCEP also arranged for one-on-one meetings between the investment companies and leading area businesses interested in equity financing.

Other PSCEP capacity-building activities for the investment companies included:

• Information, discussions, and a working paper on mezzanine or subordinated debt—because it is a hybrid between a loan and an equity investment, mezzanine debt provides a ready exit strategy for an investor (and the investment is repaid) that could greatly facilitate equity investment in the country
• Review of the valuation and transaction structuring capabilities of both funds
• Preliminary guidance on monitoring and governance practices—i.e., management and oversight of companies in which they invest
• Assistance with actual transactions, including a review of discounted-cash-flow and multiple-of-earnings models. Such transactions included:
  — NAA Company: PSCEP worked with CIIC to review an investment opportunity in the NAA Company in Ganja involving cold storage, greenhouse, and packaging components. PSCEP provided a detailed analysis of the company,

Presentation to poultry executives on February 14, 2009.

commercial bank credit financing. Instead, many BDS client companies preferred to seek other sources such as the State Enterprise Fund.
along with recommendations on how NAA could increase its productivity. CIIC followed through with the $6.8 million investment. PSCEP also worked with NAA and CIIC to involve students from the Ganja-based State Agrarian University in providing assistance to the company, which also served as on-the-job training for the students.

— Hallow Glass Company: PSCEP helped AIC review the financial model and key investment assumptions used for evaluation of the company. Inconsistencies were pointed out, which would have had a significant impact on the company’s valuation and how the transaction would be packaged. AIC took most of the recommendations into account.

— Poultry industry: PSCEP assisted both CIIC and AIC in reviewing the technical aspects and resulting financial implications of proposed poultry industry investments.

— AgroYurdi Company: PSCEP also worked with the investment companies on technical issues related to a potential greenhouse investment in this company.

Despite considerable support to AIC and CIIC during the program’s first year and the first quarter of the second year, the technical assistance was not as successful as hoped and only one investment was made (in the NAA Company). PSCEP hired a local consulting company, Ploutos Capital, to explore other investment opportunities and assess Azerbaijan’s investment climate. Ploutos presented a somewhat grim assessment of the investment and financing outlook given the impact of the world financial crisis, reduced investor appetite for risks, and the insider-based investment climate in the country. Given budgetary and time constraints, and the complicated decision-making processes needed for the investments to be made, PSCEP revamped its strategy early in the second year to (a) only provide specific short-term technical assistance when AIC or CIIC were on the verge of making or had already made an investment, (b) offer opportunities for discussion with short-term technical consultants fielded for larger sector and subsector assignments related to poultry, cold storage, and greenhouse activities, along with suggestions for related investments, and (c) not proceed with introducing mezzanine or subordinated debt financing to the investment companies.

PSCEP also continued to explore other equity investment sources. The program’s financial specialist held discussions over the course of the year with a former colleague from Ploutos Capital, now an investment director for a UK-based fund that plans to invest in the Commonwealth of Independent States in the coming year, especially in Azerbaijan, Georgia, and Kazakhstan. Cold storage, cold chains, and related logistics companies specializing in agricultural products are an investment target. PSCEP’s follow-on program can assist in facilitating meetings with reliable partners in the regions.
Quotes from Partner Banks

“PSCEP was very beneficial to us in terms of increasing our knowledge in overall agriculture and poultry sectors. As a result, we systemized our approach to the projects in the above listed sectors and increased our operating efficiency. The project helped us improve our investment department procedures, time efficiency, and increase our responsiveness.”—Togrul Kocharli, Managing Director, CIIC

“First of all, cooperation with PSCEP has deepened our knowledge in areas such as SME lending, leasing, and trade financing. Now we have a better understanding of the directions mentioned above. Secondly, the project helped us to diversify our credit policy and lending strategy. In addition, we became familiar with a foreign experience which we may always refer to.”—Aziz Mammadov, Business Loan Division Head, Royal Bank

“Before PSCEP, the lending trend was chaotic, which means we didn’t have concrete procedures for financing a variety of sectors. After PSCEP, we believe that we reached a point where our employees can analyze the market for providing more loans of high quality.”—Vadim Misirov, Corporate Clients Head, Bank of Azerbaijan

“Collaboration with PSCEP gave to our bank new knowledge and skills on SME lending and trade finance. And now we feel stronger and aggressively look for new opportunities on financing SME and trade finance.”—Vasif Badalov, Middle and Large-Sized Loans Division Credit Department Head, Demir Bank
VIII. BDS SUSTAINABILITY: EQUIPPING PARTNERS FOR GROWTH

OVERVIEW AND IMPACT

A principal PSCEP objective was to ensure the sustainability of its BDS providers’ activities beyond the life of the program. Most of the program’s BDS partners have acquired a certain level of expertise in several target sectors and subsectors through a combination of subcontracts that focused BDS assistance and required regular reporting, PSCEP feedback and input into the subcontractors’ activities, joint assignments with technical experts and the provision of technical reports, frequent contacts with PSCEP value-chain specialists, and specific BDS training workshops. The Lankaran Business Center/Azerbaijan Agribusiness Center developed experience in the dairy sector, greenhouse subsector, and fruit and vegetable processing subsector; the Sheki Business Innovation Center in the aquaculture sector; the Guba Marketing Center in the aquaculture sector and cold storage subsector; and the Ganja Young Agrarians in the dairy and aquaculture sectors as well as the greenhouse and cold storage subsectors.

Most of the PSCEP-supported BDS providers also improved business facilitation services to their clients, including: (a) securing loans from commercial banks and other financing mechanisms, (b) sourcing equipment and local or regional technical assistance, and (c) identifying potential markets and assisting with marketing, including in some cases through the internet. By the end of PSCEP, all of the BDS providers’ earnings were coming from non-USAID sources.

PSCEP SOLUTIONS: CAREFUL PARTNER SELECTION AND CAPACITY BUILDING

PSCEP carefully selected its regional BDS subcontractors during the program’s first year, and then helped build their capacity to address client needs, attract new clients, and become involved in new sectors and subsectors. This strategy served both PSCEP and the BDS providers well. For PSCEP, it provided a way to capitalize on local expertise, ensure access to locally reachable technical assistance in several regions, assess BDS competencies and address areas in need of strengthening, and develop a long-term repository of information and expertise for the targeted sectors and subsectors. For the BDS providers, the relationship provided a steady and reliable revenue stream, access to training and up-to-date information for their local experts, as well as opportunities to receive direct technical assistance for specific sectors, attract new clients, enhance services to existing clients, and increase capacity to retain clients into the future.

The PSCEP contract required the identification of 10 BDS service providers for capacity-building support, with at least one having strong expertise in each chosen sector. Of the 12 BDS providers that responded to PSCEP’s request for proposals in early 2009, only 5 were selected. The remaining seven were judged as falling below minimum competency levels. The capacity levels and number of BDS providers able to effectively absorb technical assistance were significantly lower—and the resources needed to improve BDS
capabilities significantly higher—than envisioned by the PSCEP program designers. Particularly daunting was the contract requirement that the BDS selection include strong expertise in each chosen sector. The selected organizations—an initial five partners, with the addition of a sixth partner in 2010—represented the BDS providers most qualified to work with PSCEP. Though none had strong expertise in any of the target sectors, PSCEP determined that this expertise was not available and that support to the chosen BDS providers would advance program objectives, build sector experience, and promote BDS sustainability. To provide directed guidance and a measure of control over subcontracted activities, relatively long-term subcontracts were signed with the selected organizations, with scopes of work and M&E reporting in line with PSCEP program objectives.

**APPROACH AND ACTIVITIES TO PROMOTE BDS SUSTAINABILITY**

PSCEP technical assistance to BDS partners focused on improving their ability to provide both expanded and quality services demanded by businesses. The program offered a mix of capacity-building assistance to BDS organizations, including workshops, training, grants, exposure to new business opportunities, suggestions on financing possibilities, and one-on-one mentoring with program staff and international consultants. PSCEP’s BDS sustainability activities included:

- Long-term budgeted subcontracts guided BDS providers in delivering technical assistance to targeted sectors, subsectors, and regional clients. The BDS organizations provided PSCEP with bi-monthly activity reports and monthly performance monitoring reports on their clients’ sales, jobs, and investments. Originally, a PSCEP value-chain specialist was assigned to each BDS provider to monitor its operations, but the number of value-chain staff was reduced in the second year for budget reasons. In the final nine months of the PSCEP program, the fee structure of the subcontracts was gradually lowered to wean the BDS providers from dependence on USAID funding.
- PSCEP provided its BDS partners with workshops and training opportunities on technical and management issues, including marketing, M&E, and strategic planning.
- BDS staff worked alongside short-term international experts providing technical assistance in the targeted sectors and subsectors, which helped transfer modern technical information to BDS personnel and enhance their capability to address the technical needs of existing and potential clients. PSCEP also provided technical reports to BDS providers to post on their websites and share with their clients.
- PSCEP held a BDS sustainability workshop and one-on-one discussions on sustainability plans, strategies, and M&E techniques for impact reporting and marketing. Templates for long-term strategic planning and an investment tracker were developed for each BDS.
- PSCEP worked with the BDS providers to develop a BDS marketing brochure to attract paying clients and advertise services through partner banks. Though the

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7 Detailed information on PSCEP activities with BDS providers can be found in PSCEP’s FY 2009 Annual Report and FY 2010 Annual Report.
BDS partners provide services that are appreciated by beneficiaries, some lack the ability to charge and collect fees for those services. This is especially true when dealing with beneficiaries who are used to receiving free, donor-sponsored services. An electronic version of the marketing brochure was sent to the BDS providers for their use and modification as necessary, and copies were sent to regional banks. PSCEP’s BDS promotion efforts also involved providing references, recommendations, and advice to donors and other projects regarding BDS capabilities.

- PSCEP advised BDS providers on: (a) charging fees for technical assistance, (b) charging banks and farmers a fee for facilitating successful loan applications, and (c) charging clients for the web space provided to promote their products and facilitate sales. The program team emphasized that it is in the BDS providers’ long-term business interests to provide support on a for-fee basis as their work is valuable and replicable elsewhere in the country.

- BDS providers received grant assistance for projects designed to bolster sustainability by establishing profit-making activities that focus on PSCEP sectors and subsectors. Four of the six BDSs received grant funding, two of which were specifically geared to promoting BDS sustainability through marketing capacity and website development to help the grantees grow their client base and operations. The BDS providers were also offered IT equipment, software, and furniture at the close of PSCEP.

BDS SUSTAINABILITY GRANTS

BDS marketing capacity development. PSCEP provided the Lankaran Business Center, its BDS partner in the Lankaran region, with a grant to purchase and install design and print equipment for the production of a broad range of publicity and promotional materials. Lankaran is home to a wide range of businesses involved in activities such as fruit and vegetable production and processing, cattle-breeding, furniture manufacturing, tourism, decorative plant production, trade, and construction. Despite the fact that local production is of good quality and environmentally suitable, companies face problems with sales and finding customers due to a lack of marketing tools to advertise their products and services. By developing their marketing capacity through support with design, printing, and distribution of promotional materials, the BDS provider will help its clients—and itself—broaden outreach and market presence, increase sales and customers, enhance business opportunities, develop partnerships, and attract investments.

BDS website development. The Guba Marketing Center, PSCEP’s BDS partner in the Guba region, received a grant to develop a website that will help the BDS provider promote modern information-sharing, enhance client marketing and consulting opportunities, develop staff capacity, and facilitate cooperation with local and international organizations that have an internet presence. The BDS provider will cooperate with foreign marketing entities to provide local producers with access to foreign markets, and facilitate business proposals from foreign entities. PSCEP provided the grantee with copies of program publications and materials from a PSCEP-sponsored aquaculture conference to include on the site. A test version was completed in October.
USAID provided recommendations on branding and the grantee was implementing the changes as of the writing of this report.

SUMMARY STATUS OF THE BDS PROVIDERS

**Lankaran Business Center.** The Lankaran BDS provider has been recognized by USAID for delivering excellent results in the dairy sector, including technical advice to producers and facilitation of bank loans for expanding farm operations. The Lankaran Business Center’s production, marketing, and IT efforts with greenhouses and fruit and vegetable processors have also produced good results. Moving forward, the BDS provider needs to parlay its regional dairy successes into a multi-regional dairy sector effort paid for by dairy farmers and dairy companies. PSCEP has promoted the center’s expertise beyond Lankaran, but more needs to be done by the BDS provider in self-promotion.

**Ganja Young Agrarians and Sheki Business and Innovation Center.** The Ganja and Sheki BDS providers are sustainable, garnering only a small percentage of income from USAID projects. Their client mix is composed of private sector clients, donor and development organizations, and various income-generating activities. The organizations are run by business-savvy individuals who know their local environment and local market demands. Through its activities in the aquaculture sector, the Business Innovation Center—PSCEP’s BDS provider in Sheki—is expanding beyond its Sheki and Zagatala base to encompass most other trout- and carp fish-producing areas of the country. In Ganja, Young Agrarians is well-regarded for the quality of its services, including linking clients with equipment providers and technical specialists. As a result, it is constantly expanding its client base and is invited to participate in overseas events and meetings. Ganja is a strong and growing agricultural zone. Young Agrarians has great potential to advance agricultural development there because it has a strong business plan, business model, and strategy, combined with considerable experience in the region’s predominant agricultural activities and with foreign development organizations.

**Guba Marketing Center.** The PSCEP BDS provider in Guba is located in an important fruit-growing region. Its activities with producers, cold storage providers, and dried fruit processors are primarily oriented toward facilitating loans and sourcing equipment and technical assistance. The Guba Marketing Center is managed as an NGO in that it seeks donor grants and contracts rather than fees and revenues from clients. The BDS provider needs to expand beyond the same handful of clients and donors for new work, new sectors, or business niches. PSCEP advised the center on pursuing opportunities with Azersun and Gilan Holding, which are opening new fruit processing factories in the region and will require suppliers. The program also suggested that the BDS provider look into cooperation with the Lankaran Business Center to assist PalSud and MilkPro with possible new collection points and farmer identification in the northern regions. Working on buyer-supplier contracting would provide the Guba Marketing Center with the opportunity to expand its business and client base.

**The Jalilabad Agribusiness Center.** PSCEP’s partner BDS provider in the Jalilabad area will remain small and agriculturally focused, with heavy dependence on donor funding in the foreseeable future. More than 70 percent of the center’s funding has come from
donors since its inception. The BDS provider sees this as its business niche since the consulting base in Jalilabad is not large or strong enough to fully support its consulting services. The bulk of its income comes from earnings from veterinary services and fertilizer distribution, while it occasionally receives payments for facilitating small loans through the Agro-Leasing Company and working capital micro-credits from local banks.

SUMMARY STATUS OF AN IMPORTANT NON-BDS SERVICE PROVIDER

The Agro-Information Center. PSCEP partnered in the central regions with the Agro-Information Center (AIM), an established non-profit organization. While it is not a BDS and did not receive direct budgetary support (as those mentioned above), AIM provides nationally unique services to farming communities, including agricultural extension, market information, and laboratory analyses. AIM provides services to the poultry, aquaculture, dairy, and livestock subsectors. AIM has provided farmers with more productive feed formulations and improved animal care through the dissemination of technical articles, advertised formally and informally on reliable feed manufacturers and sources, provided direct farmer training and technical assistance, and facilitated site visits to help improve animal feed production. Through its combination of donor and producer clients, profit-making soil testing lab (and eventually a profit-making animal feed lab), and lodging facilities, AIM is well-positioned for continued operations.

It is also well-regarded by donor organizations and is therefore a willing and capable partner for local implementation of donor programs, which will continue to fund AIM activities. One example of this is AIM’s collaboration with Oxfam and the Swiss Development Corporation on a livestock development project in Agjebeddi, Tartar, and Barde. The project will leverage USAID’s investment by collaborating with the feed analysis lab to enhance feed ratios and develop feeding regimes, as well as work with AIM’s extension agents to disseminate this information to local farmers.

AIM Animal Feed Laboratory
To help increase the competitiveness across several sectors, PSCEP collaborated with AIM, which is not a BDS, to establish the AIM animal feed analysis laboratory. The first in the country to focus specifically on animal feed, the laboratory was designed to analyze crude protein, fat/energy, cellulose, and moisture of the feed. AIM will document feed analysis results and provide recommendations on feeding regimes to farmers and other agribusiness clients. This laboratory allows AIM to diversify its services to feed and feed ingredients testing, a service which in its nascent stages is improving the poultry, aquaculture, dairy, and livestock subsectors, as well as helping with other farming activities. Having only received all its equipment and opening its doors in November 2010, the feed lab tested more than 20 samples of feed for local farmers in December 2010. As with their soil testing lab, AIM will use a graded fee structure formulated to be within the reach of the average farmer while covering costs and generating a profit. As with AIM’s soil laboratory, the animal feed lab is expected to become self-sustaining.
IX. LESSONS LEARNED AND RECOMMENDATIONS

This section presents lessons learned from the PSCEP program—at the general level and also by targeted sectors and subsectors—followed by suggestions relevant to future competitiveness projects in Azerbaijan.

GENERAL AND SECTOR-SPECIFIC LESSONS LEARNED

PROGRAM DESIGN AND MANAGEMENT

- A logical relationship between project goals, resources, and timeframes is necessary to accomplish desired objectives. A broad focus across several sectors, subsectors, and geographic regions without a corresponding level of funding does not allow the depth and time needed for appropriate program assistance in all areas.

- Even with efficient grant approval processes, grant activities often take longer than anticipated. Smaller grants consume almost as many staff resources as larger ones, with considerable efforts devoted to field work, report writing, and administrative matters regarding technical proposal review, M&E, grant closeout, environmental approvals, and environmental monitoring efforts.

OVERALL TECHNICAL APPROACH

- BDS providers were a cost-effective means of assisting rural target groups over the life of the program and provided a local mechanism for sustainability, although their different capacity levels required significant capacity building and resource support. Having BDS staff shadow international and national technical experts on their assignments helped to transfer knowledge to targeted beneficiaries and to the BDS providers themselves.

- Simple, low-cost changes to modernize existing practices, coupled with hands-on demonstrations and field visits not only to beneficiaries but also their neighbors in the community, were effective means of increasing yields and revenues in Azerbaijan’s agricultural sector. Visits to neighbors also means to neighboring countries. Turkish agriculture and agro-processing firms provide a good model for Azerbaijani industry to emulate and may be potential partners for future collaboration.

- A more modern, competitive agricultural sector requires a change in perceptions and attitudes so that farming and related agricultural activities are viewed as respectable professions, which is typically not the case in Azerbaijan. Having local and international program staff deliver workshops and lectures to students and faculty at the State Agrarian University as part of their assignments helped to convey the exciting possibilities offered by the country’s agricultural sector, especially for youth.
AQUACULTURE SECTOR

- Contrary to indications from other rural industries, Azerbaijani fish farmers are interested in working together and establishing associative relations and formal associations if it is shown to be in their interest. Establishment of vibrant associative relations is vital for any sector, and even more so in aquaculture as it is a “new” sector experiencing rapid growth.

- Though difficult to find, recruit, and schedule, short-term international consultants who are both technical experts and involved in the management of enterprises similar to those being assisted are the most appropriate to provide the full range of business-oriented technical advice needed for the development of profitable commercial farming.

DAIRY SECTOR

- Simple, low-cost changes in production and handling methods, via lead farmers and on-farm demonstrations, can have a dramatic transformative effect on value-chain revenue and supply. The approach of transferring knowledge and skills through milk collectors and producers is applicable to several sectors and firms. In Lankaran, PSCEP worked with a number of firms that have large collection and producer structures. The resulting efforts with PalSud are an example of the types of focused, direct support that can mushroom into widespread impact among secondary beneficiaries.

- Success breeds success. Improvements in milk quality, volumes, and revenues, and the buyer-supplier business approach motivated local financial institutions to consider and approve loans to dairy farmers. In addition, the dairy processing companies involved with the program have increased their purchase price for raw milk and are seeking to expand their relationships with small producers and local BDS providers.

POULTRY SECTOR

- PSCEP and industry stakeholders agreed that identification and access to high-quality feed is one of the major constraints affecting the productivity of the poultry industry. Through the implementation of the animal feed analysis laboratory at the Agro-Information Center, PSCEP took steps to address this issue. However, the competitiveness of Azerbaijan’s poultry sector hinges on several factors: lowering the industry’s high cost structure, increasing its efficiency and productivity, and reducing the sales price of poultry. Given the profitability of the local market for poultry, most large firms are reluctant to make the necessary changes and are content to produce and sell for the domestic market.
FRUIT AND VEGETABLE SECTOR

- Targeted assistance at developing relationships between buyers and suppliers facilitates accelerated improvement. By helping to establish a trust between the producers and those involved in other subsectors, such as cold storage and fruit processing, they may be able to work towards mutual improvement of their respective products.

COLD STORAGE SUBSECTOR

- Cold storage facilities provide ample business opportunities that can only be exploited if agricultural industries modernize their technical and management methods and adopt a market-oriented approach.

GREENHOUSE SUBSECTOR

- Azerbaijan’s greenhouse industry is primarily based on infrastructure, production methods, and business management practices from the Soviet era. The benefits of this inheritance include markets and marketing arrangements for certain fruits and vegetables, a sizeable collection of structures, and entrepreneurial interest. On the other hand, the greenhouse subsector needs to increase production quality and quantity levels, introduce new high-value commodities, and adopt a more commercial business orientation in order to have a competitive market position in the region and to keep or improve its existing markets.

PROCESSED FRUIT AND VEGETABLE SUBSECTOR

- Food safety and related certifications are costly to initially qualify and renew. In essence, this is a business investment decision. If the benefits do not outweigh the costs (i.e., no legislation, lax enforcement, target buyers/markets do not require certification), then there is no incentive for enterprises to incur these initial and recurrent expenses.

ICT SECTOR

- The use of GDAs in the ICT sector proved to be an effective approach. It does, however, require considerable time and expertise and is not a simple process. The role of PSCEP’s subcontractor, a GDA specialist company, was critical in formulating and developing ICT sector strategies.

FINANCE SECTOR

- The selection of partner financial institutions based on the potential to multiply program benefits, synergies, and impact was especially critical to producing desired results.
• Increased financing as a result of program assistance to carefully selected commercial banks and micro-credit organizations can be rapid and significant. However, given the larger funds involved and the ownership structure, increased investment resulting from program assistance to equity investment companies can be much slower and potentially exceed the life-of-program timeframe.

• The PSCEP strategy of using international and local staff to combine bank analyses, developing a specific assistance framework for each bank, conducting formal trainings, and providing hands-on assistance with actual transactions worked well for commercial banks.

• BDS providers can be an effective and efficient means to facilitate rural financing for local businesses. Though most BDS clients welcome assistance in securing financing, the capacities and business models of the program’s BDS partners differ and not all are able or willing to handle loan facilitation.

BDS SUSTAINABILITY

• PSCEP’s BDS providers will continue to rely on donor financing as this is their main market and client. The BDS providers that work with development organizations are in a paradoxical situation: larger, better-off private sector organizations can afford and do hire international consultants or top-level national consultants. Donors, on the other hand, work with lower-income groups that are accustomed to receiving free assistance or, when cost-sharing, do so at a level that cannot pay for the higher-level consultant services required. The only recourse is then the donors.

• Donor projects look for local experts to support their work, which is frequently oriented toward lower-income and/or rural beneficiaries. It is not realistic to expect that local BDS providers can entirely finance the level of local technical assistance envisioned. Requiring that BDS organizations earn a substantial portion of their income from clients, and hence training and orienting local BDS providers and consultants to focus on more up-market clients, removes this local source of expertise from the donor’s target groups.

• Local program staff provide an aspect of local assistance sustainability if these professionals remain in the development business. This is why PSCEP devoted considerable effort to the professional development of its local staff and to assisting them with job placement at the end of the program.

RECOMMENDATIONS FOR FUTURE PROGRAMS

PROGRAM DESIGN AND MANAGEMENT

• Indicators and target levels should be carefully designed in light of overall program objectives, the contract implementation timeframe, and contract budget,
with room for flexibility to adjust performance monitoring plans as new realities and opportunities arise.

- Too often, development programs have a limited number of administrative staff handling grants, incorrectly assuming that this is an accounting or clerical function. Grant-related technical matters took up the majority of resources on the PSCEP program. It is therefore recommended that follow-on programs have dedicated staff—both technical and administrative—focused on grant activities.

**OVERALL TECHNICAL APPROACH**

- Future programs should build on PSCEP’s work with local BDS providers to enhance their level of expertise, expand their operations, and increase their client base, which will help ensure the sustainability of program interventions.

- Because farmers often look to emulate their peers in the community, lead farmers should be engaged as early technology adopters to demonstrate the tangible benefits of program assistance and replicate successes to a wider group of beneficiaries.

- Initiatives should be designed to change perceptions and attitudes toward farming and agricultural activities in Azerbaijan. In rural areas, grade-school and high-school classes should be offered on agricultural topics, and agricultural concepts incorporated into basic courses such as math and grammar. Youth farming activities should also be promoted. An agriculture intern program can be developed with the State Agrarian University, rural high schools, and agricultural enterprises to provide experience to students and potentially new information to the enterprises.

**AQUACULTURE SECTOR**

- Rejuvenation of the aquaculture sector is only at the beginning stages. In-depth technical assistance is required for at least several more years. Carp production should be emphasized as it requires less investment and is a more technically forgiving activity than trout production. Technical assistance to carp producers can produce significant and widespread impact on the rural sector, especially since the majority of the sector is composed of small farmers and carp ponds are present in most regions of the country.

- Technical and business-oriented support should focus on “model farms” while ensuring that the dissemination of information to other fish farmers are a critical part of the assistance package. Most farmers learn best from seeing their neighbor adopt new practices rather than hearing a lecture—for example, the number of farmers that ordered eyed trout eggs during the program’s second import doubled due to the successful hatching rates resulting from the first order. In addition, local capacity should be built by training local fish experts and working with the
State Agrarian University to organize seminars, participate in curriculum development and training-of-trainers programs, and establish a student internship program.

- Support for a cold-chain distribution system is crucial to increase the seasonality of sales and improve the efficiency and profitability of the fish farm infrastructure. A total of 90 percent of all freshwater fish sales in Azerbaijan occur in cold months—between October and April—due to consumer worries about spoilage. This means that producers must continue to incur costs during the warmer periods without corresponding incoming revenue, or must keep their ponds and raceways empty of fish. To make up for this lost sales period, producers try to stock and prepare the maximum amount of fish for the selling season and often overbuild their infrastructure to allow this higher stocking rate. This is an inefficient use of costly facilities, especially since capital and financing are expensive and difficult to obtain.

- There is little marketing of domestic fish products. This results in price uncertainty, especially for trout. Farmers are busy with production and overlook the marketing function, relying on distributors and agents to set prices. Market linkages should be established with supermarkets, restaurants, and caterers. Cleaning, semi-processing, and packaging equipment from neighboring countries should be sourced and larger producers encouraged to purchase the equipment.

- Assistance is required regarding land ownership and dealing with public authorities and customs officials. There is uncertainty regarding ownership documents for pond areas. All of the tenure documents issued after 2007 are considered invalid and farmers need to apply for new documentation. However, farmers feel that the tariffs to re-document their ponds are high and make aquaculture activities unprofitable. Legal assistance to farmers is needed, along with efforts to simplify the privatization process and related laws. In addition, issues regarding the importation of aquaculture inputs abound, hampering the sector’s development. For instance, based on PSCEP’s experience with the import of fish feed, a complicated process that required the intervention of USAID staff, the importer subsequently declined to bring in crucial feed for farmers who ordered the eyed trout eggs, which has a potentially negative impact on their development.

- The commercial banking sector and microcredit organizations should be encouraged to consider lending to the aquaculture sector through assistance to credit and investment staff, who are largely unfamiliar with the sector and are thus unable to properly evaluate financing demands.

- Continued support should be provided to promote the development of aquaculture associations and collaborative relationships. Establishing an aquaculture association will make it possible for farmers to stay informed about market prices...
and trends, organize consolidated purchases of inputs and equipment, pool efforts for successful marketing, and advocate for policy changes.

DAIRY SECTOR

- PSCEP methodologies used in the dairy sector in the southern regions should be replicated with other dairy farmers in other areas of the country, including the introduction of simple, low-cost changes in production methods through lead farmers, engaging local BDS professionals and milk collectors to reach more farmers, building linkages between producers and dairy companies, and sharing successes with financial institutions to encourage lending to the sector. These methodologies should also be expanded to additional small farmer activities like poultry and other livestock.

POULTRY SECTOR

- Due to the large number of small poultry producers and the potential for significant increases in productivity by relatively small adjustments to production techniques, future assistance to the poultry sector should focus on increasing the incomes of smaller-scale producers. The Agro-Information Center’s extension services and animal feed analysis laboratory can be major contributors to this effort.

FRUIT AND VEGETABLE SECTOR

COLD STORAGE SUBSECTOR

Technical recommendations:

- Simple, relatively inexpensive hand-held instruments for humidity, ethylene, and air circulation measurement are available, as are ethylene-absorbing filters, and should be procured and used by future programs active in this subsector.

- Higher-capacity fans should be installed in selected cold storage units in each facility. Individual cold rooms do not have enough refrigeration capacity and air flow velocity to rapidly remove the field heat from warm products and cool them to a 0°C storage temperature. This is especially problematic when large product quantities are placed in a given room on the same day. The lack of adequate refrigeration capacity and air flow for quick cooling is an issue because the maximum storage life of any product is obtained by rapid removal of the field heat as soon as possible after harvest.

- All fruits and vegetables produce ethylene, a natural ripening hormone, but the build-up of ethylene in an enclosed storage room causes accelerated ripening and deterioration of fruits and vegetables, significantly reducing storage life. The degree of product damage depends on the commodity, concentration, length of exposure, and temperature. Inadequate internal air ventilation inside the storage
rooms can lead to a build-up of ethylene, which is also emitted by propane, diesel, and gasoline-powered engines. Machines and forklifts that are powered by fossil-fuel engines should never be used inside the storage facility. Certain fruits and vegetables produce relatively high amounts of ethylene (e.g., apples, melons, peaches, pears, tomatoes) and should be stored separately from those products that are ethylene-sensitive (e.g., persimmons, cabbage, leafy greens).

Management recommendations:

- The cold storage subsector needs to develop a value-chain concept whereby the fruit and vegetable producer-supplier is considered a partner, and other cold-chain operators are not only viewed as competitors but also potential collaborators. In addition, the inter-connection between production, post-harvest handling, cold storage, the cold chain, and marketing in terms of their combined effect on product quality and profitability should continue to be emphasized.

- Vegetable and fruit production techniques and crop varieties are out-of-date and hamper yields, quality, and marketability. The Turkish horticulture industry is a good model to follow and an excellent source of material, equipment, and knowledge, given its similar climate and more modern production, cold storage, and handling techniques.

- Cold storage owners and operators should consider diversifying into other value-added activities such as fruit drying or jam production, and improving the efficiency and regularity of their operations by developing business relationships with fruit and vegetable producers. Internship programs with the State Agrarian University would be an attractive and low-cost means of enhancing local expertise. Visits to international fairs and Turkish industry should also be encouraged. Most importantly, the subsector needs to focus on establishment and maintenance of the cold chain as improvements in other technical areas will not be cost-effective or sufficient to maintain produce quality and shelf-life without a functioning cold chain.

- Cold storage owners, farmers, and exporters need to pay more attention to marketing and product quality. Counter-season fruits and vegetables have excellent markets in Russia, but the Russian market is becoming increasingly competitive. Expanding into the European market will require international certifications such as GlobalGap, which none of the producers or exporters currently hold.

GREENHOUSE SUBSECTOR

- The greenhouse subsector is an important and profitable component of the country’s agricultural industry, extending the supply period to both the national and Russian markets. PSCEP-initiated efforts to modernize technical and business
methods should be continued with firms, service providers, and future technicians and managers.

- Greenhouses should consider diversifying into new high-value crops and other related business opportunities in the subsector, and expanding their season through variety selection and the use of cold storage.

- As part of local capacity building, internship programs with commercial greenhouse producers should be considered as they would provide an attractive, low-cost means of enhancing local expertise. Visits to international fairs and Turkish industry should also be encouraged to expose local producers to best practices and successful models.

- Attention should be paid to improving the quality and volumes from smaller growers employing covered plastic production methods as part of a national value chain.

**PROCESSED FRUIT AND VEGETABLE SUBSECTOR**

- Future donor programs should adopt a value-chain approach to development of the processed fruit and vegetable subsector in order to identify and implement new business opportunities, such as dried fruits and vegetables.

- To promote modernization of the subsector, international visits to similar enterprises and trade fairs should be supported to expose Azerbaijani companies to modern technical and business practices, business opportunities in new markets, as well as sources of investment and financing sources. Exposure and training in the use of computers and the internet for marketing, management, and accounting is also a must.

- More exchanges with Turkish subsector players should be encouraged as Turkey provides an excellent model, is easy to visit given that contacts are already in place, and offers a convenient source of equipment, supplies, and consultants. In addition, Turkey and its private sector are actively seeking expansion of their regional roles. For Azerbaijani businesses that wish to export beyond Russia, Turkey also provides a model of how to qualify for and adhere to international food safety certifications.

- Linkages between subsector enterprises and educational institutions, such as universities and vocational schools, are a missing yet mutually beneficial ingredient. Internship programs should be created in technical and business areas as they would offer benefits both to the students and to the processing enterprises. Food processing firms lack new ideas and the human resources to propose and implement them, while students lack business experience and exposure to practical business operations.
ICT SECTOR

- PSCEP’s public-private sector approach should be continued in the ICT sector as it leverages monetary and managerial resources effectively. While this can be an effective approach in any sector, the PPP approach in the ICT sector in Azerbaijan was especially beneficial to the presence of international firms, such as Microsoft, HP, and Cisco. This presence and their overall corporate approach to partnering with local organizations create an environment where the private sector may build on its knowledge and expertise for designing and implementing technical tasks. At the same time, the government can support legislative reform to improve the overall business climate for the sector, liaise between stakeholders, and raise awareness in wider segments of society.

- The Cisco Networking Academies Alliance should be implemented. The main reason for the dearth of educated IT professionals in Azerbaijan is the absence of specialized technical ICT training. Though a few companies provide Microsoft or Cisco-based training, the courses are expensive and usually only accessible to large international companies that send their IT personnel for qualification upgrade classes. The Cisco Networking Academies Alliance is designed to address this issue by training high-school and university students in the essentials and management of IT systems. As all of the groundwork for the alliance has been completed, and the MOU is ready, it will only take a few months to reignite the project and lead it to the implementation stage.

- Since entrepreneurial activity, capital investment, and innovation are limited in Azerbaijan’s ICT sector, support to the Barama Innovation Center should continue.

FINANCE SECTOR

- Agricultural and rural-oriented programs should focus on rural banks and credit institutions that lend or may lend to the sector. Given the level of involvement that could be required, programs should concentrate on a limited number of partners—one to three banks and microfinance organizations—for capacity-building assistance and financing facilitation.

- Alternative forms of financing—whether supplier, buyer, or internally generated funding—are an important component of organizational financing. Assistance in understanding and pursuing these options should be part of any private sector competitiveness program.

BDS SUSTAINABILITY

- Like any business, BDS development and sustainability is a long-term effort. PSCEP’s BDS providers are small businesses providing essential hands-on support to donor development projects through their local knowledge and immediate access to farming communities. PSCEP’s rural non-Baku focus limited
the number of competent and experienced BDS providers it could engage. The program selected the best organizations available at the time, but they all required considerable capacity building to develop into professional organizations. Though PSCEP provided capacity-building support in both technical and financial areas, a specific BDS-focused project is needed to dedicate the time, resources, and training required for these organizations to become self-sustainable.

- PSCEP’s BDS providers should exploit their experience on the program and particular expertise by expanding into other geographic regions, and should do so in collaboration with other BDS providers.

- Eventually, a formal or semi-formal BDS providers association should be established to foster BDS collaboration and capacity building, liaise with donors and clients, promote the use of local expertise, and ensure beneficiary payment of services.

- Future programs similar to PSCEP should accept the fact that BDS providers will continue to look to donors as major sources of income. Donors, including USAID, should continue to support short- and longer-term contracts with the PSCEP BDS providers, and the number of collaborating BDS providers should be expanded where possible after vetting for experience and potential.