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AGRICULTURE TECHNOLOGY PROGRAM (AgTech)

QUARTERLY REPORT I OF PROJECT YEAR IV
(OCTOBER 2013 – DECEMBER 2013)



February 2014

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ACRONYMS

AI	Artificial Insemination
GOT	Government of Turkmenistan
HH	Household
IPM	Integrated Pest Management
LN	Liquid Nitrogen
LNG	Liquid Nitrogen Generator
LOI	Letter of Invitation
MFA	Ministry of Foreign Affairs
PMEP	Project Monitoring & Evaluation Plan
SLU	State Livestock Union
TOT	Training of Trainers
USG	United States Government

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PROJECT OVERVIEW



This report summarizes project activities conducted by Weidemann Associates, Inc., A Crown Agents USA Company, in implementing the Agriculture Technology Program (AgTech) for Turkmenistan during the period of October 2013 through December 2013.

Project highlights from the First Quarter included extension services and transferring information to the local input providers, farmers, and households, all in support of strengthening the horticulture and livestock sectors.

Significant delays in receiving Ministry of Foreign Affairs (MFA) approvals for project activities have impacted project's ability to implement its planned activities. Despite the delays in receiving approvals from the MFA, AgTech was able to develop a new strategy for going forward. AgTech produced and disseminated booklets and multimedia of various subject matters. The Project continued to push forward for increased accessibility to training and advertising tools to promote best practices and celebrate the project's widespread impact.

AgTech managed to exceed PMEP annual targets in two of its five indicators within the First Quarter. Cumulatively, the project is on schedule to complete its activities and is currently revising its training activities to adapt to the current demands. With the support from our private sector partner, Chevron, the project is increasing the capacity for veterinarians and farmers to transform the dairy industry in Turkmenistan and support the high local demand for meat and dairy products.

In order to ensure market linkages for bolstering growth in production, the Project focused on training extension services and business development. Extension services and business development activities will ultimately help AgTech achieve its objectives in increasing farmer incomes, sustainability, and production capacity as well as provide adequate food security for the region.

The contract's ceiling price has risen to \$4,672,280.35 with the additional ceiling increase in September, 2013. As of December 30, 2013 the project estimates that \$2,651,326.86 has been spent of the obligated \$4,074,491 funds.

LIVESTOCK COMPONENT

Breeding Improvement: Supply Breeding Supplies and AI Training

During its first three years of activity, AgTech has imported about 12,000 doses of genetic material for AI training and activity purposes. Based on its annual work plan for Year Four and Year Five, the Project planned to procure additional 7,000 doses of bull semen including, beef breeds and female sexed semen of conventional Holstein and Brown Swiss breeds. In addition to project procurement, AgTech's Akhal partner and Akhal AI Centre manager, Nepes Karayev, was planning to order 2,000 doses of frozen bull semen of Holstein and Brown Swiss breeds. In Year Three, AgTech has assisted Mr. Karayev in receiving a license for trading with AI goods and supported his initiative to import the first batch of doses

"We are very grateful to this project for organizing AI services and creating access to the world-famous cattle breeds, which are now easily available to us"
- Bazarbay Rejepov, local AI specialist

of bull semen in July 2013. Since then, Mr. Karayev has developed a good client base comprised of project trained AI specialists, private livestock farms, as well as State farms that belong to the State Livestock Union.

During the Project's Quarter One facilitation of the additional 7,000 doses of semen from US suppliers -which included 10 additional AI kits, universal

AI guns for sexed semen and consumables such as AI sheathes and gloves- new local requirements are restricting AgTech's ability to finalize the procurement (the requirements are discussed in more detail in the challenges section below). Despite this challenge, AgTech modified its activity plan and will therefore be able to procure a smaller amount of bull semen (around 5000 doses) for project AI training extension services.

In order to continue providing the much desired AI services, the Project is now working on establishing business contacts between foreign suppliers and local Turkmen livestock farmers. AgTech is providing contact information and facilitating communication. The Project continues to engage the services of a local AI specialist, Katya Chikhnyaeva, for supervising AI activities. Ms. Chikhnyaeva has been employed by Anzarov - one of the largest and most successful livestock farmers in Turkmenistan. Working in such an environment creates opportunities for Ms. Chikhnyaeva in

Next Steps:

The Project will procure a reduced amount of dairy and sexed doses, in order to align with the new AgTech strategy, which focuses on providing training and extension services to all five velayats (regions).

improving and practicing AI skills. AgTech also benefits from her improved skills, by carrying out its livestock component activities in collaboration with its partners. A perfect example of this collaboration between AgTech, Katya and Anzarov is the one-day refresher training provided by Katya to Gairat Hudaishukurov, AgTech's second-generation AI specialist from the Dashoguz region. Katya provided training on pre/post insemination and veterinary care of cows at Anzarov's farm in late December.

In turn, Mr. Hudaishukurov provided AI services to Batir Rejepov and Bazarbay Rejepov, from the town of Charvag in Niyazov County. Many livestock farmers in Niyazov purchase Swiss or Holstein bulls from the Ahal region, which are known for their robust qualities. The AI service provided by Mr. Hudaishukurov was less costly than buying bulls and provided great quality semen. Bazarbay Rejepov expressed his gratitude to the USAID Agricultural Technology Program: "We are very grateful to this project for organizing AI services and creating access to the world-famous cattle breeds, which are now easily available to us."

Aside from Mr. Hudaishukurov, who provides services to farmers in his region, multiple AI technicians have consulted with Ms. Chiknyaeva about best practices for overcoming AI relevant complications. Mr. Hudaishukurov was grateful and explained that without USAID AgTech the AI network would not be possible.

In Quarter One, the Project was also finalizing a budget and SoW for two US based heat detection and AI trainings. The Project is planning to send 4 AI specialists from four velayats (regions) and 2 additional veterinarians from the State Veterinary Service of the Ministry of Agriculture of Turkmenistan to California, USA. The details of the SoW and participating/hosting US farms have been discussed and agreed upon with the Project's international livestock consultant, Dr. Thomas Graham, and the first month-long training is scheduled to kick off in mid-March 2014.

CHALLENGES:

- There are many changes at the policy level regarding State registration of foreign technical aid. Supplies provided by international donors will become a challenge for project activities in Turkmenistan. According to the new decree, any foreign technical and financial aid that is provided to recipients by donor organizations will be considered a grant by the local authorities and will require local registration.

Next Steps:

In the Second Quarter, the Project will send two participants from Turkmenistan to Davies, California in the United States as part of its month long, US – based heat detection, heard management and artificial insemination training. Working on a daily basis alongside dairy experts on US commercial farms, will provide the participants with expertise beyond a level that can be reached on a smaller dairy farm in Turkmenistan.

Based on the gathered information, the Project believes it would be difficult to register project activities and procurements based on the new regulations. Therefore, this new decree impacts the Project's ability to procure equipment included in its approved work plan for the Year Four and Year Five. Nonetheless, the project has achieved many successes and is revising its strategy for year Four and Year Five to adapt to the new conditions.

SUCSESSES:

- Despite the challenges, AgTech conducted a 45-day AI training which resulted in 12 fully trained technicians from all velayats. These specialists have in turn trained four to five new experts in each of their respective velayats. Upon completion of the AI training, technicians received a certificate from the Ag-Tech Program.
- AgTech Program also created a network between entrepreneurs, advisors and experts on AI. The network has become an invaluable resource for overcoming challenges encountered in AI. Without the network, farmers would not have readily available access to information that helps improve their business ventures and farms.

Artificial Insemination (AI) Centers

In Year Three, AgTech planned to create an AI Centre with the support of the local Government in the Lebap region. A building for the center has been identified and renovated by the Turkmenabat Veterinary Service. However, due to lack of GoT approvals, the Project has decided to establish a center with a private entrepreneur/livestock farmer similar to the centers in Mary and Akhal regions in Quarter One. Mr. Babajanov, a long-term project livestock partner in Lebap and his farm have been selected as a location for the Lebap AI Centre. Memorandum of Understanding has been signed with Mr. Babajanov, who has renovated and prepared the premises suitable for the AI Centre. The Project has procured all the necessary lab equipment for the Centre.

All local STTAs planned within this AI Center Activity have been included into the project's quarterly activity plan which was submitted to the MFA. AgTech is expecting the government's approval of the planned technical activities. The Project has also developed scopes of work SoWs and identified candidates for local STTA consultancies for State Livestock Union Needs Assessment and AI Centre design and equipment.

CHALLENGES:

- Obtaining licenses for AI specialists to conduct AI activities and to import genetic material still poses some difficulties. This policy-related challenge is beyond Project's control.

SUCSESSES:

- Despite the challenge, AgTech is actively ready to support AI specialists in obtaining licenses. The Project Livestock Specialist, Akmyrat Yazhanov, has been able to maintain regular contact with the State Livestock Union, and with their assistance is ready to

provide support for securing new licenses among AI specialists and AI Centers, should the opportunity arise.

Dairy Sector Value Chain Intervention

Project procurement has been planned in Year Four for the Dairy sector Value Chain `Activity 1.3'. For example, for the Grade-A farm improvement activity, the Project plans to procure and install high-volume low-speed (HVLS) fans, milking equipment, cooling tanks and equipment for pilot cattle feed production. Additionally, the planned Grade-B farm improvement activity will involve the procurement and installation of necessary equipment to upgrade local small-sized livestock farms. The Project staff conducted visits to six livestock farms in the Akhal region and three in the Mary and Lebap regions to assess potential partnerships for the planned farm improvement activities.



The Project has identified three farms in Akhal velayat for partnerships: Serdar Balacayev's farm – the opposite cattle farm to Shayoly State farm and a new host to Akhal AI Centre, Bagtiyar Gurbanov's farm, and Bayram Beshеров's farm. Additionally, Mr. Islam Babajanov's farm and Mr. Bayram Meredov's farm in the Lebap and Mary regions respectively, have been chosen for farm improvement activities. Both of these farms have previously partnered with the project on livestock activities and now Mr. Islam Babajanov's farm is being considered to host the Lebap AI Centre and Mr. Bayram Meredov's has successfully participated in feed trial activities carried out by the project in Year Two.

All the identified livestock farms, except Mr. Babajanov's, are state owned under the existing lease agreement with the main product sharing principle of 95%-5% in favor of the leaseholder. The majority of the state farms under this type of lease agreement are expected to be privatized in 2014, as a result of a new privatization law. Additionally, the current leaseholders will have a priority in purchasing and owning their leased farms. Due to changes at the policy level regarding State registration of foreign technical aid, AgTech is reevaluating its planned farm improvement activities for years Four and Five and thus plans to identify a local expert to provide a design for local dairy farm upgrades and improvements. AgTech will focus on providing upgrades that will be replicable and scalable. Additionally AgTech will identify consultants in order to provide assistance with livestock nutrition, supply management, and feed formulas. AgTech will also support farmers in creating materials for advertising feed products and establishing relationships with dairy processors and livestock farms.

Livestock Technical Assistance Program

The Project is planning to translate short, best practice videos into Turkmen for production and distribution among project trained AI specialists and local livestock farmers. Currently, the field office staff is working with home office staff in Washington, D.C. to identify and select livestock farming and veterinary care videos for this purpose.

In response to the Central Lab's request to enhance the lab specialists' knowledge and skills, the Project plans to organize a study tour to an OIE compliant laboratory for the State Veterinary Service specialists. By observing practices in compliant labs, the expectation is that specialists will now be able to conduct additional animal disease tests that are required by the OIE standards, and therefore be considered for membership with the organization. The Project and the State Veterinary Service of Turkmenistan have agreed that the Laboratory at the FGI Federal Centre for Animal Health in Vladimir, Russia would be the best venue for the planned study tour. This is in part due to the convenience of a shared language, the existence of a bilateral agreement on joint activities and trainings between the Central Labs of Russian Federation and Turkmenistan, and established contacts and relationships between the two entities.

SUCCESSSES:

- The Project has discussed this activity with the Central Lab and State Veterinary Service management and agreed that two specialists, Ms. Bakhar Jumanazarova, head of the Serology department of the Central Laboratory, and Mr. Arslan Soltanmuradov, a veterinary specialist of the international affairs department of the State Veterinary Service of the Ministry of Agriculture of Turkmenistan, will participate in the upcoming study tour supervised by the Project Livestock specialist, Akmyrat Yazhanov.

Next Steps:

As part of its new strategy, AgTech is organizing sanitary and phytosanitary (SPS) consultancies and an international standards activity for the Central Lab Specialists in Turkmenistan. These activities will provide the necessary support and technical assistance to prepare Turkmenistan for WTO accession.

HORTICULTURE COMPONENT

Greenhouse Improvement Program

In order to increase sustainable practices, Year Four marked a change in AgTech’s strategy for the Horticulture component. The main focus is no longer on conducting regional trainings and constructing greenhouses, but on preparing project partners for becoming greenhouse trainers and extension specialists. As part of this new strategy, the Project is planning to conduct a training of trainers (ToT) on installation and use of drip irrigation systems for project horticulture partners in Ashgabat. The ToT session has been included into project’s quarterly plan submitted to the Ministry of Foreign Affairs (MFA) in Turkmenistan.



“AgTech’s trainings have increased our knowledge and skills in greenhouse farming, which has resulted in increased income...” - Ruslan Halliyev and Aziz Gedayev

The project specialists were involved in research activities on identifying, procuring and installing the relevant equipment and tools. However, following numerous discussions regarding the ability of AgTech to carry out this activity with the necessary approvals and given the current situation in the country, we have decided to postpone the activity and focus on enhancing trainings and STTA activities instead.

CHALLENGES:

- There are significant delays in receiving MFA approvals for project activity plans. These delays impacted the project’s ability to implement its planned activities in Year Four Quarter One. As a result Agtech has revised its activities and strategy.

SUCSESSES:

- Instead of seminars and activities that would require state registration, AgTech has planned agriculture extension activities such as in the case of the drip irrigation activity and has provided new field guides to farmers for pesticide use.
- 174% increase in value of production sold to local and international markets.

Greenhouse Pesticide and Fertilizer Training

In Quarter One, AgTech planned semi-annual pesticide and fertilizer trainings for Project horticulture partners as well as identified input suppliers. AgTech’s quarterly activity plan was submitted to MFA. While waiting for approvals, AgTech recruited a local consultant to develop a pocket field guide for horticulture farmers. A pocket field guide will comprise pest control measures for 10 to 15 most common tomato and cucumber diseases encountered by local greenhouse growers, step-by-step instructions on the mixing, application and handling of

pesticides as well as an updated list of and guidance for approved pesticides and active ingredients in Turkmenistan.

Apart from demonstrating improved pesticide and fertilizers application methods, the main focus of project-conducted pesticide trainings introduced in Year Two was raising awareness about health and environmental issues occurring as a result of such activities carried out by horticulture farmers and greenhouse producers.

As part of continued support under this activity, AgTech has procured 100 sets of personal protective equipment (PPEs) to be disseminated among greenhouse-growers, participants of project-held training sessions and long-term project collaborators. In agreement with Project specialists and velayat horticulture partners, 20 greenhouse growers from each of Akhal, Mary, Lebap, Dashoguz velayats and 8 greenhouse farmers from Balkan velayat were selected as recipients of PPEs. The selection criteria for growers included: a) participation level of farmer in project-held seminars and trainings; b) year-by-year income increase as a result of adopting new technologies, following project recommendations and consultations, as well as; c) level of cooperation with the Project on monitoring and recording project targeted indicators and achievements within the Horticulture component. In order to be used during the first growing season of 2014, Project specialists distributed PPEs jointly with respective velayat partners in each velayat in late November. The participants expressed their gratitude to the Project for the trainings. They became aware of the safety hazards involved in improperly handling pesticides. Even the more experienced greenhouse farmers like Ruslan Halliyev and Aziz Gedayec, who have more than 10 years of experience noted that “before our training with AgTech, we did not pay attention to what protective clothing we wore while applying pesticides. Throughout last year we participated in several trainings conducted by the AgTech Program and learned how to properly apply pesticides in order to protect our health. We are very thankful that the AgTech Program provides such useful trainings. AgTech trainings have increased our knowledge and skills in greenhouse farming, which has resulted in increased income.”

Before [AgTech], we did not pay attention to what protective clothing we wore while applying pesticides... in several trainings... [We] learned how to properly apply pesticides in order to protect our health. We are very thankful that the AgTech program provided such useful trainings...”
- Ruslan Halliyev and Aziz Gedayev

SUCSESSES:

- Ag-Tech distributed 88 sets of Personal Protective Equipment (PPE) to the greenhouse farmers in each of the five velayats in Turkmenistan.
- Ag-Tech trainings and distribution of the PPE has created an opportunity to disseminate information about the PPE and pest and disease control in greenhouse production practices. PPE distribution has improved farmer safety, while also serving as an example of proper pesticide handling and application for neighboring farmers.
- AgTech trainings have provided significant access to information and new skills to greenhouse farmers, which in turn have resulted in increased incomes.

Horticulture Extension Pilot activity

Project planned international STTA's and activities on extension trainings and outreach within the horticulture component are included in the project quarterly work plan and expected to take place once the relevant approval for project activities is received from the MFA. Meanwhile, the Project has identified the following licensed input suppliers who are prepared to cooperate with AgTech in training and extension activities:

1. Begmyrat Tajiyev – Akhal region
2. Berdimukhammet Gulmyradov – Akhal region
3. Begmyrat Mollayev – Akhal region
4. Arslan Atayev – Ashgabat
5. Azat Gurbanmamedov – Ashgabat
6. Rustem Hajyyev – Lebap region
7. Shukurulla Charyyev – Lebap region
8. Anna Orazov – Mary region
9. Bayram Kakajanov – Mary region
10. Allamyrat Ballyyev – Dashoguz region

PROGRAM DEVELOPMENT AND SUPPLEMENTARY ACTIVITIES

Training Database Development

The Project has developed M&E tools to collect information from training participants. This serves as the foundation for development of a database to use to report on key PMEP indicators and other baseline information that may be useful to USAID. In order to maximize resources, the Project is training the trainers on the data collection processes and may use other human resources where available to save on time and local travel expenses for the project managers.

Due to the remote and sparse location of many livestock households, documenting all newborn calves remains one of the main challenges. Another major challenge is poor records, if any, by farmers to record increases in milk yields and income as a result of increased use of AI services and improved breeds.

Next Steps:

As part of its extension services, AgTech will be preparing for its horticulture training activities that will be carried out with the assistance of the identified extension agents and input suppliers.

Supplementary Activity: Pomegranate Enterprise Support

During the First Quarter of Year Four, the Project Private Sector Agribusiness Specialist, Murat Nobatov, visited Balkan region and scheduled meetings with the representatives of water management organization and local county municipality in order to discuss potential cooperation and support provided by AgTech to pomegranate production enterprise in Serdar County. In anticipation of a positive response from the local authorities, AgTech plans to support local pomegranate growers improving water supply and irrigation systems by supporting procurement of electric pumps and other needed equipment. While local growers and the water management organization are in full support of project-planned activities, the Project is still pending a buy-in and positive response from the local authorities for these activities. AgTech plans to make a final attempt in discussing and agreeing on this activity with Serdar County Municipality next quarter, and in case of a negative or no response from the local authorities, the Project would most likely abandon this idea and concentrate on other planned activities.

CHALLENGES:

- The Project believes it will be difficult to register project activities and procurements based on the new regulations. This policy-related challenge is beyond Project's control.

SUMMARY OF STAFFING MATTERS

Following the additional funding received in Quater Four and the increased level of work plan activity anticipated in Years Four and Five, AgTech hired an additional agricultural technical specialist, Ms. Nazik Taganova.

PMP TARGETS AND DEVIATIONS:

Performance Indicator	Performance Indicator Definition	Year 4 Proposed	Year 4 Actual (through first quarter)
50% increase in HH income	<i>Horticulture HHs and farms increasing income by 50%</i>	500	53
	<i>Livestock HHs and farms increasing their income by 50%</i>	500	N/A
Person hours of training completed in private sector productive capacity supported by USG assistance	<i>Number of hours of training completed by beneficiaries and training participants, disaggregated by gender</i>	1600	437
Farmers, processors and others who have adopted new technologies or management practices	<i>Number of beneficiaries and training participants using new technologies or practices as introduced by the project, disaggregated by gender and region</i>	250	297
Quantity of produce grown and/or sold	<i>Farmers, buyers or labs are using AI, improved feed, vet services, greenhouses, drip irrigation, grading, post-harvest packaging practices training</i>	Baseline + 300 %	115%
Value of produce sold to local and international markets	<i>USD value of goods in livestock and horticulture sector disaggregated by product and velayat</i>	Baseline + 50%	174%
Number of agriculture-related firms benefiting directly from USG supported interventions.	<i>Number of input providers and buyers strengthened to provide farmers with necessary inputs.</i>	300	0
Number of greenhouses constructed or improved	<i>Number greenhouses constructed and/or renovated in each velayat</i>	50	19
Land under improved technologies or management practices	<i>Indicates the number of ha under greenhouse or livestock project activities (existing and new land).</i>	200	1

CHEVRON FUNDED ACTIVITIES

LIQUID NITROGEN GENERATOR

The Chevron funded liquid nitrogen generator (LNG) - procured from a US-based manufacturer Kelvin International Corporation in Year Two by AgTech - has been supplying project AI activities and beneficiaries through Quarter One of Year Four. All established project AI Centers currently have access to a consistent supply of liquid nitrogen (LN) necessary for proper storage of imported genetic material. The direct beneficiaries include the AI service providers who

require project provided straws of bull semen to remain frozen until the time of insemination. Indirect beneficiaries include all the farms that receive AI services to increase the quality of their cattle breeds through Project trainers. The consistent access to LN has not been possible prior to the generator's procurement. To date, the project AI centers and project participants have received around 50 L of LN per month.

CHALLENGES:

- AgTech monitors the day-to-day operations of the Chevron funded LNG and regularly supplies LN product to AI specialists across the country. However, the issue of disposal of LNG is still open to discussion and USAID has been waiting on MFA's decision about an official transfer of the LNG to the Central Laboratory of the State Veterinary Service. Project believes this challenge is directly stemming from the new policy on State registration of foreign aid. The new registration requirement will also prevent AgTech from proceeding with its alternative plan of transferring the LN Generator to a private recipient/livestock farmer, Mr. Anzarov. Auctioning the LNG to identified potential buyers (ideally large private livestock farmers) is a possible solution to this challenge. The auction can be organized by USAID upon the completion of the AgTech project in February 2015.