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Farmer-to-Farmer
Program

ACCESS TO MECHANIZATION PROJECT

End of Project Report



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Contents

EXECUTIVE SUMMARY 3

FINANCIAL SUMMARY 4

PROJECT ACTIVITIES..... 5

 Office facilities..... 5

 Staffing..... 5

 Program Outreach 6

 IDP Assistance 10

 Grant Implementation 10

 Procurement 12

 Training and Technical Assistance 12

 F2F Volunteer Engagement 14

 Key Findings and Recommendations 19

ENVIRONMENTAL ISSUES 20

 Elaboration of Environmental Guidelines and Documents 20

 PERSUAP 21

 Engagement in applicants’ selection process..... 21

 Approval of Set of Environmental Documents for Grant Projects 22

 Monitoring and Site Visits 24

 Environmental Trainings/Publications..... 25

MONITORING AND EVALUATION 27

ANALYSIS OF FINAL RESULTS..... 30

 Geographic Reach of the Program 30

 Dynamics of Capital Assets Creation and Finance Mobilized 32

 Operational Indicators..... 34

 Technology Transfer Indicators 38

SUCCESS STORIES 43

 Lursmanashvili JSC 43

 Mamuka Kharadze I/E 44

KEY FINDINGS AND RECOMMENDATIONS 46

EXECUTIVE SUMMARY

The Access to Mechanization Project (AMP) was designed to address Georgia's severe shortage of agricultural machinery by using a commercially-sustainable, market-oriented methodology for the development of machinery service providers. Building on CNFA's established nationwide presence, its ability to build US consulting support through the USAID-funded Farmer-to-Farmer Program (F2F), and its experience developing agricultural services for farmers, the 30-month, \$5.1 million Access to Mechanization Program (AMP) provided a combination of matching grants, leveraged commercial finance, business and extension training and volunteer technical assistance to achieve program objectives. In total, the program established 21 Machinery Service Centers (MSCs), providing fee-based custom machinery services for a minimum targeted 9,000 small scale farmers. As a result of this initiative, USAID anticipated creating between 225 and 270 new jobs and \$2.5-\$4 million in incremental sales revenue for assisted firms, resulting in \$1.25-\$2 million in additional net income. The mechanization services provided by the MSCs funded under the project were targeted at covering 9,500-15,000 hectares of arable land throughout Georgia.

The small-scale farmer beneficiaries previously experiencing insufficient access to agricultural machinery were targeted to benefit from timelier planting, cultivation and harvest, greater acreage under cultivation, higher productivity, and increased incomes. By enabling farmers to cultivate land that would otherwise be left fallow, access to machinery was expected to amount to a minimum of \$300 to a maximum of \$3,000 in additional net household income per hectare. In addition, immediate availability of custom machinery services was expected to result in improved quality and yield by ensuring timely plowing, planting, plant protection, fertilizer application and harvesting. Finally, the enhanced efficiency of newer equipment provided to the farmer clients was expected reduce costs for both service providers and farmers, while allowing a greater area to be served by each unit of machinery. The project was targeted at increasing household incomes for MSC beneficiaries totaling between **\$4.6 and \$9.8 million**.

This report covers the results of the project during the implementation phase, from October 1, 2009 through November 30, 2012. Below summarized are the results achieved by the project. The more detailed results can be seen in the section Analysis of Final Results.

- Over the lifetime of the project, CNFA received and processed 86 AMP grantee applications. Out of these 86, 23 grantee applications were evaluated, scored, and site-visited. Project proposals, including financial forecasts and environmental assessment documents were prepared for 21 applications for 23 referred to above.
- During program year 1 (PY1), five projects were launched and started operations. In PY2 12 MSCs were officially launched. The remaining four projects started their operations in PY3. The final launch event took place on October 11, 2012.
- AMP provided 5.4 tons of high-quality corn seeds, donated by Pioneer Hi-Bred, to the Ministry of Refugees Assistance for planting on 281 hectares in 12 districts in Imereti, Shida Kartli and Samegrelo-Zemo Svaneti regions, benefiting 608 internally-displaced person (IDP) households (a total of 1,303 individual farmers).
- A total of 25 F2F volunteers were deployed to work on various assignments.
- Led by an F2F volunteer, AMP provided agricultural lending training to 24 representatives of

seven banks and one micro-lending organization;

- In total 49 new tractors and combines and 83 other agricultural implements were procured with USAID funds to deliver services to small and medium scale farmers.
- A total of 119 extension trainings were provided to 2,160 farmers and 1,207 farmers attended 78 field days organized by AMP.

FINANCIAL SUMMARY

Category	LOP Budget	Expense to date	Balance*
Field Labor (incl. fringe)	\$1,083,930	\$1,080,834	\$3,096
HQ Labor (incl. fringe)	\$106,015	\$81,100	\$24,915
Program Outreach and Training	\$157,000	\$153,625	\$3,375
Other Direct Costs	\$469,473	\$511,902	(\$42,429)
Sub-awards	\$2,682,849	\$2,673,827	\$9,022
Indirect Cost	\$611,340	\$583,669	\$27,671
Total	\$5,110,607	\$5,084,957	\$25,650

*This balance may be adjusted after completion of all financial operations related to AMP.



The Machinery Service Center Established by Local Partner Londaridze in Aspindza District

PROJECT ACTIVITIES

Office facilities

During the summer months of 2011, AMP moved to an office space of approximately 350 square meters in size, which was previously occupied by the Agribusiness Development Activity (DA) project (and later by the USAID-funded Economic Prosperity Initiative project) and right next to the core F2F program project. Office was fully repaired and furnished during the ADA project. The move has not affected the rent agreement, as AMP succeeded in negotiating the same rent arrangement as the previous office with the building owner since the office is in the same building as the previous office.

Staffing

CNFA implemented AMP with a total staff of 16 host country nationals. The AMP staff by the end of project activities was comprised of the following positions:

- AMP Program Manager
- Six Senior Staff (Credit Specialist, Public Outreach Specialist, Procurement Specialist, M&E Coordinator, Environmental Specialist, Training Coordinator)
- Two Technical Specialists (Extension and Machinery)
- Three Project Coordinators
- F2F/AMP Office Manager (shared with core F2F program)
- Three Support Staff Members (Translator, two Drivers)

Title	Name	Date of Employment
AMP Program Manager	Shalva Pipia	1 October 2009
Public Outreach Coordinator	Giga Kurdovanidze	1 October 2009
Credit Specialist	Giorgi Tkeshelashvili	1 October 2009
Procurement Specialist	Giorgi Misheladze	1 October 2009
Monitoring and Evaluation Specialist	Giorgi Managadze	1 October 2009
Environmental Specialist	Nino Inasaridze	1 October 2009
Training Coordinator	Elene Lomidze	12 October 2009
Senior Project Coordinator	Mamuka Ivaniadze	1 October 2009
Project Coordinator	Davit Kikolashvili	1 November 2009
Project Coordinator	Koka Giorgobiani	1 November 2009
Machinery Specialist	Otar Karchava	1 October 2009
Extension Specialist	Zurab Iakobashvili	20 January 2010
F2F/AMP Office Manager	Ana Kharatishvili	1 October 2009
Translator/Admin Assistant	Tea Bakhtadze	1 October 2009
Driver	Giorgi Museridze	1 October 2009
Driver	Davit Tsomaia	16 October 2009

Program Outreach

Launch Event

The project launch was initially planned for mid-November of 2009, but was postponed to the 7th of December in order to accommodate the US Ambassador's schedule and ensure his participation. The project launch scene setter, talking points, draft press release and the www.amp.ge web site were developed and submitted to USAID for review. Expo Georgia National Exhibition Centre in Tbilisi hosted the launch event.

Representatives of invited partner financial institutions and machinery dealers participated in the launch event. KorStandard Bank and TBC Leasing, together with GT Group (the official dealer of Case/New Holland), World Technic (the official dealer of Claas) and Tegeta Motors (the official dealer of John Deere) were provided a space at the launch venue, where they displayed their banners and other advertising materials. Case/New Holland and Claas equipment exhibited outside the venue as well.

AMP invited more than 150 guests representing the Georgian government, foreign diplomatic missions, donor organizations, the non-governmental sector, the media, agribusiness, equipment dealers and financial institutions to participate in the event. The US Ambassador to Georgia, the Deputy Minister of Agriculture of Georgia and the CNFA Country Director delivered welcome speeches.

Major Georgian nationwide TV stations, as well as most of the Georgian print media, extensively covered the launch event. All central news programs broadcasted highlights of the event, and publications were made in the printed and electronic media. The F2F Program Director was invited to the "Business Currier" program aired by Rustavi 2 TV to present the project on the same day.

I. Outreach campaign

Immediately following the program launch, AMP initiated a nationwide outreach campaign. The campaign was comprehensive in its geographic reach and efforts to leverage the resources of local and regional governments and other donor organizations to support the dissemination of program information.

AMP created an outreach strategy which clearly defined the channels of delivering information to the parties interested to participate in the program, identified the target audience, and formulated key messages to be relayed. Outreach announcements became available to interested parties on the AMP website one week prior to each actual event. In addition, the representatives of local government provided assistance with the organization setup of the events, the invitation of potential applicants, and the selection of venues.

Due to a low number of grant applications by the third quarter (Q3), it was decided to modify the outreach campaign. The methods of conducting outreach changed in several important ways, most importantly regarding the preparatory work for outreach events and the means used to mobilize participants. During previous outreach events, the local government served as a key contact point. The outreach sessions organized in Q3 of 2010 changed the focus slightly. Even though the local government remained a contact point, greater emphasis was placed on local business representatives, NGOs and associations engaged in provision of agricultural services.

The goal was to attract a wider range of potential participants/applicants to the AMP outreach events.

Also, AMP staff began conducting two presentations at each location, with a two-three day interval on average. The first presentation was targeted at the audience of network contacts identified above (local government, representatives of local NGOs, business people and associations engaged in agricultural service provision). At this presentation, the participants got acquainted with the details of AMP activities and were requested to identify and inform potential applicants from among their networks about AMP and the opportunity to attend the second outreach presentation to be held at the same venue in several days.

In all cases, a team of AMP senior staff, including the Outreach Specialist, participated in the events. An oral presentation and a power point presentation were delivered to the participants, and the AMP information package was disseminated, including hard copies and electronic versions of application forms, evaluation forms, applicants' guides and other project documents. Presentation sessions started with a brief explanation of the program concept and objectives, followed by detailed instructions on the completion and submission of the application form. This was an excellent opportunity for attendees to participate in a discussion on selection criteria, scoring and site visits. A Question and Answer session followed all presentations. In addition to the potential applicants, representatives of local government and media also attended the outreach events. In total there were 17 outreach sessions held during PY1. As an example, on December 12–17, 2010, AMP representatives Shalva Pipia and Giga Kurdovanidze conducted outreach events in the western part of Georgia. These events were organized in coordination with the Georgian Ministry of Agriculture. Three regions, Imereti, Guria and Adjara were targeted for provision of project information about AMP activities. Before the official presentations, AMP held preliminary meetings with members of regional government and regional representatives of Ministry of Agriculture in mentioned regions. Representatives of regional governments of several districts were requested to provide the information about the planned events to the potential applicants (existing MSCs, farmers who are able and willing to invest funds into new MSCs) and invite them to the events. The actual presentations were held with 2-3 days lag. The presentations were held in Kutaisi, Ozurgeti and Batumi for potential applicants from the Imereti, Guria and Ajara regions. The applicants got acquainted with the scope and objectives of AMP, as well as the procedures necessary to complete in order to obtain grant financing. The attendees were provided with all necessary information about the project activities and materials required for participation. Local media and press covered all the events. A USAID representative attended presentations in Batumi and Kutaisi. The table below provides information about the dates and numbers of participants in these events:

Region	Town	Date of Presentation	Number of Participants
Guria	Ozurgeti	December 15, 2010	12
Adjara	Batumi	December 16, 2010	12
Imereti	Zestafoni	December 17, 2010	15
Total			39

In total, AMP outreach campaigns resulted in submission of 86 grantee applications. A full list of outreach events is provided in the table below:

Region	Town	Date of Presentation	Number of Participants
Kakheti	Telavi	18-Jan-10	25
Adjara	Batumi	28-Jan-10	17
Samegrelo- Zemo Svaneti	Zugdidi	29-Jan-10	36
Imereti	Kutaisi	11-Feb-10	29
Samtskhe-Javakheti	Akhaltikhe	12-Feb-10	20
Mtskheta-Mtianeti	Dusheti	16-Mar-10	29
Guria	Ozurgeti	18-Mar-10	27
Samegrelo- Zemo Svaneti	Khobi	16-Jun-10	64
Samegrelo- Zemo Svaneti	Senaki	16-Jun-10	61
Samegrelo- Zemo Svaneti	Zugdidi	17-Jun-10	47
Guria	Ozurgeti	17-Jun-10	25
Adjara	Batumi	18-Jun-10	40
Adjara	Khelvachauri	19-Jun-10	35
Imereti	Zestafoni	30-Jun-10	15
Imereti	Samtredia	30-Jun-10	40
Imereti	Terjola	1-Jul-10	17
Racha-Lechkhumi and Kvemo Svaneti	Ambrolauri	2-Jul-10	46
Total			573

II. Program outreach materials

To ensure success of the project and to make the process of application, scoring, development, award and implementation transparent, AMP produced several tools for communicating the message to the general public. These tools include the following:

- **Program Brochures** - Clearly and concisely explaining the main objectives and purpose of AMP, its methodology and the expected results. The brochure included project contact information and the project's website address.
- **One-page Program Summary** - Brief and suitable for email circulation or hand-out as an overview of the project.
- **Web site** – For program promotion purposes, AMP developed a website, an initial version of which was launched in late November of 2009. The site allowed potential applicants to download program application forms, score sheets and all outreach materials and submit them via the web. The content of the website was updated with new information, galleries, and announcements of upcoming events, success stories and press releases on a regular basis. The interactive map depicted the locations and general information of operational AMP MSCs as well as FSCs and MSCs funded by the ADA project. The special filters developed for the Interactive Map allow the visitors to easily find the corresponding project. The website presents information in both Georgian and English. To date, the site has already received more than 33,000 visitors.
- **AMP printed brochures for small and medium scale farmers who participated in the trainings. Brochures for trainings** – AMP developed and printed 31 different types (20,700

Other Outreach Activities

- *Creating and saving videos and photos for MSCs*
- *Supporting the central and local media on a regular basis;*
- *Feedback and media monitoring on a regular basis.*

IDP Assistance

USAID tasked AMP to provide support to IDPs in the newly-established settlements in which agricultural land was allocated. CNFA contacted Pioneer, which agreed to provide approximately 15 tons of high-quality corn seed (sufficient for up to 800 hectares) for planting on the land owned by IDPs. The handover ceremony of the high quality corn seeds from Pioneer was held at the Lilo 1 Customs Terminal on April 29, 2010, and was attended by the US Ambassador, the Georgian Minister of Refugees, the First Deputy Minister of Agriculture, several representatives of USAID, Pioneer, the World Bank, and the United Nations Food and Agriculture Organization, as well as other organizations implementing agriculture-related projects in the country, as well as beneficiaries of the project and mass media. AMP requested grantee applicants to provide plowing, cultivation and planting support IDP-s in the spring 2010. In return, this expenditure was counted towards their matching requirements. This support to the IDPs started in April 2010 and ended in early June 2010.

Grant Implementation

Application process deadline and project development

AMP began accepting grant applications immediately following the program launch event on December 7, 2009. At the onset of PY2, it was decided to extend the deadline for applications from December 31, 2010 to January 31, 2011. This extension provided time for West Georgian grantee applicants to submit their applications, as an active outreach campaign was conducted in West Georgia at the end of PY1 and early PY2 timetable. A total of 86 applications were received as of January 31, 2011.

As of November 30, 2011, all 86 applications received by the project (of these one was declared void, due to the fact that it did not fulfill the general eligibility criteria) were evaluated, scored and site-visited. The scoring process was finalized in February 2011, whereas the site-visits were finalized by March 2011. Out of the total 86 applications, 21 were approved, proposals were developed and grant agreements were signed. The breakdown of the approved 21 projects, grants and matching amounts, as well as the projected impacts, are provided in table below:

It should be noted that AMP initially planned to open 25 MSCs. However, in light of the requested 8 month no-cost extension (discussed later in this document), AMP financed 21 MSCs and the proposal for the 21st MSC was approved and signed in Q1 of PY3.

No-Cost Extension Proposal

AMP submitted a proposal to USAID for a no-cost extension for the project for the period of 8 months until December 1, 2012. The official extension proposal was submitted to USAID on July 29, 2011, and based on USAID feedback, the proposal was resubmitted in October 2011.

The objectives of this extension were to be able to monitor all AMP-funded MSCs for at least one full agricultural cycle, to further assist all of the MSCs in the process of becoming sustainable entities, and to provide all of the MSCs with an equal opportunity to grow. As per modification to the contract, the target of 25 Machinery Service Centers was amended to the establishment of 21 centers and utilization of \$2.68 million in grant funds.

Cooperation with the financial institutions

Over the program's three years AMP established strong relationships with banking institutions operating in Georgia in order to support the grantees in obtaining financing for the matching contributions required in their grant agreements. In order to introduce the project activities and provide information about training opportunities to Georgian banks, numerous meetings were conducted by the AMP Credit Specialist during November and December of 2009. Credit managers of 14 Georgian banks, three microfinance institutions and one leasing company viewed presentations on the project activities.

In addition, a training session was organized for the representatives of the financial institutions with the assistance of an F2F volunteer. Representatives of six banks, two microfinance organizations and one leasing company attended the training, which focused on the specific features of a number of crops that need to be taken into consideration when deciding to lend to the agricultural sector. A follow-up training on more detailed agricultural funding in the crop-specific aspect was held in October 2010.

The first leasing agreement between the TBC Leasing Company and AMP-funded MSC I/E Nugzar Londaridze was signed in July 2012. The total value of the lease is \$18,348 for three years (with a seasonal payment arrangement), along with \$5,000 in co-financing from the beneficiary.

Table – Credit Finance Obtained by the Grantees

#	Company	BANK	Loan Principal amount	Principal amount paid	Principal amount outstanding
1	I/E Bezhan Gonashvili	Bank of Georgia	\$150,000	\$120,000	\$30,000
2	Alaverdi LLC	Kor Standard Bank	\$120,000	\$120,000	\$0
3	Laba+ LLC	VTB Bank	\$40,000	\$40,000	\$0
4	I/E Malkhaz Nakhutsrishvili	CREDO Credit Union	\$1,818	\$1,818	\$0
5	DV+ LLC	Bank of Georgia	\$42,424	\$42,424	\$0
01.10.09-01.10.10			\$354,242	\$324,242	\$30,000
1	Mamuli 96 LLC	VTB Bank	\$150,000	\$150,000	\$0
2	I/E David Petriashvili	Pro Credit Bank	\$96,000	\$62,853	\$33,147
3	I/E David Tvaliashvili	Pro Credit Bank	\$51,000	\$31,878	\$19,122
4	I/E Nugzar Londaridze	Kor Standard Bank	\$14,818	\$7,052	\$7,766
5	I/E Mamuka Kharadze	Pro Credit Bank	\$60,000	\$28,693	\$31,307
6	Daviti LLC	Bank of Georgia	\$26,667	\$11,787	\$14,880

7	Ruka Mapping LLC	Pro Credit Bank	\$30,000	\$11,090	\$18,910
01.10.10-01.10.11			\$428,485	\$303,353	\$125,132
1	Laba+ LLC	TBC Bank	\$106,108	\$20,326	\$85,782
2	I/E Malkhaz Naxucrishvili	Bank of Georgia	\$6,106	\$0	\$6,106
3	DV+ LLC	Bank of Georgia	\$93,000	\$38,849	\$54,151
4	I/E Mamuka Kharadze	Pro Credit Bank	\$86,000	\$20,606	\$65,394
01.10.11-01.11.12			\$291,214	\$79,781	\$211,433
TOTAL			\$1,073,941	\$707,376	\$366,565

Procurement

When the Access to Mechanization Project (AMP) began its activities on October 1, 2009, there was a need to create a guideline document for the implementation of procurement processes in order to ensure program-wide adherence to the appropriate rules and regulations, as well as CNFA’s internal processes. Therefore, according to the state procurement regulation and existing international practices, the Guiding Principles of AMP procurement were developed and approved on December 25, 2009. On the basis of these Principles, the Procurement Specialist provided a preparatory work for each grant recipient, including detailed information about the purchasing goods, project preparation to draft the contract, reviewing all documents, specification of potential supplies and prices.

The procurement process began at the request of the grantees. Herewith, the “procurement invitation” was sent to the agricultural machinery dealers – legal entities, providing high quality equipment and post-sell services. It should be noted, that at the time of each purchase, the “procurement invitation” was sent to approximately 10 dealers. Unfortunately, only four of these dealers placed an offer. Lack of qualified offers complicated the process to establish an appropriate price. The lack of offers was considered to be the result of the fact that most of the dealers did not offer the kinds of services requested.

During the project implementation period, the grant recipients received 132 units of agricultural machinery, a detailed breakdown of which is provided in an annex to this document (**see Annex 3: Procurement**). In addition, the Procurement Specialist developed a registry of equipment provided by the grantees, comprised of their detailed technical characteristics and prices. It should be noted that some of the grant recipients experienced problems providing the complete set of documentation in a timely manner. In total, grant recipients purchased 216 units of agricultural machinery, the detailed breakdown of which is provided in an annex to this document (**see Annex 4: Equipment Purchased by Grantees**).

Training and Technical Assistance

The delivery of business and extension training was an important element of the AMP Project. During the first project year, the AMP Training Specialist and F2F volunteers conducted a preliminary needs assessment of rural service providers in order to select local business and

extension training provider organizations. The needs assessment provided a basic understanding of the general business and extension capabilities and practices amongst all participant enterprises, and their staff helped guide the development of the scope of work (SOW) for the tender.

The SOW for the selection of local business and extension training providers was designed with the assistance provided by the F2F volunteers. The national media, including internet media, was used for announcing the tender and its conditions, which ran for 30 days from February 24 to March 25, 2010. A total of 19 applications were received in response to the tender, out of which one was ineligible due to not meeting the tender criteria (written in Georgian, and not English, as specified). Out of the remaining 18 applications, 13 were for business training and 5 for extension training. AMP short-listed all qualified applications and conducted interviews with those applicants. At the end of April 2010, the business training provider, ABCO Georgia, and the extension training provider, the Georgian Institute for Public Affairs (GIPA) /IAAD/Akhali Mamuli 2008 consortium, were selected as the implementers.

After the selection of local Business and Extension Training Providers, AMP, with the assistance of F2F volunteers, developed Business and Extension Training curricula (greater detail on the F2F volunteers' work are provided in the next sub-section, F2F Volunteer Engagement). The training curricula contained information on the number of hours of each training course, training session formats, numbers of training sessions, estimated participants and other relevant information. AMP personnel, alongside the two training provider organizations, and in collaboration with F2F volunteers, finalized the topics for the trainings by the end of July 2010, and contracts were signed with both training providers.

The next step was to test the Business and Extension Training materials prepared by the training providers. Volunteers worked in collaboration with the selected training provider organizations, conducted training sessions in order to test the materials, determined their appropriateness for the target audiences, identified gaps, and adjusted and modified training topics. Following completion of curriculum design, testing and training of trainers, intensive business and extension training sessions begun by the end of the first PY.

I. Extension Training

Overall, 119 extension trainings covering nine different topics were conducted during the AMP Project implementation. AMP trained a total of 2,160 existing and potential clients of the AMP-funded MSCs. The GIPA/IAAD/Akhali Mamuli 2008 Consortium conducted trainings. In some cases, AMP MSCs, the MSCs and FSCs funded by the ADA or hosts identified by the training providers hosted the training sessions. 17 extension training sessions, out of 119, were delivered using internal human recourses of the AMP Project. This in-house extension training was conducted by the AMP Extension Specialist under the coordination of the AMP Training Specialist. The Extension Specialist has an agricultural background and experience training and lecturing various groups. The materials developed in PY2 included presentations, brochures and handbooks, which were used for ongoing extension training activities. A detailed breakdown of trainings by topics, locations and numbers of participants is provided in the **Annex 4 (Trainings during LOP)**.

A number of project evaluation tools were used for tracking the results of two-year project. The information shows significant improvement in the implementation of the agricultural practices presented in the training sessions. The design of the project enabled partner organizations to effectively cooperate and maximally avoid the potential shortcomings related to the implementation of the initiative. The professional relationship of CNFA and GIPA staff working together on the project contributed to achievements mentioned above.

II. Business Skills Training

In total, 35 business trainings were held for 191 managers and key decision-making personnel. The trainees comprised of managerial staff of AMP's grantees, the "Mechnizator" LLC (a publicly-owned machinery service provider) and similar service provider organizations. In overall, 67 enterprises took part in these business training sessions.

All 21 MSCs funded by the AMP received follow-up consultancies. An Excel-based operational model developed by a F2F volunteer was used during the follow-up consultations. The operational model included information from the sales and purchase journals, profit and loss projections, cash flow comparisons, and daily production logs. ABCO (Association of Business Consulting Organizations of Georgia) Georgia adapted this model to each MSC. (More detailed information about this model will be provided in the **Volunteer Engagement Section**). A detailed list with topics, locations and numbers of participants to the trainings during the project lifetime is provided in **Annex 5 (Business Trainings)**.

F2F Volunteer Engagement

Support from the Farmer to Farmer (F2F) volunteers was a critical and integrated part of AMP implementation. A total of 25 volunteer assignments were implemented over the life of the program.

The first two F2F volunteers, Ann Savage and Justen Smith, worked on drafting the SOWs for the business and extension training tender announcements. Both volunteers were identified in December 2009 and completed their assignments in January and February 2010. The volunteers met with potential training recipients, as well as the potential training providers.

In addition, in February-March 2010, the AMP Training Specialist drafted three more SOWs for three F2F volunteers. One SOW was for a credit specialist to train Georgian lending institutions, while two more were drafted for experts to help the curriculum development process for business and extension training, following completion of the tender. AMP's first Agricultural Lending Training was held 19-21 May and 24-25 May 2010. A total of 23 lending personnel from seven banks and two micro-lending organizations participated in the training sessions. Volunteer Janet Buresh led lectures to introduce the topics, large group questions and answers, and small group analysis, calculations, and different risk assessment tools. A certificate-awarding ceremony was held after the training sessions, and the ceremony was highlighted by the National Public Broadcaster of Georgia. The second Agricultural Lending Training, using information and requests arising from the first training, was completed in early November 2012.

After selecting local business training providers through the tender process, volunteers for curriculum development for business and extension trainings were identified. Two F2F volunteers, Frank Pedraza and James Capron worked on designing the curriculum for business and extension provider organizations for approximately three weeks. During the initial stages of the assignment, the AMP Project Training Coordinator provided the volunteers with the information regarding selected business training provider organizations, potential grant recipients and already selected grantees. F2F volunteers met the selected grant recipients and potential grantees, identified their knowledge and experience, as well as competencies subject to improvement, by means of planned trainings. The volunteers collected data for further needs assessment, and on the basis of the gathered information, planned the full-scale training design. As a result of these assignments, training materials for each subject were developed. Training curricula comprised of detailed information about business and extension trainings, including the length of each course in hours, topics and the number of estimated participants. F2F volunteers, with the assistance of the AMP Training Coordinator, selected local trainers, finalized the business training topics and developed standardized training materials for each topic.

After designing the curriculum for business and extension provider organizations, two more volunteers were fielded to support the testing and organizing training of trainers in business and extension training materials. In late August 2010, Corine Quarterman and James Sedlacek began their two-week assignments. The volunteers worked in collaboration with the selected training provider organizations. They attended and conducted training sessions to field-test the materials, determined their appropriateness for the target audience, identified gaps, and adjusted and modified training topics. James Sedlacek worked on the extension materials. He conducted Training of Trainers (ToT) sessions with a particular focus on assisting their agriculture specialists to improve their teaching skills. Corine Quarterman provided similar assistance to ABCO on business training and identified the need for a standardized financial modeling tool to be used by grantees. She continued working on the development of these materials in PY 2.

AMP fielded two more F2F volunteers by the end of September 2010. These assignments focused on the Ministry of Agriculture's television show, addressing the show's format as well as the development of a business plan for its future financing. Both assignments began in the middle of September and continued for approximately three weeks. AMP volunteers Bruce Williams and John Caldeira worked with the Georgian Public Broadcaster to support it in designing the format of the Agricultural TV show "Farmer's Day" and to create a full scale business plan to facilitate the funding of the show.

In total, **nine** AMP/F2F volunteers were fielded during PY1, against a target of 10. The 10th volunteer had to delay his travel into October for family reasons and conducted the second Agricultural Lending Training during that month. As a follow-up training to the first agricultural lending training, F2F volunteer Bill Maltby led 24 lending personnel from seven banks and one micro lending organization in training sessions. The attendees represented the following banks: Bank of Georgia; Basis Bank; VTB Bank Georgia; TBC Bank; Kor Standard Bank; Bank Republic; Bank Constanta; CREDO-Micro Lending Organization. Training materials covered 7 main topics. The training topic of development of Technological maps attracted the highest attention of the attendees.

During the first project year, two F2F volunteers assisted the first public broadcaster's agricultural program, "Farmer's Day." As a result, the need for additional support from AMP was established. The Georgian Public Broadcaster requested a volunteer to assist in creating a fundraising strategy and action plan for the agricultural TV show and train their staff in basic fundraising skills. F2F volunteer Brian Doyle completed this assignment in May 2011. During his assignment, he developed the fundraising strategy plan for the TV program (including a short TV clip and introductory power-point presentation and a sample introductory letter); created a list of potential donors; increased fundraising skills of TV show staff and assisted them in presenting already developed presentations to potential donors.



Technical trainings delivered by volunteers work with the staff of the agricultural TV show "Farmer's Day."

In order to support the Ministry of Agriculture (MoA), three AMP volunteers were invited to organize training of the trainer sessions on different agriculture-related topics for their agricultural staff. The first training of the trainers' course focused on Food Safety and Good Agricultural Practices (GAP). Despite the fact that the concept GAP evolved rapidly in recent years in Georgia, majority of Georgian agricultural specialists are still unaware of it. To overcome this awareness gap, one ToT session for AMP's local extension training provider, GIPA/IAAD/ Akhali Mamuli 2008 consortium trainers and representatives from the MOA, was organized in December 2010. From 25 participants, 18 were agricultural consultants from the Ministry of Agriculture. F2F volunteer Steven Pao used various methods of training to introduce the topic to the participants.

The second ToT course focused on modern agricultural technologies of land cultivation. Mark Goodson, an F2F volunteer led sessions on the promotion and introduction of reduced, conservation, no-till and permanent raised-bed planting technologies, which are extremely important to the success of Georgian agriculture. The training was held March 2011, at the MoA. A total of 36 trainees participated in the training sessions. Trainings were followed by field days conducted in the Kakheti Region, Dedoplistskaro District. AMP Machinery Service Center I/E Bezhan Gonashvili hosted the event. During the field day, the trainer demonstrated a no-till drill by depicting how spring wheat could be planted with this tool; he compared different type of soil samples to each other; and demonstrated aggregate stability and run-off infiltration.

As a result of the previous two ToT sessions, and based on the feedback received from training participants, the need for additional training in modern intensive technologies of vegetable crop production was identified. F2F volunteer Matilde Paino Durzo prepared a target training course and delivered the ToT session to 18 agrarian specialists within the MoA. The lecture and the practical training course covered the entire cycle of vegetable crops production. Training was held at the CNFA/ADA Farm Service Center LLC Agroservis Kareli, located in Kareli district, Shida-Kartli region. A field-day exercise in the same region followed the training session.

During the first project year, F2F volunteer Corine Quarterman tested training materials prepared by AMP's local training provider organization in order to determine their applicability for the target audience. Throughout the assignment, the need to hold additional training of trainer sessions for ABCO Georgia and development of operational models for machinery service centers was identified. In January 2011 Corine Quarterman worked with the trainers of ABCO Georgia and developed a baseline Excel-based operational model for all machinery service centers. The operational model includes information from the sales and purchase journals, profit and loss projections, cash flow comparisons, and daily production logs. During the assignment, consultants from ABCO Georgia were trained how to use and adapt this model to the different MSCs.

AMP conducted tailor-made trainings for MSC client farmers looking for overcoming this skill deficiency. Proper and simple record keeping allows farmers to easily discern their financial position, as well as appropriately budget and plan for the machinery services. This enables the farmers to attain higher yields and profits. In April, 2011 F2F volunteer Paul Gorman delivered seven full days of training in basic record keeping to farmers in various regions of Georgia. The number of trainings took into account the number of MSCs open for assignment period.

The need of development of a full-scale marketing strategy led to recruitment of the F2F volunteer James Grabek, who developed the marketing strategy for MSC owners. The strategy allowed the MSC owners to have a comprehensive picture of what services types should be offered taking into consideration their location, marketability, pricing, customer behavior and timing issues. As part of the fact-finding mission, the volunteer traveled to seven already-operational MSCs to collect the necessary information for the development of a centralized full-scale marketing strategy for all of open MSCs. Following development of the strategy, he acquainted the MSC owners with the tools for its independent updating in the future. As a follow-up to this assignment for the remainder of the opened MSCs, F2F volunteer Jim Faber traveled to Tbilisi and worked on this assignment in September 2011.

In order to identify the topics for the volunteer assistance, the latest needs assessment was conducted in June 2011. According to the results of this assessment, conducted by the AMP team, topics of the greatest concerns to MSC owners included environmentally-friendly agricultural practices and management of small-scale plots using small-size agricultural machinery.

In September 2011 AMP organized trainings focusing on environmentally-friendly agricultural practices for MSC owners and trainers of the local extension training provider consortium. Overall, six AMP MSC owners and four trainers from the GIPA/IAAD/AKHALI MAMULI 2008 consortium participated in F2F volunteer Kevin McSweeney's training sessions. During the assignment, the following two major topics were discussed: how to protect land from erosion and degradation and how to maintain and improve soil fertility.

In September 2011, AMP organized trainings focused on management of small-scale plots using small-size agricultural machinery. In overall, four AMP MSC owners from the mountainous regions and four trainers from the GIPA/IAAD/AKHALI MAMULI 2008 consortium participated in training sessions. During the assignment F2F volunteer Glenn Cauffman discussed the following topics: the use of small scale machinery such as tractors, implements, moto-blocks, and harvesters, as well as additional equipment; the use of small scale machinery for land preparation, crops growing and harvesting in mountainous areas; modern agricultural

technologies of land cultivation using small scale machinery in lowlands and mountains; and the use of mulching technologies for different crops for small scale plots.

The follow-up record-keeping training for farmers was delivered in December 2011. F2F volunteer Corine Quarterman planned 10 full days of record-keeping training for AMP MSC clients. The training was held in various regions of Georgia. As a result of the trainings, 109 farmers, representing the customers of 10 Machinery Service Centers, learned how to maintain daily hand-written notes in an organized manner. The seminar delivered information on maintenance of daily expense notes and conduct of a simple sales forecasting plan. These trainings were particularly useful to assist the farmer clients with understanding how to calculate and realize if their budgets will allow for renting equipment from MSCs.

The first assignment organized for the MSC tractor operators was delivered in January 2012. F2F volunteer Joel Hunter traveled throughout different regions of Georgia and conducted 6, one-day technical trainings for about 40 trainees from AMP Project's MSCs.

Within the framework of his assignment, F2F volunteer Istvan Keri conducted the training in the topic "Advanced Practices of Irrigation and Drainage Systems" in March 2012. About 49 trainees from different target groups participated in the training sessions. The first training was held for CHF International's irrigation program staff members in Marneuli district. The second training took place at the Ivane Javakishvili Tbilisi State University. About 30 students from the applied bioscience program, as well as academic staff members participated in the training session. Dr. Istvan Keri also trained machinery service center representatives at the CNFA office in Tbilisi by using a variety of participatory training methods.

An assignment on the subject of "Pest & Disease Control and Biological Methods" took place in March 2012. Approximately 75 trainees from various target groups participated in the sessions. The trainings were split into three different parts. The first was held for students and academic staff members from the applied bioscience program. The second was held for machinery service center representatives, and the third session was organized for students and academic staff members of Georgian State Agrarian University.

The 25th and the last assignment organized through the AMP project was on the subject of "Modern Agricultural Technologies of Land Cultivation & Agricultural Mechanization." Trainings were organized for the following three different target groups: AMP Project's Service Center representatives, LTD Mechanizatori's experts (Machinery Service Centers financed by Georgian Ministry of Agriculture), and the representatives the Ministry of Agriculture of Autonomic Republic of Ajara. Local large-scale farmers, extension specialists of MOA and academic staff members participated in the teaching process. International Expert Dr. Rendy Tailor used various methods of training comprising of power point presentations to introduce the topics and large group questions and answers.

In total, AMP conducted 25 AMP/F2F assignments as it was projected based on the initial program proposal.

Key Findings and Recommendations

The AMP project initially aimed to train 75 Machinery Service Provider organizations, including Machinery Service Centers created by the CNFA/AMP Project; Machinery Service Centers created by the CNFA/ADA Project; and governmentally-owned similar service provider organization “Mechnizator” LLC. The objective was successfully achieved, as nearly 90% of the indicated number of MSCs (a total of 67 Service Centers), were trained. The reason that AMP Could not reach the absolute projected number of enterprises was the significant reduction in the number of governmentally-owned LTD “Mechanizator” Service Centers during the life of the project (2009-2012). To illustrate, the initial number of the Service Centers owned by the LTD “Mechanizator” was dramatically reduced from 116 to 12.

The need to deploy an extension specialist who could render a qualified consultancy to each existing Service Center became apparent throughout the implementation of the program. This was also determined to be beneficial because such a consultant could provide advisory services to the beneficiaries of the Centers. The addition of the Extension position was expected to lead to increased productivity of the farmers, improved quality of their outputs, increased farmer’s demand for MSC’s services, and increased farmers’ ability to pay for the services.

Another important recommendation was the distribution of already-developed Technological Maps. Due to fluctuating seasonal incomes and lack of crop insurance services, financial institutions regard the revenues of agricultural businesses as very unstable. Therefore, they evaluate agricultural lending as highly risky and many potential lenders choose not to lend to the agricultural sector altogether. In order to mitigate current issues and spur agricultural lending, two F2F assignments were organized through AMP Project, as mentioned in the Volunteer Engagement section. During the assignments, in addition to the overall Agricultural Lending training topics, great need for Technological Maps was identified. Volunteers and AMP staff developed Technological Maps summarizing information on characteristics of crops; proper technologies of production; growing cycle, considering locations and seasonality; dates for conducting field operations; calendar for locations and for seasonality; incomes and expenses; yield of each crop; target market and tools for obtaining price information; availability of consultancy and services in related regions; dates for past management activities and weather conditions negatively affecting crops. The already-developed cards should be updated with new information on a regular basis. Future assistance from the USAID side will be of a primary importance for this mechanism to function.

As mentioned in Volunteer Engagement section, F2F volunteer Corine Quarterman developed a sample Excel-based operational model that was adapted by ABCO Georgia to each MSC and used as a follow up consultations during the project lifetime. As the model includes information from the sales and purchase journals, profit and loss projections, cash flow comparisons, and daily production logs, AMP staff found the structure of developed model quite difficult to implement, even amongst the key staff of existing Service centers. Taking into consideration the limited background and knowledge of financial topics amongst MSC staff, they could not properly handle the existing Model in the future without assistance from ABCO’s consultants.

ENVIRONMENTAL ISSUES

Elaboration of Environmental Guidelines and Documents

At the start-up stage the AMP environmental specialist developed AMP environmental and worker safety guidelines. This is the key procedural manual, according to which all environmental activities, such as applicant evaluation and site selection, facility construction, worker safety measures, environmental reviews, evaluations, and designing appropriate mitigation measures, had been conducted for AMP grants. The guidelines describe key policy areas and legislation relevant to AMP assisted projects and set out environmental, health and safety requirements and procedures for all stages of project implementation. This document was drafted and approved internally on 17 December, 2009.

However, a long process of further approval of these by USAID followed. Numerous meetings were held with the USAID Environmental Specialist regarding this documentation. The USAID BEO (Bureau Environmental Officer) provided comments and numerous additions to the format originally agreed and provided by USAID Georgia. The original format was changed substantially and questions specifically tailored to AMP were added. Hence, the current format includes both the questions from the original ERC and the Leopold Matrix, as well as seven pages of additional questions specifically for AMP projects. Furthermore, it had been decided that all projects' environmental documentation should be approved by the USAID BEO in DC, making the approval process lengthy.

The sample set of Environmental documentation, which includes *Environmental Review Checklist (ERC)*, *AMP Environmental checklist and Hazard Datasheet on Occupational Safety for MSC Employees* - was approved by USAID only by the end of March 2010. The agreed format ensured that the future approval of the environmental documents would not be as lengthy as before. However, the requirement to have all environmental documents approved prior the signing of the grant agreements still proved to be rather time-consuming, delaying the grant signing for projects approved by the GAC.

In May 2011 further recommendations were provided by BEO to make the amendment in Project IEE and to indicate the Potential Impact on Environmental Media and/or Human Health. Based on above, the BEO recommended to design the Environmental Mitigation and Monitoring Plan (EMPP) for each APM project and to incorporate them in ERCs. The EMPP template was elaborated by AMP environmental specialist under the direct supervision of the BEO and consultations provided by the USAID environmental consultant. The respective EMPPs were incorporated into the already signed projects and the new ones (see further details below). The above circumstances resulted in further delays in getting Projects' approval.

In addition, due to special conditions, some specific documentation was elaborated for particular projects as described below (see cases for Mamuli 96 LLC, Avtandil Mikiasvhili I/E, Daviti LLC).

PERSUAP

The Pesticide Evaluation Report (PER) and Safe Use and Action Plan (SUAP) is the document which brings USAID-funded projects into compliance with USAID's environmental regulations (Title 22 of the Code of Federal Regulations part 216, or Regulation 216) on pesticide use. Beyond compliance, this document offers best practices and helps ensure that projects reduce the chances for errors and liability.

This 2011 PERSUAP was developed for and under the direction of CNFA. It applies to all of the current or forthcoming agriculture assistance projects for Georgia. This approach was used to economize resources such that each USAID project would not need to duplicate costs to produce their own PERSUAP report. Moreover, the objective is to have one document, which can guide and inform the work of the AOR and MEO where pesticides are or could be involved in any project in Georgia.

Until June 17, 2011 - the date when the PERSUAP 2011 was approved- none of the AMP grantees were allowed to procure pesticide sprayers or conduct any pesticide related activities within the scope of approved projects. After the indicated date AMP considered the possibility of project resources (grantee funds/AMP funds) for procurement of pesticide sprayers. A series of trainings had been conducted by AMP to introduce to the MSC owners and employees the 2011 Pesticide Evaluation Report (PER) and Safe Use and Action Plan (SUAP) (described below in Training part).

Engagement in applicants' selection process

In accordance with AMP guidelines, the Initial Environmental Assessment was made for about 50 applicants (from total 86) during the selection period (from December 7, 2009 to January 31, 2011).

Proposals were evaluated based on following selection criteria:

- Verification against the AMP Exclusion list.
- Geographic location - The site should comply with approved environmental standards for placement and construction of the given type of facility, including but not limited to distance from dwellings, sources of drinking water, rivers, lakes and other surface water basins, wetlands and protected areas, as well as monuments and other places of cultural or historic significance, depth of the underground water, vulnerability to earthquakes, landslides, erosion and/or flooding etc.
- Existing pollution or other environmental danger and sanitary, health and safety conditions.
- Economic and property concerns associated with development of a project at the site.
- Potential expenses and time required for facility construction and environmental mitigation measures.
- Access to roads and railways.
- Potential problems for obtaining all necessary building and operating permits related to environmental issues.

Environmental assessment memos were prepared for each case. For the projects not rejected after the site visit and advancing to the development stage, the Environmental Specialist participated in the proposal development process by creating a description of the proposed project within its geographic, environmental and socio-economic context. The Specialist also prepared a checklist to identify potential environmental impacts for which mitigation and monitoring measures should be carried out in subsequent stages of project implementation. After the initial screening in cases of high risk, the AMP Environmental Specialist estimated the expected impact of potential environmental damage and determined the mitigation measures to be applied in order to eliminate or reduce the risk. These measures were included in project proposal at its integral part and the expenses required to mitigate the risks were reflected in the project budget.

The final decision as to whether a project passed environmental review was made based upon anticipated environmental impacts, while taking possible mitigation measures into account. In case of a substantially adverse environmental effect, which could not be improved through mitigation measures, the project was rejected.

Each project partner/successful applicant received an official list of environmental impacts, mitigation measures and monitoring requirements for implementation during the project activity (ERC, AMP Checklist, and EMPP).

Approval of Set of Environmental Documents for Grant Projects:

ERCs, AMP Environmental checklist and EMMP.

The Environmental Review and Assessment Checklist (ERC) determined whether the proposed action (scope of work) encompasses the potential for environmental pollution or concern and, if so, determined the scope and extent of additional environmental evaluation, mitigation, and monitoring measures necessary to fulfill federal US environmental requirements. The ER Checklist was intended to be used in conjunction with the Leopold Matrix by the Agreement Officer's Representative (AoR) to ensure that environmental consequences are taken into account by USAID and the Project Implementer (CNFA).

The AMP questionnaire covered the project specific issues not covered by ERC USAID template.

The Environmental Mitigation and Monitoring plan provided the detailed description of identified environmental impacts, mitigation measures, monitoring indicators and frequency at planning, construction and operation stages.

By the end of Q4, ERCs for the 10 awarded projects were approved by BEO: Laba + LLC (Akhaltikhe), Alaverdi LLC (Marneuli), Bezhan Gonashvili I/E (Dedoplistskaro), Davit Petrialshvili I/E (Tetritskaro), Malkhaz Nakhutsrishvili I/E (Kareli), Dorani LLC (Akhmeta), DV + LLC (Bolnisi). Davit Tvaliashvili (Gori) I/E, Alva LLC (Sachkere), Geonut LLC (Senaki).

During the Q5 and Q6, the ERCs for Agronominali LLC (Tsnori), Mamuli 96 LLC (Sartichala), I/E Londaridze (Aspindza) and I/E Aroshidze (Vatchnadziani) were approved.

Mamuli 96 LLC. The applicant intended to establish a MSC on the site of an already operational tractor park. The main parts of the building, such as office space and storage spaces were already in existence and were covered by a roof that contains asbestos materials with a total area of 2500 square meters. The AMP Environmental Specialist visited the site and provided facts and recommendations that the roof was in good condition, had no damage, was not leaking, and concluded that there is no actual risk of significant health and environmental problems at that stage. The removal of an asbestos roof and installing a new one would have cost approximately \$75,000 and would have created an additional environmental and health risk while removing and disposing of hazardous material to the landfill. Based on this information, AMP proposed painting the roof with a sealant that either binds the asbestos fibers together or coats the material so fibers are not released. The letter describing the above situation was submitted to USAID together with ERC for consideration. Additional information on the sealant or paint to be used, application methods, and resumes of the professional team who were to work on this were also provided. Upon the positive reply received from USAID, the asbestos encapsulation process was conducted by the applicant's trained staff, equipped with knowledge and needed skills to provide safely encapsulation of asbestos in accordance with US Environmental Protection Agency best practice standards(<http://www.epa.gov/opptintr/asbestos/pubs/help.html>). This was funded by the applicant's own resources as an extra contribution, in addition to the applicant's share to the project overall budget. A separate report focused on Mamuli 96 LLC's case was submitted to USAID along with photos and video materials.

Agronominali LLC. In December 2010, local state authorities made a decision to nationalize some land in Tsnori. Unfortunately the plot of land belonging to Agronominali fell within that territory. As a result, Agronominali LLC made a decision to reallocate the site and the new plot of land was purchased by the company. This new site was located 500 meters from the previous one with no significant differences in terms of environment – climate, distance to the water reservoir, land structure, etc. AMP notified USAID on this matter asking for their permission not to design the new ERC documents but to allow the company to proceed with MSC activities based on already approved ERC documents. A positive response was received and the MSC was constructed on the new location.

Six other projects were sent for approval in December 2010 – February 2011: I/E Mikiashvili (Ambrolauri district), – Daviti LLC (Lagodekhi district), I/E Gela Gamkrelidze (Ozurgeti district), LLC Rukamapping (Khobi district), I/E Mamuka Kharadze (Gardabani district), SLC Lursmanashvili (Zestaponi district).

After a series of meetings/discussions that took place between the CNFA/AMP and USAID staff in Q6 2011 the BEO's comments on AMP environmental procedures resulted in a decision to suspend the consideration of submitted new projects (6 grantee projects listed above) until the final decision was made by the BEO after her visit to Georgia during Q7.

As a follow-up, the BEO and USAID Environmental Consultant visited Georgia in May 2011. Two riverside sites, Daviti LLC (Lagodekhi district) and I/E Avtandil Mikiashvili (Ambrolauri district) were visited by a joint monitoring group composed of USAID and CNFA/AMP staff. In particular visual risk assessments of flooding, landslides and water erosion for those sites and surrounding territories were conducted. Owners and neighbours were interviewed as well. The conclusion was made by the mission that there is no potential environmental risk as it is defined

by respective official documentation developed for the projects - geological expertise conclusion for the I/E Mikiashvili project and a certificate issued by Lagodekhi municipality for the Daviti LLC project.

The further recommendations were provided by the BEO to design the Environmental Mitigation and Monitoring Plan (EMPP) for each APM project and to incorporate them in ERCs. However in order to avoid further delay in the previously-submitted six projects, and upon CNFA/AMP request, the BEO signed the ERCs with the condition that EMMPs will be designed and incorporated within the grantees' respective ERCs. The EMMP template was developed by AMP environmental specialist under the direct supervision of the BEO and consultations provided by the USAID environmental consultant. The respective EMPPs were incorporated into the already signed projects and were sent to BEO.

Thus, during Q7, the 6 ERCs for Daviti LLC (Lagodekhi district), I/E Gela Gamkrelidze (Ozurgeti district), LLC Ruka-Mapping (Khobi district), I/E Mamuka Kharadze (Gardabani district), I/E Lursmanashvili (Zestaponi district) and I/E Avtandil Mikiashvili (Ambrolauri district) were finally approved.

The last ER set of documents including Environmental Review Checklist and Environmental Review and Mitigation plan was prepared and approved for Energia 777 LLC (Akhalkalaki District), dated of November 21, 2011, **Q9**.

Monitoring and Site Visits

Environmental Monitoring was implemented according the criteria and frequency identified by AMP guidelines and EMMP: at the design and construction stage, after major rain events, at least monthly during construction, at project initiation and then at least quarterly at the operation and maintenance stage.

The majority of final audit visits were conducted in September/October of PY3 by environmental specialist in cooperation with project coordinators.

In total 158 environmental monitoring and audit visits were conducted during life of the program (see the annexed table).

The monitoring was conducted via visual inspection of all the MSC facilities and interviewing of MSC managers/workers. In particular, the proper functioning of the water supply, sewage and electricity systems were revised; the availability of protective equipment, first aid kits, existence of separate containers for different types of waste, quality of oil/lubricants used etc. were also inspected. In addition, the knowledge of workers of PERSUAP and worker safety regulations was examined.

In most cases, the majority of mitigation measures had been applied by the applicants. No hazards and environmental risks were identified during the site-visits. The environmental and worker safety regulations are respected by the MSC staff. However, some problems were identified, such as lack of first aid medical kits, irregularly maintained records for equipment

repair and lack of trainings on worker safety issues, and etc. In majority of cases there were no walkways installed on MSC territory. The environment inside the MSC (yard, storage) looked insufficiently clean and messy. There were a few cases where the oil-catcher was not properly installed resulted in possible contamination of groundwater. For each specific case, additional measures were recommended to reduce the impacts (See the **Annex, Table 6 Environmental Audit**).

Environmental Trainings/Publications

The series of on-site MSC staff trainings on environment and worker safety measures were conducted by AMP environmental specialist in cooperation with equipment dealers. Approximately 200 employees of 21 MSCs attended these trainings.

AMP provided grantees with copies of environmental booklets, guidance on the AMP Environmental Procedures and on all related materials and documents in order to improve the grantee's understanding and answer relevant project-related questions.

In addition, the extension trainings on safe pesticide use and handling were provided by the service providers within the AMP project. Totally, about 100 farmers (representatives of MSC staff and beneficiary farmers) participated in the trainings (details are given in a forthcoming section of this report).

On February 1, 2012, the AMP office hosted one-day environmental trainings for the managers and specialists of Mechanization Service Centers. In total, representatives of all 21 MSC-s were invited, among them Mamuli LLC (Sagarejo), Geonut LLC (Senaki), Alva LLC (Zestaponi), I/E Davit Tvaliashvili (Gori), I/E Nugzar Londaridze (Aspindza), and etc.

The main objective of the training was to introduce to the MSC owners and employees the 2011 Pesticide Evaluation Report (PER) and Safe Use and Action Plan (SUAP) recommendations developed under the USAID/EPI project. They were put under consideration for the AMP project implementation to ensure that implementers and beneficiaries do not procure or use certain pesticides containing the Active Ingredients (not allowed by EPA) with USAID assistance (Annex 8. Of the PERSUAP), and it was ensured that each project implementer had a copy of the list of pesticides currently registered and available for use, and recommended for future use if registered in Georgia and to understand best practices for pesticide safety including storage, transportation, handling, use (including application rates), and disposal of pesticides. These best practices were either detailed or linked to websites in the PERSUAP. The following topics were discussed during the meeting: Georgian crops, important pests and preventive and curative IPM tools and tactics used as state of the art in other parts of the region and world (*Annex 1 of the PERSUAP*); Analysis of active ingredients in Pesticides found in Georgia - an important characteristics and restrictions of pesticides registered and available in Georgia. This includes potential impacts on human health, environment and natural resources. (*Annex 7 of the PERSUAP*); Pesticide Active Ingredients not to be used on USAID/Georgia Assistance projects or by beneficiaries. (*Annex 8 of the PERSUAP*). These most important aspects of the PERSUAP were printed out and distributed to the participants.

In addition to the abovementioned Annexes, the following materials have been distributed among the participants: Handbooks and Handouts on Pesticide related issues: Emergency Measures, Safe Warehousing, Safe Transportation, Safe Use and Safety Measures, Series of Brochures on Safe Pesticide Use (fruit & vegetable production intensive technologies)

At the end of the meeting, the MSC owners were also updated with new conditions set up in MSC Environmental Mitigation and Monitoring Plan. The EMMP template was reviewed and discussed by the meeting participants.

Key Findings

- Very low level of awareness of MSC owners and employees, and other stakeholders involved in agricultural production (local government, equipment dealers) on possible negative impact on environment and public health;
- Absence of institutional and legal instruments to support such initiatives and to provide the sustainability.

Recommendations

- Strengthening the awareness rising components in future projects
- Facilitating, the introduction of best environmental practices which will enhance overall environment (agricultural, municipally, community etc) by introduction of environmental management system (EMS);
- Ensuring that friendly environmental practices are promoted via the extension/promotion activities to be conducted by the Grantees and other stakeholders;
- Create win-win situations: combine environmental protection with agricultural production;
- Work with governmental institutions and other stakeholders concerned to provide sustainability of such initiatives.

MONITORING AND EVALUATION

At the end of PY3, the AMP project has 21 operational Machinery Service Centers (MSC). These projects include: **LABA+ LLC** – launched on July 16 2010; **Malkhaz Nakhutsrishvili I/E** – launched on October 4, 2010; **Bezhn Gonashvili I/E** – launched on November 12, 2010; **DV+ LLC** – launched on November 18, 2010; **Davit Petriashvili I/E** – launched on November 30, 2010; **Davit Tvaliashvili I/E** – launched on January 21, 2011; **Alaverdi LLC** – launched on March 2, 2011; **Dorani LLC** – launched on April 28, 2011; **Geonut LLC**– launched on May 7, 2011, **Agronominali LLC** – launched on 15 June, 2011, **Nugzar Londaridze I/E** – launched on July 26, 2011, **Mamuli 96 LLC** – launched on August 30, 2011, **Ruka Mapping LLC** – launched on September 30 2011, **Gela Gamkrelidze I/E** – launched on November 4, 2011, **Alva LLC** – launched on December 2, 2011, **Levan Aroshidze I/E** – launched on December 14, 2011, **Daviti LLC** – launched on December 23, 2011, **I/E Mamuka Kharadze** – launched on April 21,2012, **Avtandil Mikiashvili I/E** – launched on May 18, 2012, **Energia 777 LLC** – launched on July 19, 2012 and **Lursmanashvili SLC** – launched on October 11, 2012.

Monitoring data gathering began in third quarter of 2011. At that date only one Machinery Service Center (MSC) was operational. However, by the end of October 2012, 21 MSC launched their operational activities.

Due to the fact that for absolute majority of projects the monitoring process ends in 2013, 2014 (as per Grant Agreement, the implementation period was defined as 24 months and vast majority of the projects were launched in 2011-2012), certain indicators are not completely achieved (Sales, Net revenue, Jobs, HH Net Income, etc). In addition, monitoring of the projects and data collection could not be performed for all of the 21MSCs for 24 months.

During the implementation of the projects, the Grantees’ activities were affected by certain negative factors, including natural disasters such as drought and flooding. Therefore, land was not cultivated as properly and timely as planned. Delays in and incomplete implementation of agricultural activities resulted in poor financial results. Thus, some targets such as Sales of Services to Farmers and Increased Annual Gross Profit of Machinery Service Providers were not achieved. In addition, due to the circumstances referred to above, the agricultural workforce was also underutilized throughout the season, which resulted in a smaller amount of total salaries paid than would otherwise be the case. In addition, MSC activities were negatively affected by competition from the Farm Service Centers created by governmental programs which offered/promised heavily-subsidized prices for their services. Nevertheless, MSCs are continuing their operations and successfully overcoming their problems.

Currently, most of the targets are achieved. Exceptions are presented in the table below:

New jobs created	225 - 270	195
Increased household income from new jobs created	\$1 - \$1.2 million	\$377,067
Sales of services to farmers	\$2.5 - \$4 million	\$1,783,092.65
Increased annual gross profit of machinery service providers as a result of USG assistance	\$1.25 - \$2 million	\$424,021.08

Finally, it shall be stated that all outcomes and target indicators are anticipated to be met within the next monitoring cycle. The improved indicators will be captured during post-implementation monitoring.

Indicator	Target¹	Q13 Actual (October- November 2012)	Cumulative as at 19.11.12
<i>IDP-specific indicators:</i>			
Number of IDP families benefiting from improved mechanization	2,000-3,000	30	2,098
Number of hectares farmed by IDPs covered by mechanization as a result of this project	800	30	801.8
Value of assistance provided to IDPs	\$145,000	3,615	\$120,358
<i>Project Indicators – Programmatic:</i>			
Number of MSCs established	25-30	0	21
Number of additional tractors operating in target areas	60-100	0	82
Number of additional pieces of related farm equipment available in target areas	240-400	0	235
Total new investment in agricultural machinery as a result of project (grant funds + matching investment)	\$3.98 million	\$0	\$5,418,011
Amount of financing mobilized in support of machinery services	\$1-2 million	\$38,700	\$1,073,941
Number of rural service providing enterprises receiving business skills training	75	11	47
Number of agriculture-related firms benefiting directly from USG supported interventions (including both grantees and non-grantee service providers receiving business training)	75	11	47
Number of extension trainings conducted by AMP	125	5	119
Number of field days and demonstrations conducted by MSCs	75	11	78
<i>Project Indicators – MSC Performance:</i>			
New jobs created	225 - 270	1	195
Increased household income from new jobs created	\$1 - \$1.2 million	\$38,611	\$377,067
Additional hectares covered by mechanization services as a result of the project	9,500-15,000	1,746.68	30,387.84
Sales of services to farmers	\$2.5 - \$4 million	\$153,756.07	\$1,783,092.65
Increased annual gross profit of machinery service providers as a result of USG assistance	\$1.25 - \$2 million	\$71,503	\$424,021.08
Percentage increase in gross profit of machinery service providers as a result of business training (baseline year 1 of operation, result in year 2)	10%	N/A	N/A
Percentage decrease in MSC service prices over 2009 prevailing baseline rates	20%	N/A	N/A
Number of women owned businesses assisted	5	2	2

¹ It should be noted that a modification to the Cooperative Agreement in March 2012 included an adjustment of some of the indicators' targets. The "targets" column in this table does not reflect these changes.

Project Indicators – Farmer Impact:			
Average plot size serviced by assisted farm service providers (including IDPs)	0.97 ha	0.39	0.41
Number of farmers benefiting from the provision of increased farm services made available as a result of project assistance (includes IDPs from above)	9,250 - 14,000	687	12,819
Percentage, average and total increased annual income to small-scale farmers as a result of the project[xi] (calculated through annual farm survey completed at the close of each calendar year)	%TBD	N/A	35%
	\$500-700 average	N/A	\$311.83
	\$4.6-\$9.8 million total	N/A	\$5,328,541.68
Number of women provided training on business or agricultural practices	300	7	164
Number of farmers participating in field days and demonstrations	1,125	169	1207
Number of farmers participating in AMP extension training	1,875	99	2318
Number of farmers, processors, and others who have adopted new technologies or management practices as a result of USG assistance (MSC clients, IDPs, service providers, training beneficiaries)	12,275 - 17,000	956	16,539
Number of additional hectares under improved technologies or management practices as a result of USG assistance	9,500-15,000	1,776.68	31,189.64
Number of rural households benefiting directly from USG assistance (MSC clients, IDPs, service providers, new jobs, training beneficiaries)	12,500 - 17,300	956	16,539

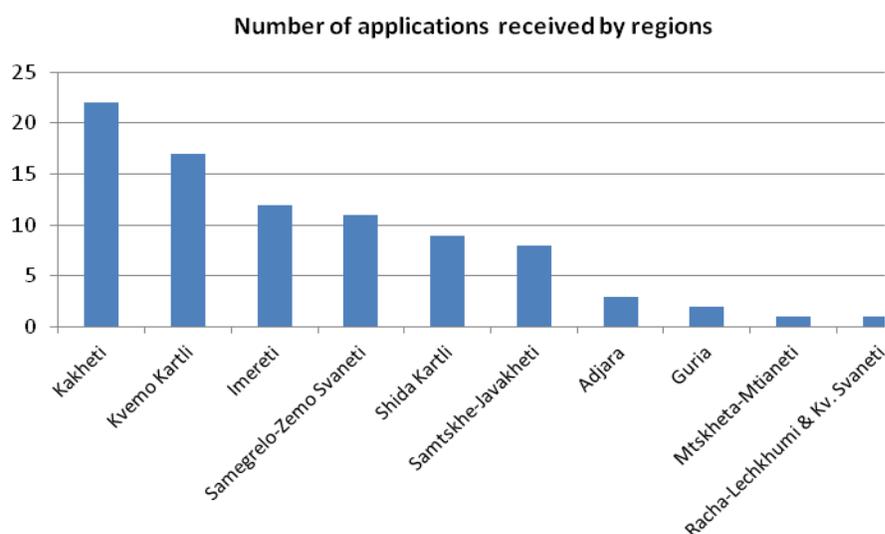
ANALYSIS OF FINAL RESULTS

Summarized below are the major results of the program, as well as brief key recommendations for similar activities in the future. The analyses and recommendations are given under definite headings to cover major functional and operational areas. In a systemic way, the lessons-learned and recommendations are given under a separate heading below.

Geographic Reach of the Program

Regional demand for AMP funds is reflected in Chart 1 below.

Chart 1

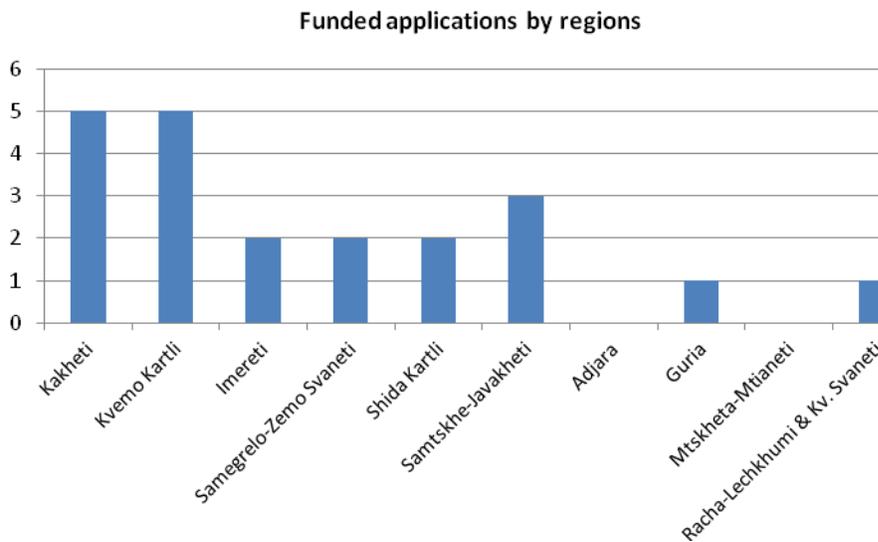


The extensive outreach campaign covered the entire country in order to garner interest for the program from all regions and, in particular, the regions relatively less covered by Machinery Rings funded by previous donor activities and/or the governmental programs. This fact notwithstanding, the table above is a clear indication of a market demand for machinery services, relative degree of agricultural development, incidence of annual cropping, and availability of relatively large parcels, which generally determine demand patterns for equipment. It comes as no surprise that Kakheti, a region with the widest array of crops grown and relatively less fragmented plots comes as an absolute leader in terms of applications submitted to AMP. Kvemo Kartli also has more advanced agriculture than the country on average. In addition, proximity to Tbilisi and more or less developed commercial production are conducive to higher demand on equipment in that region. Imereti and Samegrelo-Zemo Svaneti regions pose almost identical demand for equipment largely due to similarity in annual cropping patterns (dominance of corn) and an almost equal level of development of commercially-oriented small-scale farming. Unfortunately, potentially big agricultural region of Shida Kartli remains somewhat underrepresented, if the number of applications submitted is considered as an indicator for

demand. This is probably due to the highest degree of fragmentation of land among the country's regions and the highest incidence of perennial crops. In the future, specific tailor-made information campaigns are to be undertaken in Shida Kartli to accommodate local peculiarities of demand for equipment and accommodate more broadly the demand from large number of refugees occupying peripheral areas of the region. Somewhat less impressive position of Samtskhe-Javakheti region is probably due to overall poverty and mountainous region of the country, which overweigh favorable land distribution patterns. In addition, remoteness of Samtskhe-Javakheti is somewhat less conducive to commercial growing of local low margin crops such as barley and fodder. In the future, when commercial production of potatoes gathers a pace, supply of specialized equipment should be taken into consideration. Lastly, the four regions with the most severe scarcity of land resources and agricultural population, Guria, Adjara, Mtskheta-Mtianeti, and Racha-Lechkhumi and Kvemo Svaneti seem to be much less interested in upgrading capital equipment available. For the future, the programs similar to AMP should be much more concentrated on small-scale equipment to accommodate developmental needs of the mentioned regions.

Chart 2 below describes the distribution patterns of funded applications among the regions. It can be seen that funded applications are more equally distributed among the regions, which is largely due to the relatively small size of the program. On the one hand, this was forcing the implementation process towards strict rationing, and on the other hand, appreciation of quality of proposals submitted. The fact that AMP attempted accommodation of diversity of regional developmental patterns during the implementation process, should also be appreciated. In this regard, it is encouraging that the program managed to cover some of the regions with the least development potential and the most acute need for new capital equipment and technologies, such as Racha-Lechkhumi and Kvemo Svaneti and Guria. Relatively larger share of samtskhe-Javakheti in applications eventually funded, as compared to its share of applications submitted, is largely due to overall high quality of business proposals.

Chart 2

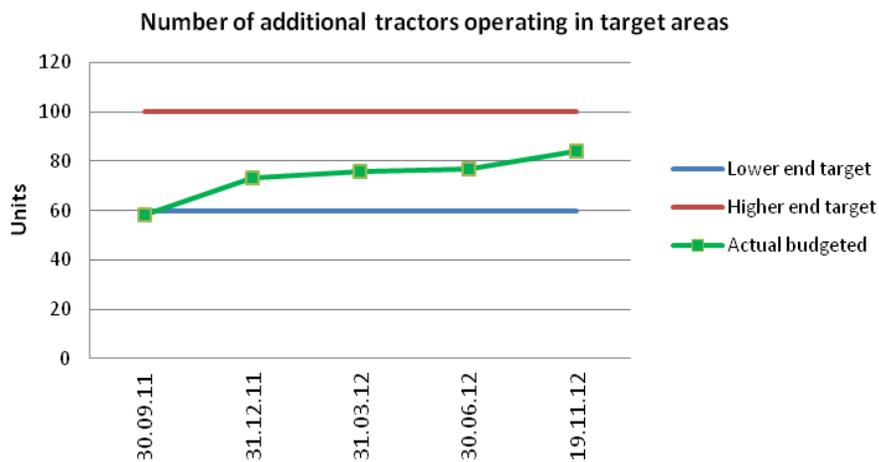


In general, regional distribution of AMP activities indicates the need for continuation of similar activities in this field. Despite the fact that GoG will substantially replenish the fleet of available tractors and combines in the nearest future, the combined number of equipment available by private sector and governmental agencies will by no means be sufficient to serve the needs of the country sustainably. Though the purpose of AMP was largely to demonstrate the model of sustainable, commercially feasible machinery service operations and somewhat complement governmental and donor activities in this field, the room and need for similar activities in the future will exist for at least several years to come. In addition, donor funded programs such as AMP can enjoy much higher degree of flexibility and maneuverability in a sense of having independent funding sources and specialized personnel.

Dynamics of Capital Assets Creation and Finance Mobilized

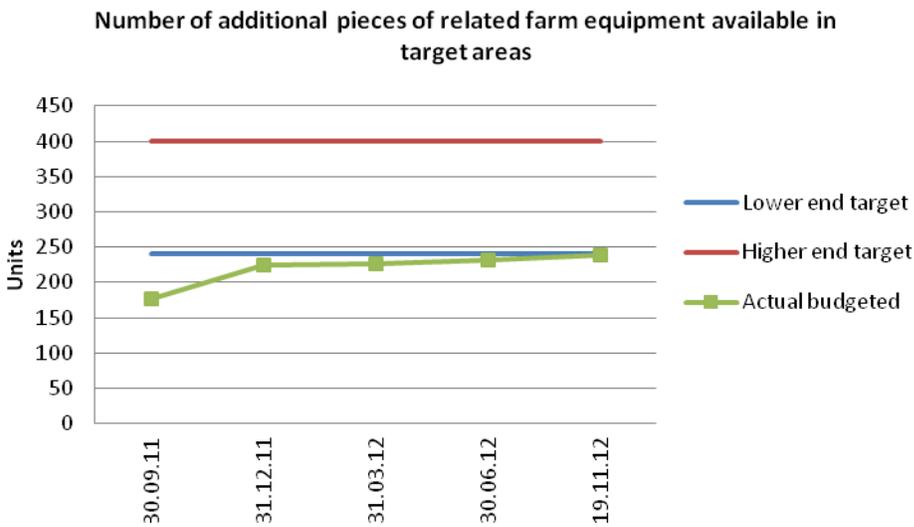
Initially, AMP targeted at funding of 25 MSC during the LOP. Eventually, due to programmatic changes, only 21 MSC-s were funded. Despite this, AMP managed to successfully meet the programmatic goals by purchasing a total of 84 tractors and combines through USAID funds. This is substantially higher than the lower-end target of 60 pieces of equipment and lies comfortably above the average between lower and higher end targets. Ability to meet one of the major programmatic targets leads to the conclusion that the program managed to adequately equip beneficiaries with the capital stock needed for sustainability of their future operations. The brief analysis of the **Chart 3** below indicates that the grantees are in a favorable condition to further improve their fleet of tractors and combines as their activities get more mature.

Chart 3



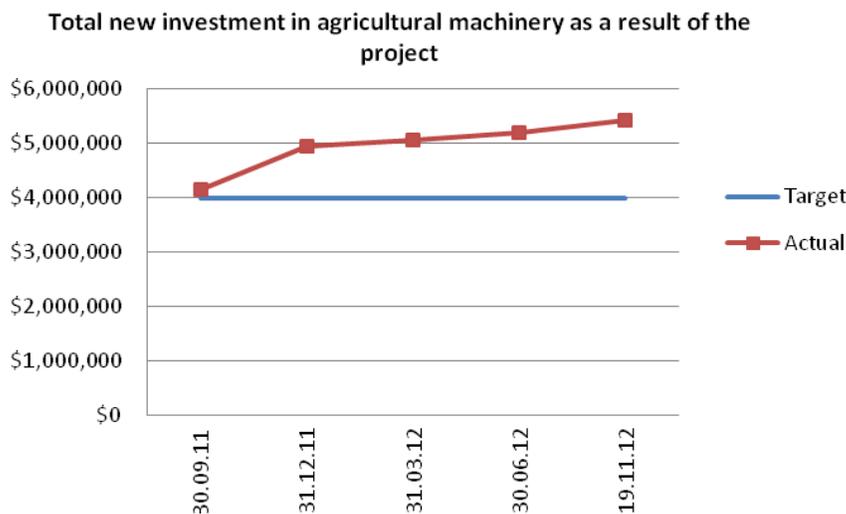
AMP efforts in providing tailor-made equipment were adequately met with matching contribution by the grantees themselves. The **Chart 4** below depicts the dynamics in number of equipment provided by the grantees as a co-share.

Chart 4



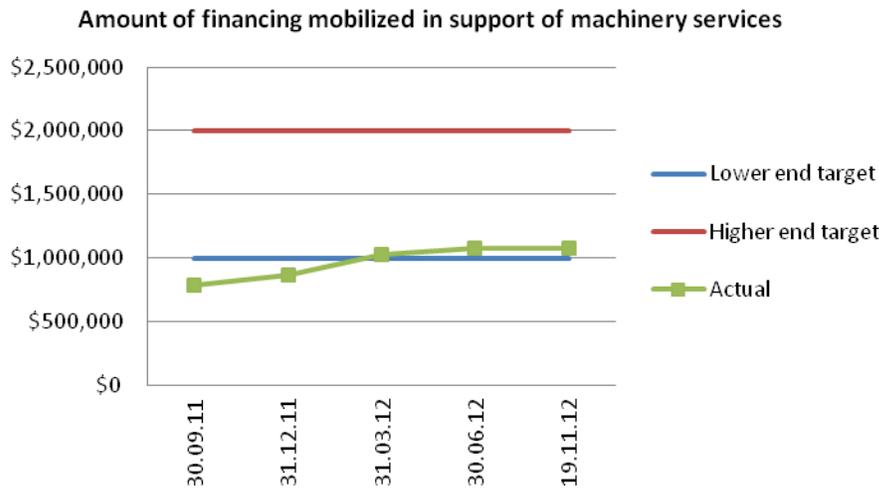
As long as the project was approaching its maturation, namely since September 2011, the number of equipment purchased by grantees increased impressively reaching the lower-end target of 240 pieces by the end of LOP. The combined analysis of **Charts 3 and 4 above** leads to the conclusion that substantially more than minimum capital equipment is installed in production sites. It has also to be ascertained that substantial surpassing of the lower-end target by the grantees within the LOP could hardly be anticipated, since the grantees are incentivized by the necessity to secure due project funds by minimum required, the most efficient effort. On the other hand, the grantees performed impressively while ensuring the availability of long-term and operational capital for sustainability of their own operations in the future. In this view, amount of financing provided by the grantees is a much more rigorous indicator than the number of equipment provided by them.

Chart 5



The dynamics of the amount of financing mobilized in support of machinery services also posit favorable developments over time. Currently, this indicator stands comfortably above the minimum required amount (see **Chart 6**). Given that, on average, only a minor portion of projects is fully or comprehensively monitored (due to the fact that the end monitoring date for absolute majority of them lies beyond 2013), amount of financing mobilized is bound to seriously increase over time, as the projects reach their maturation in 2013-14.

Chart 6



In overall, AMP activities related to creation of necessary capital infrastructure and inducing relevant finance mobilization to ensure long-term sustainability of MSC operations are successful and lay solid foundation for improvement in the future. This is corroborated by the amount investments by the grantees substantially over than the target. Further improvement of the results above can be anticipated within the next operational periods of 2013 and 2014 when grantees’ operations are fully established and monitored.

Operational Indicators

Under the heading of operational indicators summarized is majority of the results achieved in the areas of Farmer Impact and MSC Performance.

Chart 7

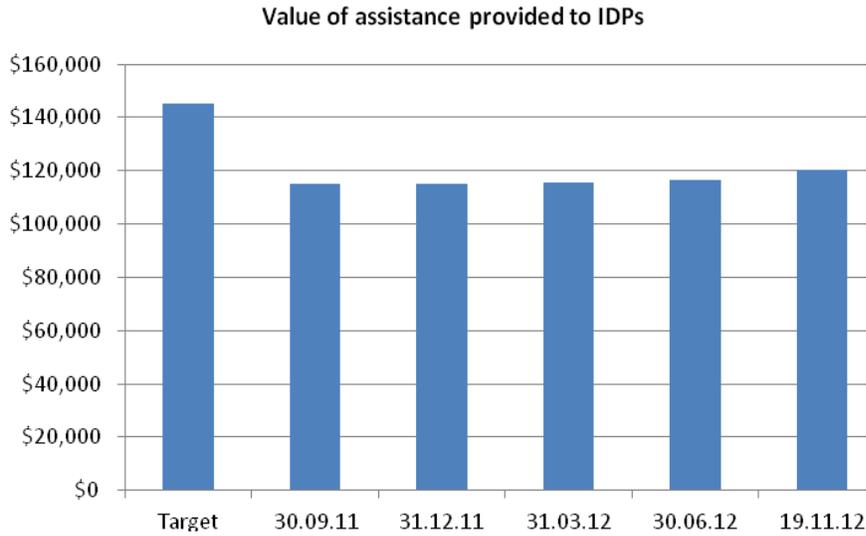
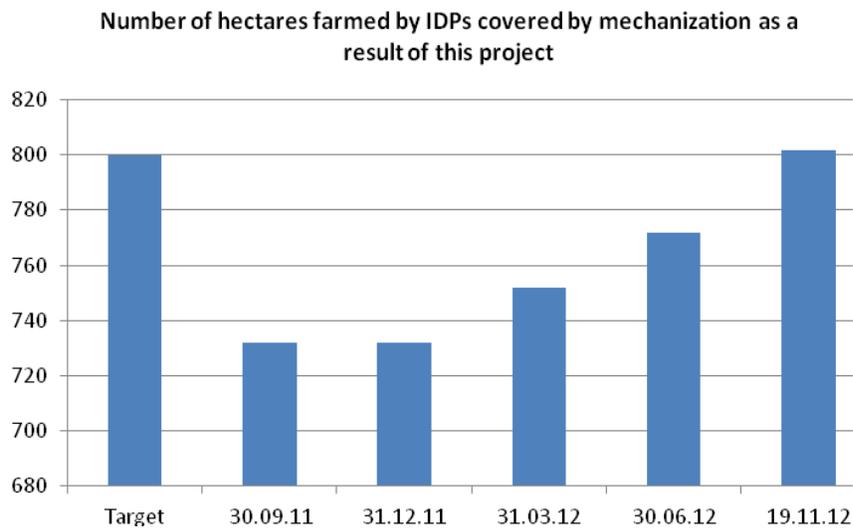


Chart 7 shows that the target value of assistance provided to IDP-s remains unmet as of November 2011. This is predictable given the fact that only absolute minority of the projects are fully monitored. On the other hand, the volume of services rendered to IDP-s shows a steady upwards moving trend over time. This indicates existence of a reasonable chance to meet the target once all the projects located in target areas are fully monitored.

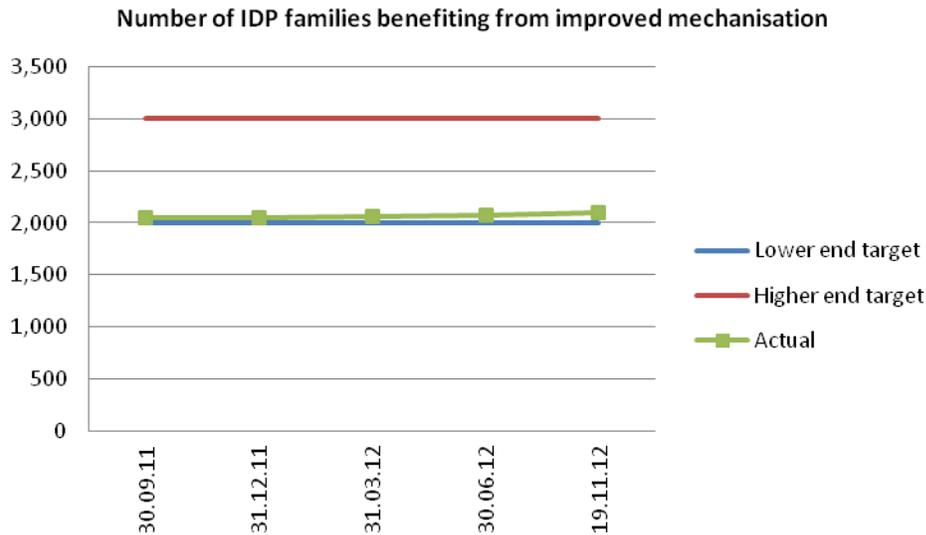
On the other hand, according to the results shown on **Chart 8**, the target of number of hectares farmed by IDP-s is fully met as of November 2012. Subsequently, in the future, the number of hectares is anticipated to grow only somewhat due to localization of the relevant projects and fixed number of IDP-s. If demand for services from IDP-s on hectarage basis improves over time, achievement of target value of assistance rendered to IDP-s is bound to increase somewhat.

Chart 8



The target number of IDP families benefiting from improved mechanization, as depicted in the **Chart 9**, is also met as of the end of program activities. It should be mentioned that this particular goal was achieved as of September 30, 2011 since when this indicator increased only slightly, as anticipated.

Chart 9



The Table 1 below summarized some important indicators pertaining to MSC performance over the LOP. The area of major concern might be creation of new jobs, which is still somewhat below the lower-end target for LOP. Again, the fact that only a minority of the projects were fully monitored as of November 2012 is the major reason for this somewhat unfavorable development. Although, if scrutinized carefully, the conclusion can be drawn that the target for jobs created should be met during the first two quarters of 2013. First of all, the dynamics of number of jobs created leads to this conclusion. For example, in the period of 31.03.12-30.06.12 when agricultural activities reached its peak, the incremental number of jobs created reached a decent level of 42 even with only a portion of projects fully monitored. Even if the lower pace of job creation for the period of 30.06.12-19.11.12 is maintained, at a minimum the lower-end target of 225 incremental jobs will be met by summer of 2013. In addition, majority of projects will enter the maturation stage to help greatly job creation process. For increased household income indicator the current stance of affairs looks somewhat less favorable but if the annual pace of income generation remains the same for 1-1.5 years to come, the mentioned indicator will also be achieved. Very successful coverage of hectares by mechanization services indicates that the commercial demand is in place to generate more revenue both for MSC and help job creation.

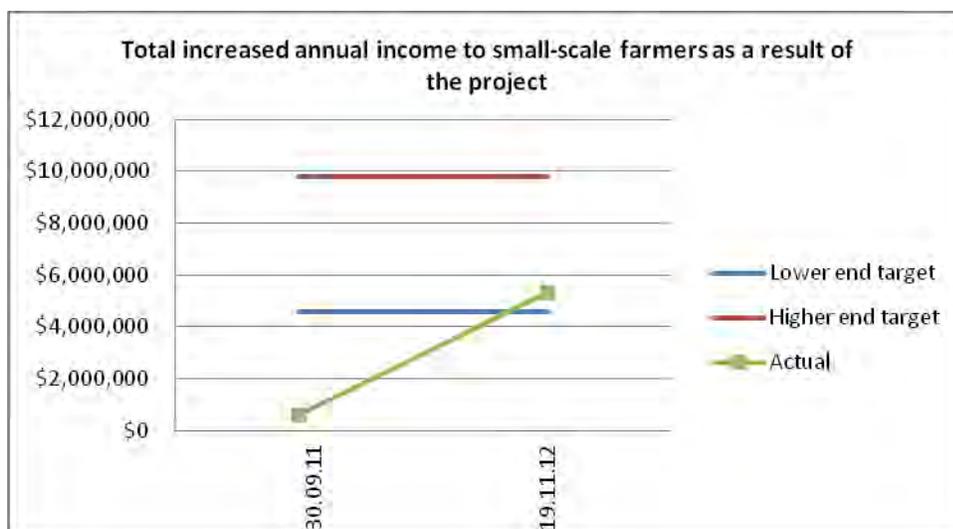
Table 1

<i>Project Indicators – MSC Performance:</i>	Target	30.09.11	31.12.11	31.03.12	30.06.12	19.11.12
New jobs created	225 - 270	115	126	135	177	195
Increased household income from new jobs created	\$1 - \$1.2 million	\$117,320	\$167,404	\$201,167	\$289,204	\$377,067
Additional hectares covered by mechanization services as a result of the project	9,500-15,000	13,198	17,088	18,002	25,662	30,388
Sales of services to farmers	\$2.5 - \$4 million	\$594,832	\$816,755	\$872,104	\$1,398,139	\$1,783,093
Increased annual gross profit of machinery service providers as a result of USG assistance	\$1.25 - \$2 million	\$26,549	\$235,641	\$235,641	\$235,641	\$424,021

Somewhat lower value of services to farmers and increased gross profit of MSC-s indicators are probably related to very unfavorable climatic conditions and competition from discreet governmental activities, which might have drawn the unit prices of services considerably lower than they would be in “normal” circumstances. Subsequently, the unit prices are anticipated to rebound considerably, since the new government has already devoted unprecedented amount of resources to agricultural development, which encompasses provision of services to almost all small-scale farmers countrywide.

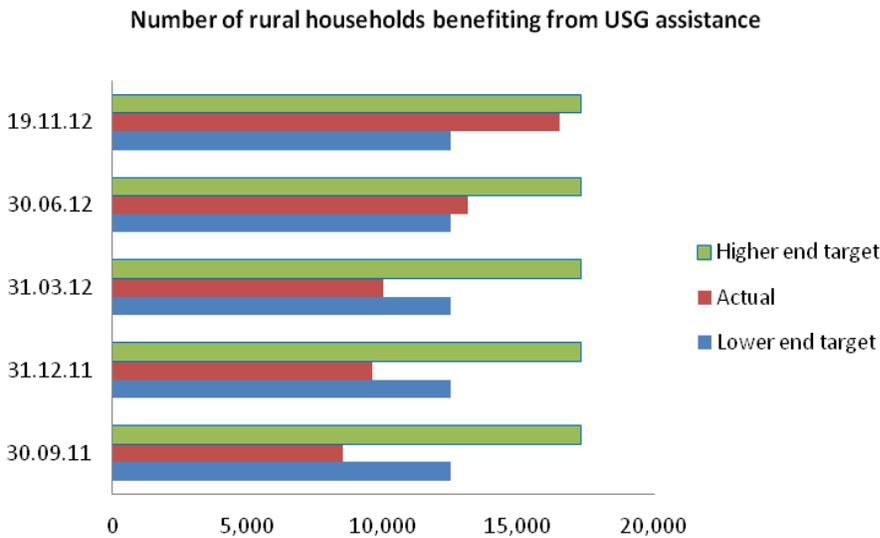
Total increased annual income to small-scale farmers as a result of project activities is given in the **Chart 10** below. The lower-end target is comfortably reached as a result of AMP activities. Subsequent monitoring activities will demonstrate how close this indicator comes to the higher-end target or exceeds it.

Chart 10



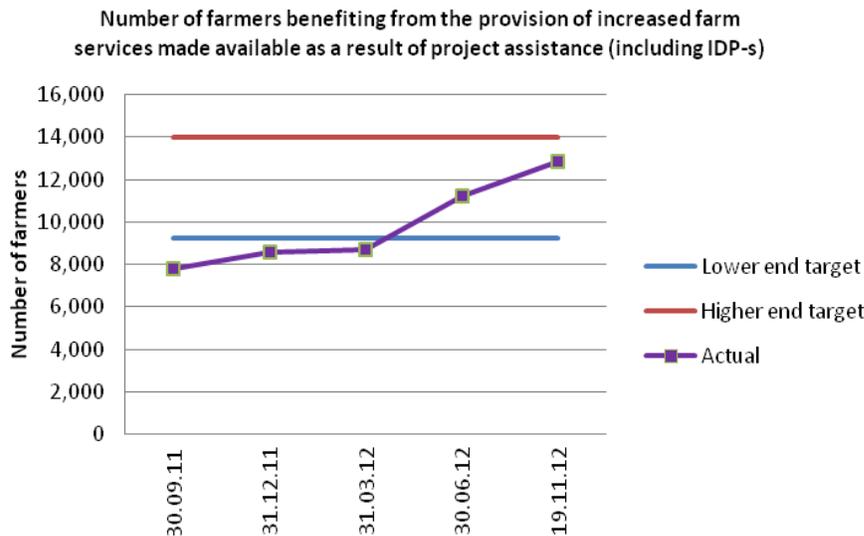
The number of rural households benefiting as a result of USG assistance (**Chart 11**) is steadily growing as more projects are getting bigger operational experience. Since June 30, 2012 the actual value of this indicator comfortably exceeded the lower-end target. The rate of growth of beneficiary households indicates that the higher-end target should be exceeded by end-June of 2013, when spring agricultural activities are accomplished.

Chart 11



Another important area, in which AMP demonstrated success, is the number of farmers benefiting from the provision of increased farm services made available as a result of project activities (**Chart 12**). After the end of the second year of programmatic activities, this indicator accelerated considerably and exceeded the lower end target in June 2012. As of now, this indicator is approaching to the higher-end target of 14,000, which will probably be exceeded by June 30, 2013.

Chart 12



Technology Transfer Indicators

Some of the indicators pertaining to overall programmatic and MSC performance are summarized under the heading of technology transfer indicators. AMP activities in the area of trainings delivered to farmers, businesses, as well as extension trainings and number of arranged

demonstration field days are very important to complement the process of asset creation and ensure sustainability of steady demand for advanced agricultural practices. Unfortunately, in nowadays Georgia small-scale farmers lack even the basic skills of production and are attached to customary, traditional production technologies, which result in stagnant and even declining yields over time. The **Table 2** shows that AMP results to date fall somewhat short of the targeted results in some of the major areas under this category. This is notably visible with number of rural service providing enterprises receiving business skills training and agriculture-related firms benefiting from USG supported interventions. These results cannot be ascribed to lack of effort by AMP or lack of efficiency at the planning and execution stages. Rather, the dominance of traditional cropping patterns and subsistence farming still prevents more or less serious-scale agricultural firms and service providers to emerge in the marketplace. In overall, this process is time-consuming and relates to auspicious dynamics of agricultural sector, which until now has not been very prevalent. AMP is also somewhat short of the target number of extension training sessions conducted. On the other hand, the number of field days and demonstrations conducted by MSC-s is slightly higher than the targeted number. Given lack of technological awareness described above, the latter two indicators are probably much more important for overall sustainability of the program than the former two.

Table 2

	Target	30.09.11	31.12.11	31.03.12	30.06.12	19.11.12
Number of rural service providing enterprises receiving business skills training	75	22	26	30	38	47
Number of agriculture-related firms benefiting directly from USG supported interventions (including both grantees and non-grantee service providers receiving business training)	75	22	26	30	38	47
Number of extension trainings conducted by AMP	125	75	90	100	110	119
Number of field days and demonstrations conducted by MSCs	75	17	30	45	67	78

Table 3 below depicts the results to date for number of women provided training on business or agricultural practices, farmers participating in field days and demonstrations, and farmers participating in AMP extension trainings. Only the first of the indicators above is not met by the end of project LOP. Once again, given prevalence of traditions in Georgian agriculture and rural life, it is extremely hard to identify desirable number of women interested in getting agriculture-related trainings. In the future care must be taken in attempts to develop very specific, tailor-made trainings for female participants in for the occupations, in which female labor is more prevalent. Unfortunately, as the experience shows females participate much less in annual cropping than in perennial cropping (for example nuts collection and processing). Annual cropping being the primary target of AMP, there naturally was a limited chance to generate enough attention from female participants in the relevant training programs. Encouragingly, the results for farmers participating in field days and demonstrations, as well as number of farmers participating in AMP extension trainings comfortably exceed the targeted numbers.

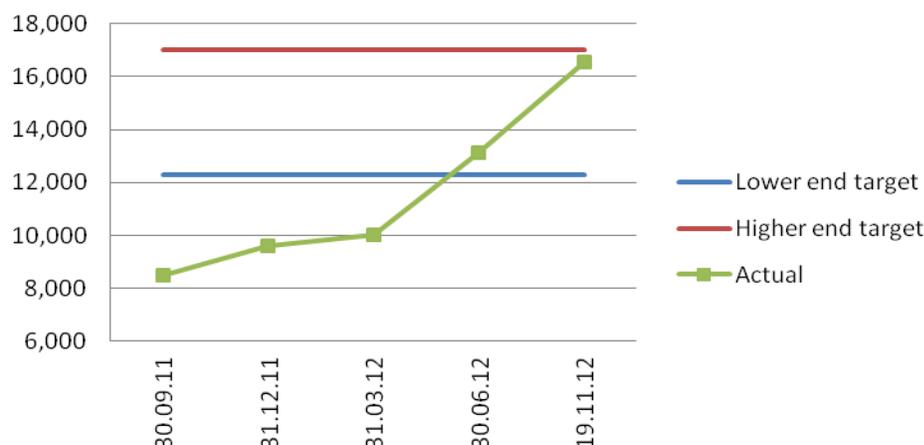
Table 3

	Target	30.09.11	31.12.11	31.03.12	30.06.12	19.11.12
Number of women provided training on business or agricultural practices	300	94	123	133	157	164
Number of farmers participating in field days and demonstrations	1,125	255	416	617	1,038	1207
Number of farmers participating in AMP extension training	1,875	1,447	1,733	1,928	2,186	2318

More than sufficient number of farmers attending in training relates to very favorable results achieved in the area of reaching out the farmers, processors, and others adopting new technologies and management practices (**Chart 13**). This particular parameter has been growing steadily for AMP since March 31, 2012. Currently, this indicator far exceeds the lower-end target and is approaching the maximum number planned for the end of the LOP.

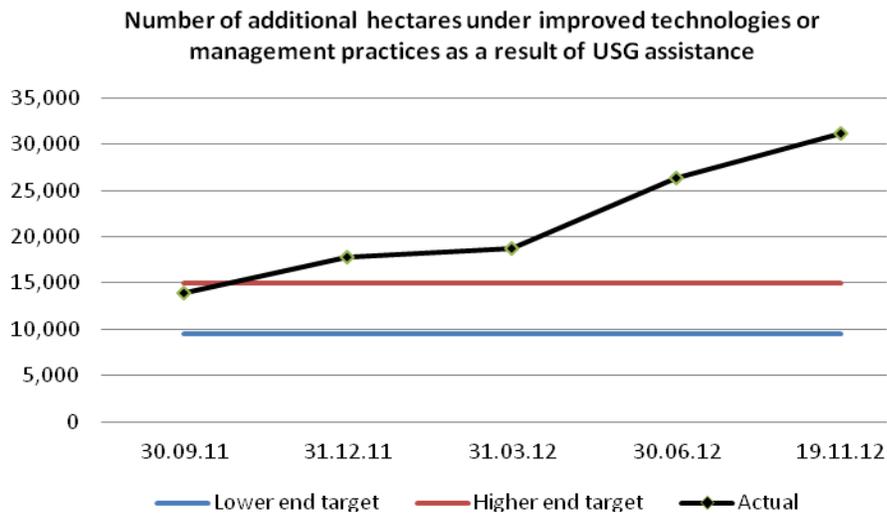
Chart 13

Number of farmers, processors, and others, who have adopted new technologies or management practices as a result of USG assistance



AMP has also been successful not only in reaching out the maximum number of users benefiting from the improved technologies, but also the physical area covered by new technological practices (**Chart 14**). This indicator already exceeded the targets by end of 2011. It indicates that there is a substantial interest from the Georgian farming community to adopt and graft new technologies.

Chart 14



Given this, in the future activities similar to AMP are favorably conditioned to enjoy substantial demand for assistance from the Georgian farming community.

1. Cost-effectiveness

As a result of USAID's \$5.1 million investment, more than \$8,863,395 million was generated, including \$3,110,832 in matching investment from MSC partners, \$424,021 in increased revenue for assisted firms and \$5,328,542 in increased income for farmers receiving services.

Chart 15

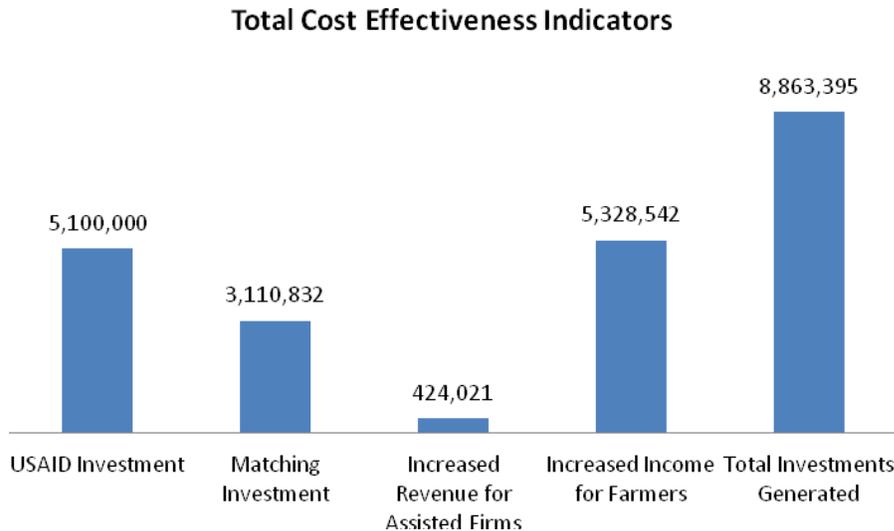


Chart 15, above, indicates that the project investment has already achieved impressive results. Per one USD invested from USAID, approximately 1.6 USD was generated from the resulting activities. The fact that the monitoring process is not yet fully completed indicates for existence

of a large room to further improve overall cost effectiveness of the project. Revenue performance for the assisted firms is bound to increase substantially once more monitoring data are available. Currently, the combination of matching investment and increased revenue for assisted firms demonstrates a healthy upward moving trend. The table above shows that machinery service centers are already operationally sound and will further improve their results as they gain experience. In addition, large-scale agricultural programs announced by the new government will substantially bolster their operations and expand income sources.

SUCCESS STORIES

Lursmanashvili JSC

The 21 Machinery Service Centers (MSCs) established by the Access to Mechanization Program have already made a significant impact on the country's agricultural sector, but there is still a substantial gap between the demand for agricultural machinery and its availability. The owners of the new MSCs indicate that their plans to increase access to farm implements and machines will not end with the completion of the USAID-funded Access to Mechanization Program. On the contrary, this is only the beginning.

USAID provided grants to establish 21 MSCs throughout Georgia, which were furnished with the help of matching contributions from grantees. From the beginning, CNFA's approach ensured this level of buy-in from the grantees so that the MSCs would be sustainable, demand-driven entities that would continue to provide services to Georgian farmers long after the completion of the project.

Paata Lursmanishvili, owner of the Zestafoni Machinery Service Center, acknowledges that the demand for agricultural machinery in Georgia far outweighs the quantity of machines in the country. In addition to wanting to address this disparity for the sake of his fellow farmers, Mr. Lursmanishvili recognizes the business opportunity of expanding access to agricultural machinery. For this reason, he plans on investing in more tractors and implements for the upcoming growing season. In addition, he hopes to keep growing every year, which will not only impact farmers seeking machinery services, but also create new jobs and increase incomes. Mamuka Kharadze, owner of the Teleti Machinery Service Center, says that the services provided by the MSCs are more market-oriented and affordable than those offered by similar Government centers. Those centers, he says, are not managed by owners who have a stake in providing quality, competitively-priced services. However, Mr. Kharadze knows that in order to maintain a profitable business, his services must effectively address farmers' needs and be priced according to market conditions. In this way, the MSCs will continue to be viable institutions which provide greatly-needed services and access to technologies to farmers throughout Georgia.



Zestafoni Machinery Service Center owner Paata Lursmanishvili (left) with an employee

Mamuka Kharadze I/E

One of the greatest challenges facing Georgia's agricultural sector is the dearth of modern agricultural machinery available to most of the country's farmers, particularly those who produce on small plots of land (typically only one hectare). To address this problem, the USAID-funded Access to Mechanization Program provided grants (with matching contribution requirements) to establish 21 Machinery Service Centers (MSCs) throughout Georgia. The MSCs are equipped with tractors, plows, seeders and other implements.

The impact these MSCs have had on farmers goes beyond simply increasing the total number of machines available to Georgian farmers. Many of the individuals served by the MSCs previously accessed agricultural equipment only through larger-scale farmers who used the equipment for their own production before lending them out to others. The result was that many farmers had to wait to prepare land, plant and/or harvest until after the equipment owners were finished. Such delays resulted in lower yields and poorer quality produce than what could be expected under optimal timing of production and harvesting activities. Furthermore, many of these machines are outdated Soviet-era models, which are inefficient compared to newer technologies.

Tengiz Makhniashvili, a maize and wheat farmer who uses the services provided at the Teleti Machinery Service Center in the Kvemo Kartli Region, is one of the many farmers who have benefitted from the new MSCs. He estimates that his annual income has increased between 25-30% since being able to access agricultural equipment when he needs it. Moreover, he reports

that the quality of services from the Teleti Machinery Service Center is much higher than from elsewhere, and stresses the benefit of being able to access newer technologies. “Everything is linked with new technology,” he says, noting that he now suffers fewer crop losses and as a result benefits from higher income.



MSC owner Mamuka Kharadze (left) with farmers Tengiz Makhiniashvili (center) and Levan Cheshmaritashvili (right)

KEY FINDINGS AND RECOMMENDATIONS

Below bulleted are some key findings and recommendations with the biggest implications for activities similar to AMP in the future.

- The size of the AMP program is somewhat small, taken into consideration overall demand for agricultural equipment and technologies in the country. Even after taking into consideration massive governmental programs aimed at replenishment of tractor and combine fleet of the country, physical demand for equipment will largely remain unmet. In addition, only 21 projects (25 planned) are not sufficient to establish presence in the regions accommodating local cropping patterns and developmental needs.
- Timing of implementation should be somewhat more lengthened. It should be ascertained that the start timing for the AMP program was chosen correctly. It allowed the program management and personnel to build-up capacity and resources to relatively easily engage in the most dynamic part of the program in the spring season immediately following the project launch. On the other hand, only three years were available for the implementation of the program. This means that individual grantees approved during the middle and later stages of the program implementation had a very minor chance to finish at least two agricultural cycles and establish firm operational capacities.
- Project mobilization and co-share requirement methodology proved exceptionally successful. The co-share mobilized by grantees equaled a minimum 1:1 requirement during the project lifetime. This pertains even to the projects mobilized at late stages of the program implementation. Given overall capital intensity of the AMP funded grant projects, this indicates an existing and still developing demand for similar programs in the future. In addition, a range of co-share generation options involving various financial instruments, proved to be much more promising and interesting to grantees, as compared to Machinery Service Centers funded by ADA in 2010. During the implementation of the latter program, the co-share generation methodology was less rigorous and the array of potential financial instruments available to grantees was less defined.
- Specific attention should be paid to the needs of IDP-s. It could be recommended that IDP assistance should be oriented more on provision of small-scale equipment and encouragement of formation of joint production groupings. In this way, the number of IDP beneficiaries could be increased substantially. On the other hand, availability of small equipment would enable the beneficiary IDP-s to successfully smooth-out their consumption patterns.
- A mismatch between implementation and monitoring processes is fairly typical to almost all development projects. AMP is no exception from this rule. As an illustration, the end of the project lifetime, when all 21 projects were fully mobilized, only one of them was fully monitored. Plus, projects with the biggest developmental potential will not be fully monitored before autumn of 2013. It is very much desirable that any future activities in this field are able to monitor, on average, at least one full cycle of operations by all grantees. This can be achieved by allowing for more

flexibility at the project development and approval stages and taking into consideration seasonal and regional factors, within which individual grantees operate. In order to mitigate this problem in the future, introduction of individual indicators for grantees should be considered. This would allow for ranking of individual performances, taking into consideration seasonality and other local issues, and establish rigorous methodology for identifying the least and most successful grantee projects, and etc. This can be done by grouping grantees by regions, dates of implementation, crops covered, and etc.

- A demand for complementary activities, such as trainings, demonstrations, field days, involvement of women, and etc. should be specifically studied prior to the launch of similar programs. Typically, demand for such activities in agriculture evolves much more slowly than in other sectors of the economy, which makes it easier to accommodate region-specific developmental needs. This would lead to more efficient matching of training topics to relevant dates and specificities of regions. Also, this approach enables for rendering advanced, tailor-made trainings to the regions with visible agricultural potential, while more general technological and skills trainings could be delivered to the regions with lesser developmental potential.
- The methodology flexible indicators are very realistic and allows for collection of more accurate monitoring results. It accommodates seasonal nature of agriculture and incidence of unfavorable climatic conditions negatively affecting performance of individual grantees. In addition, availability of a target indicator having a lower-end and higher-end targets between which the final result should fall, creates much stronger incentives to individual grantees to report realistic results as opposed to the situation when grantees are obligated to reach rigidly set indicators. In addition, such a methodology simplifies monitoring of results from the project management itself and makes it easier to set more realistic targets for the similar activities in the future.

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