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# INDEPENDENT EVALUATION OF US GOVERNMENT AGRICULTURE SECTOR ACTIVITIES IN ARMENIA

REVISED FINAL REPORT

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## Glossary of Terms

AAA	Armenian Agricultural Academy (now known as the Armenian State Agrarian University)
ACBA	Agricultural Bank of Armenia
ACDI-VOCA	Agricultural Cooperative Development International and Volunteers in Overseas Cooperative Assistance administers the Farmer-to-Farmer Program in Armenia
AI	Artificial Insemination
AMD	Armenian Dram
ARID	Armenian Improved Dairygoat Research Center
ARSP	World Bank Agricultural Reform Support Project
ASAU	Armenian State Agricultural University (new name for AAA)
ASME	USAID Armenia SME Market Development Project < <a href="http://www.armeniaag.org">www.armeniaag.org</a> >
ATC	Agribusiness Teaching Center
CADI	Caucasus Agribusiness Development Initiative, Armenia & Georgia < <a href="http://www.usda.am">www.usda.am</a> >
CARD:	USDA Center for Agribusiness and Rural Development < <a href="http://www.card.am">www.card.am</a> >
CBA	Central Bank of Armenia
CFR	Code of Federal Regulation
CIS	Commonwealth of Independent States
CITES	Convention on International Trade of Endangered Species
CJSC	Closed Joint Stock Company
CREES	USDA Cooperative Research, Education and Extension Service
EU	European Union
ES	Extension Service
FAO	Food and Agricultural Organization of the United Nations
FARA	Foundation for Applied Research and Agribusiness
FDA	Food and Drug Administration (US Department of Health and Human Services)
FOB	Freight on Board
FSU	Former Soviet Union
FtF	Farmer to Farmer Program (See ACDI-VOCA)
GAP	Good Agricultural Practices
G&S	Grades and Standards
GMO	Genetically Modified Organism
GMP	Good Manufacturing Practices
GOA	Government of Armenia
GOST	Government Common Standards, G&S system of the former USSR and now that of the Commonwealth of Independent States
HACCP	Hazard Analysis Critical Control Point
ICARE	International Center for Research and Education
ISO	International Organization for Standardization
IT	Information Technology
LGU	Land Grant University
LLC	Limited Liability Company
MA	Ministry of Agriculture
MAP	USDA Marketing Assistance Project
Marze	The country is divided into 10 regions or provinces that are called “Marzes”. The capital city of Yerevan independently has the status as a province.
MASC	Marz Agriculture Support Center
MCA	Millennium Challenge Account < <a href="http://www.mcc.gov">www.mcc.gov</a> >

MCC	Millennium Challenge Corporation < <a href="http://www.mcc.gov">www.mcc.gov</a> >
MFI	Micro Finance Institute
MSE	Ministry of Science and Education
MEDI	USAID Micro Enterprise Development Initiative
MFED	Ministry of Finance and Economic Development
MHS	Ministry of Health
MOA	Ministry of Agriculture
MRL	Maximum Residue Level
NAIS	National Agriculture Information Services
NGO	Non Governmental Organization
NISIR	National Institute for Scientific and Industrial Research
NORAD	Norwegian Agency for Development Cooperation
OIE	Office International Des Epizooties
PCA	EU/Armenian Partnership and Cooperation Agreement
RASC	Republican Agricultural Support Center
SFWMRC	Small Farm Water Management Research Center
SGS	Société Générale de Surveillance
SOFRECO	Société Française de Réalisation, d'Etudes et de Conseil
SPS	Sanitary and Phytosanitary Standards
SSOP	Sanitation Standard Operating Procedures
TACIS	Technical Assistance Commonwealth of Independent States
TBT	Technical Barriers to Trade
TQM	Total Quality Management
UNDP	United Nations Development Program
UNCTAD	United Nations Center for Trade and Development
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USG	United States Government
VAT	Value Added Tax
VISTAA	Volunteers in Service to Armenian Agriculture
WB	World Bank
WTO	World Trade Organization

## TABLE OF CONTENTS

<b>TEAM MEMBERS .....</b>	<b>i</b>
<b>EXECUTIVE SUMMARY .....</b>	<b>vi</b>
<b>I. INTRODUCTION .....</b>	<b>1</b>
<b>II. DESCRIPTION AND ASSESSMENT OF ACTIVITIES .....</b>	<b>4</b>
A. USDA FUNDED PROGRAMS .....	4
1. <i>Overview</i> .....	4
2. <i>Project Phases</i> .....	5
3. <i>Program Results</i> .....	11
B. USAID AGRICULTURE SME MARKET DEVELOPMENT PROJECT (ASME).....	12
1. <i>Overview</i> .....	12
2. <i>Project Components</i> .....	13
3. <i>Program Results</i> .....	15
C. USAID MICRO ENTERPRISE DEVELOPMENT INITIATIVE (MEDI) .....	18
D. FARMER TO FARMER AND VISTAA PROGRAMS.....	19
<b>III. OTHER DONOR ACTIVITIES.....</b>	<b>21</b>
A. MILLENNIUM CHALLENGE CORPORATION .....	21
B. THE PEACE CORPS .....	21
C. WORLD BANK.....	22
D. EUROPEAN UNION/TACIS.....	23
E. INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT (IFAD) .....	23
F. FOOD AND AGRICULTURE ORGANIZATION (FAO).....	24
<b>IV. ASSESSING IMPLEMENTATION, IMPACT AND SUSTAINABILITY.....</b>	<b>25</b>
A. INTRODUCTION .....	25
B. IMPLEMENTATION.....	25
1. <i>Have USG activities in the agribusiness/ agriculture sectors been properly targeted to identify and support products that satisfy local demand, compete against imports, and hold potential for export?</i> .....	25
2. <i>Additionally, have these efforts improved the safety and quality of food products in the marketplace?</i> .....	31
3. <i>What are the main strengths and weaknesses of USG assistance to date?</i> .....	32
4. <i>What are the major constraints facing assistance? How can constraints be reduced or mitigated?</i> .....	34
5. <i>Have activities been well coordinated with other donor organizations and focused on achieving mutually agreed objectives economically and efficiently? Have</i>	

<i>activities been coordinated effectively between USAID and USDA to take advantage of economic opportunities in the agriculture and agribusiness sector? .....</i>	<i>35</i>
6. <i>Have the positive and negative experiences resulting from activities been adequately recorded, validated, and otherwise made available for future use?.....</i>	<i>37</i>
C. IMPACT .....	38
1. <i>Is the assistance achieving or helping to achieve the desired results, both in terms of the projects' own targets, and in terms of USG objectives in general?.....</i>	<i>38</i>
2. <i>How and to what extent have the activities contributed to income generation and job creation? .....</i>	<i>40</i>
3. <i>To what extent have the activities had a positive effect on the market, increasing competitiveness, efficiency and growth potential, etc.?.....</i>	<i>41</i>
4. <i>Have the activities had a negative effect on the market through market distortion, unintended side effects on other segments, subsidy of non-competitive or unsustainable products?.....</i>	<i>41</i>
5. <i>How did good practices and innovations introduced by the activities spread beyond the direct beneficiaries?.....</i>	<i>43</i>
D. SUSTAINABILITY .....	43
1. <i>Are the institutional and legislative environments supportive of agricultural and agribusiness development? .....</i>	<i>43</i>
2. <i>Is the assistance effective in building local capacity to carry on and sustain development after USG funded technical assistance is ended? .....</i>	<i>45</i>
3. <i>Will the businesses and products that have benefited from USG assistance be viable and competitive in the absence of the assistance? .....</i>	<i>45</i>
4. <i>Is there a credible exit strategy that will allow USG funding to be phased out efficiently and without undue transition problems?.....</i>	<i>46</i>
<b>APPENDIX I. INTERVIEW RESULTS FROM SELECTED BENEFICIARIES .....</b>	<b>48</b>
<b>APPENDIX II. AGRICULTURAL CREDIT MARKETS IN ARMENIA .....</b>	<b>52</b>
<b>APPENDIX III. SCOPE OF WORK.....</b>	<b>57</b>
<b>APPENDIX IV. INDIVIDUALS CONTACTED AND/OR INTERVIEWED.....</b>	<b>63</b>

## EXECUTIVE SUMMARY

This report contains the findings and recommendations called for under The Evaluation of US Government Agriculture Sector Activities in Armenia, funded through USAID Contract No. PCE -1-00-98-00014-09, Order NO. PCE -1-18-98-00014-00, and was initiated on April 17, 2006.

Armenian agriculture was transformed, almost overnight during 1991-92, from some 840 centrally managed and highly subsidized State and collective farms into some 440,000 decentralized and unsubsidized small holdings. Distribution systems and linkages to markets, processing and financing collapsed. The US Government (USG) has invested over \$80 million dollars in agribusiness and agricultural development in Armenia during nearly 12 years of technical assistance to facilitate the transition to a market economy.

This assessment was commissioned by the US Embassy with joint involvement by USDA, USAID, MCC and the Embassy's Political and Economic Section, and funded under a USAID contract. It has three principal objectives:

- To conduct an assessment of USG assistance to Armenian agriculture and agribusiness in terms of effectiveness, sustainability and market impact. The principal activities reviewed were several programs funded by USAID-- the Armenia SME Market Development Project (ASME), aspects of the USAID Micro Enterprise Development Initiative (MEDI) and the Farmer-to-Farmer program; and by USDA-- especially the USDA Marketing Assistance Project (MAP) which has evolved into the USDA Center for Agribusiness and Rural Development (CARD) Project and other initiatives under the Caucasus Agricultural Development Initiative (CADI).
- To recommend areas and activities that hold the most promise for stimulating agricultural production, agribusiness development, and ultimately an increase in broad-based income generation and employment.
- To identify problem areas in activity design and implementation and to recommend remedial steps.

The evaluation responds to 16 key questions in the general areas of *Implementation*, *Impact* and *Sustainability* of the programs. Based on interviews with program beneficiaries, implementers and business service providers, and a review of results associated with the programs, the following are some of the principal conclusions:

- USG efforts have been very helpful in easing the transition process, in particular by supporting the emergence of new systems and capabilities needed in a market economy. Financial and technical assistance to processors, development of new financial services and access to financing, exposure to new markets and market information, and strengthening of business support systems have all been important.
- Programs have generally achieved their objectives, although except for ASME most lack quantifiable targets and performance measures. USDA is adding a monitoring and evaluation component to its program.
- Agriculture and agribusiness have generally grown, especially in response to domestic market opportunities. Exports have grown modestly, while imports have also continued to increase.

- Enterprises supported by USG programs have often grown very fast, especially in the domestic market, and particularly when financing has been linked with technical assistance. While there have been some successes with exports, the consensus is that most Armenian agribusinesses must make a quantum leap in terms of scale and quality throughout the supply chain.
- Sustained rapid growth in the sector to generate needed jobs and incomes will require significant levels of new investment in opportunity areas where Armenia has some comparative advantage. Greenhouse and aquaculture based opportunities are examples, as are fruit and dairy based niches. Improved infrastructure, especially transport and water management - the focus of the MCC compact - are critical to further investment, as are major improvements in logistics services.
- Larger catalytic agribusinesses, with USG program support, are critical in solving systemic constraints for producers, such as access to markets, know-how and financing. Private and non-governmental associations that cluster small producers and firms, as well as business service providers, have begun to emerge and provide valuable services, but sustainability is likely to be variable.

This report is organized into four sections. Section I, “Introduction”, provides a background of the Armenian agriculture and agribusiness sector, as well as the context under which USG technical assistance programs were formulated and eventually implemented in the country. Section II, “Description and Assessment of US Government Programs”, describes the implementation strategies, project components and results achieved for each of the four activities that are the subject of this assessment. Section III, “Other Donor Activities”, describes the scope and programmatic content of other international donor assistance programs that are actively involved in supporting and advancing Armenia’s agriculture and agribusiness sector. Lastly, Section IV, “Assessing Implementation, Impact and Sustainability, ” provides direct responses to the 16 key questions posed in the Scope of Work for this assignment as they relate to Implementation, Impact and Sustainability of the USG programs assessed. Appendices provide a summary of beneficiary company interviews, and a more in-depth review of agribusiness financing.

## I. INTRODUCTION

Armenian agriculture was transformed, almost overnight during 1991-92, from some 840 centrally managed and highly subsidized state and collective farms (generally one in each village) into some 440,000 decentralized and unsubsidized small holdings owned by former collective farm workers and other rural residents. These include some 100,000 families living in rural towns and villages that were employed in dispersed manufacturing facilities and subsequently had little experience or understanding of farming. The collapse of non-farm industries forced some 440,000 families or as many as 1.8 million people (out of a 1992 population of approximately 3.5 million) into subsistence level farming practices.

Average wages dropped in the early 1990's to \$20-30 per month and today remain between \$40-50 per month in rural areas, although wages in urban areas, particularly in Yerevan, have improved to a much greater extent.

In recent years the contribution of agriculture to the Armenian GDP has ranged from 37 to 39%. To put this in perspective, the second largest contributor to GDP is remittances, which accounts for 33% of GDP. It is also estimated that current employment in agriculture represents 47% of the labor force. Currently there are very few off-farm employment opportunities in Armenia so rural inhabitants depend heavily on their small farms for survival.

While agriculture is of relative economic importance, Armenia is not well positioned for agriculture. Quality and quantity of farmland is not generally a source of comparative economic advantage for Armenia. Much of the country is mountainous and arid with only 46.7% considered arable and much of this land is worn-out and noted for poor production. The primary area of agricultural production is the Ararat Valley where nearly 80% of the arable soils are located. Even in the Ararat Valley, low productivity and high levels of salinity characterize many fields. Armenia is still a large net importer of food, importing almost a third of food consumption. The production of food for human consumption and compound feeds to support its livestock industry does not begin to meet its domestic needs. Further, there are no agricultural chemical manufacturing plants (e.g. fertilizer) located within its borders, nor are high protein supplement feeds produced within the country.

Most farms are too small and/or spread out to be economically viable in their present state. The formula used for distribution of privatized state farms in most regions provided families of 1-3 people with one unit of land, families of 4-6 with two units of land and so on. Depending upon the production potential of the land, the units varied from 0.6 hectares (1.5 acres) of land in the poorer regions to 0.4-0.5 hectares in the more productive Ararat Valley. The majority of the new landowners lacked adequate training in agricultural methods and this condition persists today. The livestock was distributed in a similar manner to families living within collective farm villages. Thus, the commercial viability of many farms is questionable.

Armenia is further constrained as a land-locked country without formal trading access with Turkey on the west and Azerbaijan on the east, because of political constraints, and limited road and rail access to Georgia in the north and Iran in the south.

In this context, the US Government (USG) has invested over \$80 million dollars in agribusiness and agricultural development in Armenia during nearly 12 years of technical assistance. The United States Department of Agriculture (USDA) interventions efforts started in 1992 with the signing of a Memorandum of Understanding between the USDA and Armenia's Ministry of Agriculture. As part of that agreement, a USDA Armenian Project Team headed by Dr. Vivan M.

Jennings, Deputy Administrator of Agriculture, visited Armenia with an “Armenian Project Development Team” to determine the state of agriculture, the agricultural infrastructure, the agricultural institutional base (including extension services), and to address needed agricultural related reforms for a market economy to function within the country. Dr. Jennings and his team focused on the following needs in a report to the US Department of State, US Agency for International Development (USAID), and the USDA:

1. Major macro-economic reforms to free prices, monetary and fiscal policy, the credit and banking system and the legal framework to allow privatization and commercialization of state industries.
2. Agricultural sector reforms to initiate the evolution of a market based agricultural system, including policies regarding agricultural infrastructure and support services, addressing issues of economic literacy, utilization of resources and technology, a system for financing agriculture and the transition to and mix of public/private resource ownership.
3. Working linkages and communications within and between elements of the Armenian agricultural production, processing, and marketing system, including linking privatization with commercialization, a data collection and analysis system to support policy formulation and individual decision makers, and Western linkages with private sector agribusinesses.
4. Reorganization of agricultural research to allow for integration of institutes with extension, adoption of a priority setting process, establishment of financing strategies and an accountability system, and definition of private/public sector responsibilities.
5. An extension system to provide a sound knowledge and information base for farmer decision-making, including support with financial planning and business management skills, and linkages with U.S. farmers and agribusiness.

These recommendations provided the framework for subsequent USG assistance. In 1993, the USDA began to implement the Armenian/American Extension Project (AAEP), which was completed in 1995. USDA initiated the Armenian Marketing Assistance Program (MAP) in 1996. This program and now its successor Center for Agribusiness & Rural Development (CARD) have made up the largest portion of international development funds invested in Armenia’s agriculture sector. The United States Agency for International Development (USAID) Armenia Small to Medium Enterprise Market Development Project (ASME) was launched in 2000 with similar objectives (albeit not exclusively for agribusiness) and has been complemented by the Micro Enterprise Development Initiative (MEDI), another USAID project that targets micro and small enterprises, including the agriculture sector.

This evaluation was commissioned and funded by USAID in order to:

- Inform future programming decisions by identifying the most promising areas for further development as well as interventions that have not been as effective.
- Examine the market impact of USG agriculture sector interventions, including any positive impacts (i.e., increases in efficiency or growth rates) and negative ones (i.e., introduction of market distortions or promotion of non-competitive products).
- Review the portfolio of USG activities in terms of internal “division of labor” and coordination issues, as well as coordination with other donors active and potentially with the Millennium Challenge Account Armenia.
- Analyze the sustainability of interventions and the existence of an effective exit strategy in anticipation of the phasing out of USG assistance in the future.

- Determine the adequacy of the current levels of assistance in relation to the needs and absorptive capacity of the sector, especially in areas on which USG assistance has focused.
- Determine how the activity has promoted innovation and change in the agriculture sector.

The evaluation primarily examines the following activities:

- The USDA Marketing Assistance Project (MAP) that has recently transitioned into the USDA supported but independent Center for Agribusiness and Rural Development (CARD), and related CADI activities.
- The USAID Agriculture SME Market Development Project (ASME), aspects of the USAID Micro Enterprise Development Initiative (MEDI) relevant to agribusiness, and the Farmer-to-Farmer program.

The evaluation has three principal objectives:

- To conduct an assessment of USG assistance to Armenian agriculture and agribusiness in terms of effectiveness, sustainability and market impact.
- To recommend areas and activities that hold the most promise for stimulating agricultural production, agribusiness development, and ultimately an increase in broad-based income generation and employment.
- To identify problem areas in activity design and implementation and to recommend remedial steps.

The evaluation team spent three and one half weeks in Armenia, primarily to interview program/project implementers, donor representatives and project beneficiaries. A follow-up trip was made to conduct additional interviews with agribusinesses and business service providers. Given time and resource constraints, a formal survey of beneficiaries was not conducted. Instead, interviews were conducted with 24 agribusinesses to understand their perception of what services had been useful and effective, what impact they had, and what the implications were for future programming.

## II. DESCRIPTION AND ASSESSMENT OF ACTIVITIES

### A. USDA Funded Programs

#### 1. Overview

USDA technical assistance to Armenia started in 1992, shortly after the country attained its independence from the Former Soviet Union (FSU) and requested technical assistance support from the United States. USDA responded initially by conducting several assessments, which led to the formation of an Armenian Agricultural Extension Service “Agrogitaspiur” in 1992. This first small step led to a continuous stream of USDA supported technical and financial assistance to the agricultural sector that has continued to the present.

USDA financed activities in Armenia are administered by the Caucasus Agribusiness Development Initiative - Armenia & Georgia (CADI) ([www.usda.am](http://www.usda.am)). The Foreign Agricultural Service of the USDA assumed management of the project from USDA's Cooperative State, Research, Education, and Extension Service (CSREES) on April 1, 2005. In FY05, USDA received \$7.66 million in funding for the implementation of CADI through the Freedom Support Act. Funding for FY06 is \$5.7 million. “In both Georgia and Armenia, CADI seeks to:

- Assist farmers and agribusinesses to grow their enterprises, to increase incomes, and create jobs leading to sustainable livelihoods for rural populations.
- Identify quality assurance issues in the supply chain, identify solutions to those issues, and develop technical and financial packages with clients to ensure competitiveness and growth.
- Assist government to build trade capacity and market-based agricultural policy.

It is FAS’s desire to involve the U.S. and international academic communities, other U.S. government agencies, and the private sector in the implementation of the CADI program.”

For discussion and analytical purposes it is useful to separate USDA support provided to Armenia into four programmatic periods:

- 1993 – 1995: Startup Land Grant University supported “Armenian/American Extension Project”
- 1996 – 2000: Introduction of MAP to add a marketing and credit component to the initial field Extension program
- 2000 – 2005: Transformation of MAP into an Armenian needs driven program strategy
- 2005 – present: USDA emphasis on sustainability working with and through CARD, as a local NGO, developing a farm credit system and strengthening Ministry of Agriculture functions (SPS, statistics) and agricultural education.

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<sup>1</sup> Most recent four quarters

<sup>2</sup> Most recent four quarters

## 2. Project Phases

**1993 – 1995:** USDA provided the new Extension Service with six U.S. Extension Agents that worked at village levels to provide support to new Agents hired by the Agrogitaspiur. By the end of 1995 the new Extension Service, which was coordinated by the MOA, had representation in 25 of the then existing 38 regions. Experience during the initial startup phase indicated that technical assistance limited to farm level extension support was insufficient to address the myriad of problems facing the agricultural sector and that impact was not sufficiently visible. The work of the Extension Agents was constrained by other factors such as the lack of markets for farm products and the inability of farmers to purchase many input supplies that were recommended by the Extension Agents. In response, a new strategy was developed for the USDA to 1) support the World Bank and the MOA in formation of a National Extension Service and 2) develop a market-driven, and area specific technical assistance and credit program with an initial focus to implement a high-value export oriented processed fruit and vegetable strategy.

**1996 – 2000:** In 1995, the World Bank, in association with USDA, teamed up to design and fund the Agricultural Reform Support Project (ARSP). Implementation commenced in 1996 with the formation of Marz Agricultural Support Centers (MASC) in each region of Armenia. Modeled largely after the U.S. land grant university system (LGU), a new Extension Department was located in the Armenian Agricultural Academy (AAA) to provide management and technical leadership for the program (This effort is developed in greater detail under the World Bank program discussion).

The initial MAP strategy was designed to provide targeted production, processing and marketing support and credit assistance to a small number of agribusinesses in the Ararat Valley as this was the major commercial horticultural production area during the FSU period. The objective was development of low weight high value export products that could be sold largely to Armenian Diaspora both in Russia and in America (primarily the U.S. but also in Canada). The program was funded through the USDA Cooperative State Research Education and Extension Service (CREES), was able to draw on the array of agricultural and agribusiness expertise from the US LGU system, and was popular with the Armenian Diaspora in the US.

With access to the educational and research expertise at the LGUs, and sufficient funding through CREES, the MAP program was rapidly ramped up during this period, to an average of \$7.5 million per year. It expanded geographically beyond the Ararat Valley to include every region (marz) in Armenia and addressed a wide range of production, processing and marketing issues for grapes and wine, dairy and milk goats, cheese making and others. LGUs associated with the program during this period included Michigan State University, Ohio State University, North Carolina State University, University of Kentucky, University of Georgia, Texas A&M University, University of California at Davis, and Utah State University.

MAP attempted to fill the gap caused by the lack of management skills and capital in rural areas by introducing a comprehensive farm to market technical assistance and loan program built around agribusiness processors or buyers as the lynch pin between farmers and markets. Recognizing that the Armenian banking system could not effectively deliver needed investment capital to the farm production or the agribusiness processing and marketing sectors, MAP introduced a strategic loan program for selected food processors and a micro-credit program for farmers who sold produce to the processors. The micro credit program included formation of Credit Clubs in 1999 with limited membership (15 – 20 persons) that used principles of collective

and mutual guarantees by club members (e.g. each member is responsible for ensuring repayment by all other members). However, the model deviated from most other micro credit programs in that interest rates were considerably lower (10 percent per annum compared with 28 – 39 percent for most micro credit programs operating in Armenia).

MAP also provided expertise, training, and funds to expand local markets for crop and livestock products including milk and cheese, and to reestablish former Russian markets for value added products such as special cheeses and wines, to seek out new Armenian Diaspora markets in the U.S. and Canada for these and other value added products, and to meet the slowly expanding local demand for higher quality fresh and processed and packaged food products. MAP funded observation trips to US, European, and Russian trade shows, facilitated market development, and made participants aware of the importance of improving quality standards. An additional activity was to provide loans, technical and management support to retool the largely collapsed large-scale food processing industry to meet local demand for fresh and processed fruits and vegetables and fresh and processed meat and meat products.

The strategic loan and micro credit programs were designed largely to support agribusiness and farm level operational costs, but some multi-year strategic loans up to three years were made for purchase of capital equipment. To further support the purchase of capital equipment MAP formed, in 1999, the completely independent Agro-Leasing LLC to provide a mechanism for lease-purchase of farm and agribusiness equipment. MAP did not take an equity stake in the company, but provided operating capital and initially a credit default guarantee. The company was also able to take advantage of the USG/GOA bilateral assistance agreement and import equipment from the US free of VAT and other import tariffs.

To build a base for future Armenian program leadership, the technical assistance and research organizations developed during this period were housed within the new AAA Extension Department. In effect, the foundation for a farm and agribusiness extension and research program similar to that operating in the LGUs was established. In addition to the Extension Department, the research component was organized within the AAA as the Foundation for Applied Research and Agribusiness (FARA). LGU short-term and long-term staff provided direct extension and research assistance within this new structure working in close proximity to regional level Extension staff and AAA professors. In 1999, an Agribusiness Teaching Center was organized within the AAA with the first classes taught in September 2000. A 4-H based farm youth development program was introduced within the Extension Service structure in 1997, along with the Armenian Improved Dairy (ARID) Center in 1999.

**2000 – 2005:** By the year 2000 a great deal of effective technical and financial support had been provided to the Armenian agricultural and agribusiness sectors by participating LGUs. MAP had disbursed more than \$5.5 million in direct grants and in loans through the strategic loan programs, micro Credit Clubs, and Agro-Leasing LLC. More than 17,000 farmers and agribusinesses had been recipients of MAP technical expertise, and 28 Credit Clubs had been formed. However, the credit program faced a high default rate, especially for strategic loans, with most of the problems reportedly related to loans made to several large former Soviet era canneries in the Ararat Valley that were unable to make an effective conversion into profitable private sector companies within this framework. Concerns were also raised that the AAA was not contributing financially to support of the Extension and Research programs. There was also some concern that some initiatives were driven by individual interests of the LGU participants, and moreover, technologies introduced through field research and demonstrations were often not economically or practically feasible within the conditions faced by Armenian farms and agribusinesses.

At the same time, the introduction by MAP of functioning private sector value added farm production, processing and marketing chains for wines, cheeses, selected processed vegetable products and fruit juice concentrates to both domestic and local markets were recognized as major first-time accomplishments in Armenia.

With the above accomplishments and concerns in mind, program management was revamped to better adapt the overall strategy to prevailing needs of the Armenian beneficiaries, and efforts were initiated to reduce the level of non-performing loans.

By 2000, the agricultural sector had begun to recover from the financial and administrative disorientations and shocks caused by the FSU breakup and like many other CIS countries in the region had begun a pattern of more stable and increased economic expansion. Capital markets were beginning to operate more effectively and agribusiness managers had gained considerable experience in operating within a market system. This next phase also saw a greater responsibility for MAP program planning and implementation transferred to the Armenian professional staff. The Agricultural Teaching Center (ATC) grew from a certificate granting adjunct of the AAA into a recognized academic department with the first BS degrees granted in 2003. A Career Counseling Center was started in 2004 with funding from USDA, Eurasia Foundation, and the Cafesjian Foundation and an Agribusiness Research Group was created in 2004 that is successfully competing for competitive research grants. The ATC had graduated 87 students by spring 2005 and had the capacity to enroll 30 new students each year. One third of the students are on a state scholarship and 14 students are from the Republic of Georgia.

The link between the AAA Extension Department and the MASCs was broken in 2002 when the GOA transferred the AAA to the Ministry of Science and Education (MSE). MAP continued to fund the AAA Extension Department even though the administrative link with the regional MASCs had been severed. It also continued to provide LGU technical support in coordination with the MASC structures through 2003, when all USDA ties with the National Extension Service were discontinued.

The ARID Center established in 1999 as a goat breeding improvement center in the Vayots Dzor Region introduced the MAP value chain production through marketing model to develop a goat cheese industry. (The goat breeding program had started in 1998.) Initially AI was introduced for all farmers but staff analysis indicated that it was not a cost effective program since the cost of importing semen was higher than the increased returns from artificially sired offspring. To remedy this situation an AI program was developed to build up a high quality supply of purebred bucks that are provided to farmers for breeding purposes. Offspring from this program on average have more than doubled milk yields over the local breed. This value chain now includes about 300 goat farmers, with three organized Credit Clubs, six LLC cheese processors and six LLC milk collection centers. Making use of LGU staff and FtoF volunteers, seven new goat cheese varieties have been introduced with annual production reaching 35 MT per year with 85% exported to Russian and U.S. markets. Seven youth clubs with about 80 members are additionally supported under this program.

The Armenian Village Well Program was launched in 2000 with humanitarian assistance funding from the U.S. Department of Defense. Three types of wells have been supported: new well construction (28), rehabilitation of existing wells (58), and construction or refurbishing of well pipelines (38). This program has supplied access to drinking water and irrigation water to some 25,000 families in 10 regions. The Small Farm Water Management Center was formed within the AAA structure in 2002 and operates under a Cooperative Agreement with the International

Irrigation Research Center at Utah State University. It manages an on-farm demonstration and education program providing viable farm level irrigation and water management technologies primarily to horticultural producers engaged in production of fruits and vegetables for juices, wine, and other processed products. More than 30 demonstration projects were completed.

From 1995 to 2005, MAP worked with more than 35 cow milk processors in six regions – Lori, Gegharkunik, Syunik, Aragatsotn, and Tavush. More than 5,500 farmers were provided with technical assistance and five Credit Clubs were formed. Fourteen milk marketing associations were formed and 30 milk cooling tanks were provided through financial leasing and cost sharing grants. By 2003, dairy cooperatives and milk processors cooperating with MAP paid more than \$2,450,000 to village farmers for their milk. Fifteen new cheese varieties had been introduced, again with support from FtoF volunteers, including Edam, Gouda, baby Swiss, Tom, Blue Smoked String, mozzarella, etc.

An animal slaughter facility development program was added in 2004 to initiate a move away from unhygienic backyard slaughtering to commercial slaughtering capable of meeting western meat safety and hygiene standards. It operates in Lori, Gegharkunik, Aragatsotn, Tavush, and Kotayk regions. MAP collaborated with the GOA in developing enabling legislation to support development of formal markets for meat processed in these slaughterhouses to combat competition from meat butchered in unsanitary backyard facilities. At the end of the MAP Program in March 2005, five new slaughter facilities had been completed under the program. Each is operational, mostly on a seasonal basis. They are slaughtering from 3 to 15 animals per day. Construction of four additional facilities was still in process. The new slaughter facilities do not have a cost advantage over the traditional “backyard” slaughter operations, which operate outside the international hygiene and safety standards, but are expected to have a long term advantage as the meat industry develops and greater hygiene is required at the slaughtering level. These new plants can also meet Halal and Kosher standards and are able to expand into specialty export meat products.

The winery development program, begun in 1996, was further expanded during this period with a strong presence in the Areni and Halchtanouk wine growing areas in the Vyots Dzor and Ararat Valleys. By the end of the period, some 11 wineries and 600 wine growers had been assisted within the MAP farmer to market value chain model and six Credit Clubs were organized. A drip irrigation system had been established on a demonstration basis in the Vayots Dzor region. Using a combination of grants and strategic loans, leasing and modern chemical analysis tools, overseas training and modern wine production, quality, and sanitation approaches, MAP supported development of small “boutique” wineries. With MAP marketing support, including wine tasting events, these wines are being successfully marketed primarily in Russia, but inroads are also being made in the U.S. Diaspora markets.

MAP also worked with six fruit and vegetable processors in five regions: Siunyk, Tavush, Armavir, Ararat, and Kotayk. Six fruit and vegetable Credit Clubs were established with 100 members.

A quality assessment “Quality First Initiative” component was added for all MAP processing sector technical and financial assistance clients in October 2000 to introduce and manage quality control systems through HACCP, ISO, GMP, and SSOP. Within this program, technical assistance and financial support is provided only to companies that comply with minimum quality and sanitation standards. Sanitation Improvement Plans were developed for more than 60 agribusinesses and educational programs for food safety and quality assurance, sanitation input supplies were provided, as were upgrades for local company laboratories.

Product specific international marketing assistance was provided to identify export market niches by undertaking market research for companies too small to support this effort themselves. Clients were also financially supported to participate in international trade shows, especially in Russia to support the marketing effort for wines, cheeses, and processed fruit and vegetable products. In-store tasting events were also held to promote client products in domestic supermarkets.

The 4-H youth program expanded during this period to more than 150 clubs with some 2000 members in all regions. They generally were operated in association with milk and cheese processors, and as noted above through the ARID Research Center. Originally established with a physical presence within the AAA Extension Department, the program was completely funded and implemented by MAP specialists who prepared program materials and trained leaders in the MASCs and in village schools where clubs were organized.

The new MAP Director appointed in 2003 continued efforts started in 2001 to reduce non-performing strategic loans and repayment of the outstanding Agro Leasing LCC credits that continued to be problematic. Working with the National Assembly, MAP secured enactment of Credit Club legislation in 2002 that required each Credit Club to register with the GOA as a financial organization. As a legal credit organization, Credit Clubs under this legislation are subject to a common set of administrative and management rules and also subject to audit by the Ministry of Finance. In effect, each Credit Club became a self-contained micro credit financing organization.

By March 2005, MAP had provided some \$1,215,943 in lending capital to 51 Credit Clubs that included some 816 farmers. These clubs had built up an internal equity base of \$296,536 against a MAP capital base of \$923,407. Under the Credit Club program criteria followed by MAP, a Credit Club can receive up to 20 million DRM (\$44,000) in MAP investment capital. The non-performing loan rate was about 4.8 percent, which compares favorably with most Armenian micro credit programs.

MAP engaged 335 LGU specialists between 1995 and March 2005, and had about 120 Armenian staff positions by 2005. Technical assistance was provided to more than 60 agribusinesses that also received more than \$11 million in cost sharing grants, strategic loans, and financial leasing support over the period. About 30 percent of strategic loan value was considered non-performing at the end of the MAP program.

**2005 – Present:** Under the current structure, the USDA focus in Armenia changed from program implementation to management oversight and sustainability, and the coordinating office changed from CREES to the Foreign Agricultural Service (FAS). The Center for Agribusiness and Rural Development (CARD), locally registered as an Armenian NGO, obtained funding from and management of some of the previous MAP programs, while others were either phased out or funded directly by USDA.

CARD now has a payroll of 35 staff members and has retained the value-added market chain development strategy that was implemented under MAP. Integral to this strategy, from the perspective of the CARD leadership, is a lending component so that a one-stop credit supported technical assistance program can be provided to all participants along the farm to market value chain. Training is also an important CARD service.

The MAP created Agro Leasing LLC no longer operates under the favored position held under MAP; it does not receive CARD credit guarantee support and now competes in the broader

leasing market for its business. However, as of May 2006 some \$950,000 is still outstanding. CARD continues to act as the collection unit and expects that all of it will be repaid within 20 months.

CARD retains management of the MAP initiated strategic loan and Credit Club programs and as of May 2006 was servicing 21 active strategic loans with a value of \$1,366,428. Included in the 21 loans are nine new loans, with a total value of \$210,000, issued since creation of the new NGO. There are no defaults on any of the new loans. Out of the 21 active continuing loans, only one is non-performing. A total of 51 Credit Clubs are being serviced which have 969 members and a loan capitalization of \$1,656,267, out of which CARD investment is \$1,180,200 with the Credit Clubs maintaining a built up capital base of \$476,067.

In addition to the CARD management of loan and credit programs, USDA has been providing experts from the U.S. Farm Credit Administration to work with the Ministry of Agriculture, the Ministry of Finance and the Central Bank in Armenia for the past year. These experts are working on development of a farm credit system based on the American model of cooperative farm credit.

CARD also retains management of the youth program, the ARID Center purebred goat breeding activities, the Small Farm Water Management Program, in association with Utah State University, and the animal slaughter facility development program. A review of the MAP 2005 Strategic Work Plan indicates that a high priority is placed on targeting the supervised credit based value added agribusiness development strategy to women farmers, to maintaining and strengthening its 4-H youth program, and to providing technical assistance support to dairy, goat, and sheep farmers. Agribusiness marketing services include new product and new market development and continued introduction of HACCP and ISO food quality and safety standards to food processors. CARD is also cooperating with the Armenian European Policy and Legal Centre, an EU/TACIS funded policy development and analysis project to prepare wine industry standards needed to export Armenian wine into the EU market.

The work plan indicates that CARD expects to replace 20 percent of the USDA funding each year and become self sufficient within five years. It has formed CARD AgroServices (CJSC), a for-profit, private sector spin off to carry out fee for service activities to become self-sustaining during this period. So far, CARD AgroServices has gained exclusive rights to market semen for World Wide Sires, and farm supplies through Nasco. It also markets Christian Hansen cheese cultures and works with De Laval to develop the dairy industry in Armenia.

The MAP initiated ATC is now funded directly by USDA under a Cooperative Agreement with Texas A&M University. ATC, which is still a department under the Armenian State Agricultural University (ASAU - the renamed AAA) is funded through the Armenian Foundation International Center for Research and Education (ICARE). Through ICARE it is also securing additional funds from other sources including USAID, Soros Foundation, and Rockefeller Foundation. The Eurasia Foundation provided initial grant funding to the Career Center but programmatic priorities have changed and it does not expect to provide further funds to this unit. The ATC Agribusiness Research Group recently won a competitive grant to work with the Swiss College of Agriculture to carry out research on sustainability of agricultural operations at the farm level. It successfully won other smaller research grants as well. The ATC plans to introduce a Masters degree Program within two years. USDA is also assisting ASAU to adopt a credit system based on the Bologna Declaration. Once successfully adopted, Armenian credits and degrees would be compatible with international requirements.

Neither the ASAU Extension Department nor the FARA has received line item support from either USDA or CARD since April 2005. The Extension Department now operates with eight technical and administrative staff, while FARA has no permanent paid staff. CARD has developed an Extension Service field demonstration grant program that is funded incrementally through competitive proposals. Fourteen such grants were funded between April 1, 2005 and March 31, 2006. CARD also offers them contracts to complete specific projects. A similar grant program is implemented for FARA with three grants to be implemented.

Capacity building and sustainability are the underlying themes of current USDA programming. In addition to the initiatives previously discussed, USDA is currently working towards sustainable development in the agriculture sector through the following: 1) Working with Ministry counterparts to strengthen the Sanitary and Phytosanitary Standards (SPS) regulatory systems in animal health and for production and processing of meat, poultry and dairy products by facilitating the establishment of an integrated food safety system that helps Armenia meet international safety and quality standards; 2) Providing experts from the USDA's National Agricultural Statistics Service to work with the Armenian Statistical Service and the Ministry of Agriculture to develop systems for organization (collection, analysis and dissemination) of reliable statistics in the agriculture sector; 3) Helping the Ministry of Agriculture start a Market Information System; and 4) Developing a monitoring and evaluation system to assist in tracking performance and impact of USDA funded initiatives.

### 3. Program Results

Reviewing and assessing program results is complicated by the fact that neither MAP nor CARD has defined measurable indicators or benchmarks for monitoring performance. The results reported above are those that appear to be most directly relevant to the various program components. However, these do not always tie back to the objectives set out for the program. (It should be noted that USDA is currently in the process of designing a Monitoring and Evaluation system for all USDA funded activities.) For example, the three objectives set up for CADI:

- Assist farmers and agribusinesses to increase incomes and jobs—Neither MAP or CARD have had systems in place to track whether and to what extent incomes and jobs have been affected by their programmatic initiatives. Interviews conducted as part of this assessment provide some indication of impact. However, these interviews primarily serve as qualitative measures of the perceived value and impact of different services and do not provide sufficient data points for extrapolating overall impact.
- Address supply chain constraints and enhance competitiveness—During its second phase (2000-2005), one of the principal features of MAP (and now CARD) programs has been to focus on specific value and supply chains, defined by type of product and/or market. As reviewed above, this approach appears to have had significant results for a number of value chains including:
  - Goat production and milk products, involving 300 farmers, three credit clubs, six cheese processors and six milk collection centers, development of seven new cheese varieties, and annual production reaching 35 MT per year with 85% exported.
  - Cow milk and dairy products, with assistance to 35 milk processors in six regions, 5,500 farmers provided with assistance, five credit clubs formed, and 14 marketing associations formed, with 15 new cheese varieties introduced.

- Hygienic animal slaughter facilities introduced (5 completed), although with throughput of 3-15 animals per day.
- Winery program that assisted 11 wineries and 600 grape growers, involved in six credit clubs, and introducing new technologies and niche marketing throughout the chain to allow for the beginning of export marketing initiatives.
- Fruit and vegetables, involving 6 processors in five regions and six credit clubs with 100 members, together with export marketing support, although this program was somewhat complicated by loans to former state processors that did not always work out as well as expected.

In addition, the MAP program has systematically focused on cross-cutting supply chain and “systemic” constraints, most notably access to credit, extension services and technology, quality management techniques (e.g. Quality First Initiative), and marketing. Result indicators, related to these activities have been outlined above to the extent that data is available.

- Assist government to build trade capacity and market based agricultural policy—This does not seem to have been a priority for MAP or CARD, and there are no specific reports that focus on this type of initiative. However, some policy and trade capacity building results emerged from other program activities. For example: the inclusion of credit clubs as regulated financial institutions, extension and agricultural research policies, and the accreditation of the Agricultural Teaching Center (whose graduates probably contribute to policy making). However, it must be emphasized that policy dialogue with the GOA has been managed directly by the USDA units and officials responsible for the overall program, most recently FAS. This assessment did not go into the substantive government to government work carried out through these official missions and dialogue mechanisms.

## **B. USAID Agriculture SME Market Development Project (ASME)**

### **1. Overview**

The USAID financed Armenia Small to Medium Enterprise Market Development Project (ASME) was launched in August of 2000 to assist in the development of small and medium enterprises desiring to either export Armenian products or expand local sales (see [www.armeniaag.org](http://www.armeniaag.org)). The stated goal of ASME is “To increase employment in Armenia through the development of profitable and dynamic private enterprises.” It is funded by USAID and managed by Development Alternatives, Inc. (DAI). The project was scheduled to end in September 2006 although it was recently extended through December 2007, with the inclusion of a communications program related to avian flu (not discussed in this report). Including the latest extension, the total budget is \$18.5 million.

ASME provides direct assistance to private small and medium scale Armenian companies with the potential to enter or expand their participation in export markets (primary focus) or increase the sale of locally produced products that might otherwise be imported. Assisted companies include those in fruit, aquaculture, dairy, poultry, meat processing, as well as in leather, textile, apparel, and other non-farm rural enterprises. Given the nature of the Armenian economy, most of the assisted businesses have been agribusiness related (accounting for an estimated 90% of the results outlined below). The project was precluded from directly supporting agricultural production.

SME support projects around the developing world typically provide some combination of technical assistance, financing, and improvement of the business environment, either directly or through the strengthening of local counterparts. ASME provides all of these, but with primary emphasis on TA, followed by financing.

International practice for technical assistance involves one or both of two methods: 1) direct assistance to SME extended by the project; and/or 2) through the strengthening of Business Service Providers (BSPs) including consulting firms, SME support centers, or even financial institutions. In the case of ASME, primary emphasis has been given to providing direct support to SME's with ASME's staff and visiting experts providing SME clients with services in strategic planning, market development, financial planning, production planning, trade show participation, quality certification, food safety/traceability, capital development, training, management, and association development. It is estimated that 80% of technical assistance was provided directly by project staff, with the balance through BSPs contracted by the project. However, at the same time, the project seeks to strengthen the capability of BSPs with training as well as subcontracts and/or indirectly through grants provided to agribusinesses (who in turn hire a BSP).

## 2. Project Components

ASME utilizes five service components in the implementation of the program:

- *Service Component #1: Market and Demand Analysis* – The purpose of this component is to improve the understanding of international and domestic market opportunities and barriers, facilitate access to market opportunities by disseminating marketing information, and link profitable export and domestic markets for SME products to Armenian producers and their downstream wholesalers, distributors and traders. The project has prepared 34 market demand studies (compared to a project target of 25), and 13 supply/service studies and cross-sector efforts (target of 8). The findings are disseminated through workshops organized at the conclusion of each study and are made available through the project web site.
- *Service Component #2: SME Development and Expansion* – This component provides firm level technical assistance to help identify and exploit market opportunities, especially export markets. The project signs a Memoranda of Understanding with each firm, indicating the responsibilities of each side, which include the commitment of the Armenian SME to provide quarterly data for performance monitoring and impact data. The TA includes workshops (often related to the market studies in Service Component #1) for multiple firms, support for participating in specialized trade fairs, and firm-specific TA offered by industry or functional experts. Cost share grants are offered (under Component #3) for market/product development (e.g. participation in a trade fair or development of marketing materials) and operational support (e.g. strategic planning, quality management and food safety programs). TA under operational grants is provided directly or through BSPs. The project reports that it has helped client firms attend 66 trade shows and market tours, compared to a project target of 40. In addition, it helped facilitate 3,381 “new buyer arrangements” for client firms, compared to a project target of 85.

- *Service Component #3: Linkages to Finance* – This component is aimed at helping enterprises develop long term linkages with commercial banks, and especially to help facilitate access to medium and longer term financing which is perceived as the hardest for firms to obtain. In addition to the market/product development and operational cost share grants there are two specific mechanisms: 1) non-leasing capital finance support cost share grants to leverage other financing required for capital expansion requirements; and 2) leasing capital finance support cost share grants related to the establishment of the ACBA Leasing Company and support companies seeking leases through this mechanism. It has also facilitated the start-up of a branch of a Russian international factoring company in Yerevan that is supporting ASME client companies respond to new marketing opportunities.
- *Service Component #4: Skills Development and Information Dissemination* – This component is aimed at strengthening the capacity of BSPs. This includes both consulting firms and regional business centers that the project helped establish to serve more rural areas. For the latter, the challenge is to become sustainable, for-profit business service providers. This component has recently been receiving less attention at the request of USAID, since the MEDI program emphasizes this type of support.
- *Service Component #5: Building Associations and Policy Advocacy* -- The objective of this component is to assist the SME community to create a supportive business environment that allows private enterprises to operate in a fair and transparent manner. The principal emphasis has been on support for business associations that offer services to their members, and provide a unified voice on relevant policy issues.

### 3. Program Results

ASME has developed a performance monitoring system with metrics and benchmarks defined for each of the service components. A quarterly report is prepared that indicates results during the quarter and cumulative results. As occurs with most multi-year projects, the relative importance given to different activities by USAID and the project team tends to evolve, partially based on the emerging results, and partially on changing priorities. Regardless, ASME has achieved or surpassed almost all the targets established for the project. These results are described below.

Overall 141 firms have received direct assistance (excludes additional firms that may have participated in workshops or utilized the market studies). At the time of the evaluation, progress to date on the principal program results, relative to benchmarks and targets agreed to with USAID, were reported by DAI as follows:

**Table II.1 ASME Direct Impact on Employment and Sales/Exports**

<b>Benchmark</b>	<b>Life of Project Target</b>	<b>Results to 9/30/05</b>	<b>Actual through 6/30/06</b>
New annual domestic sales	\$10 million	\$6,550,000	\$11,135,000 <sup>3</sup>
New annual export sales	\$15 million	\$3,920,000	\$4,574,000 <sup>4</sup>
FTE jobs created	6,500	4,831	6,751

Source: ASME April 1-June 30, 2006 Quarterly Report to USAID

The project does not disaggregate results by sector, but it is estimated that agribusiness represents about 90% of the results. Given 141 companies assisted by the project through 6/30/2006, the average jobs created, per enterprise, is about 48. The equivalent figure for total additional annual sales per firm is about \$111,000. The project reports that five companies have increased sales by more than \$1 million per year, eleven by more than \$500,000 and 23 by more than \$100,000. While there is no precise baseline data, the project team estimates that most firms have at least doubled their sales since they have begun receiving assistance.

Sales and employment figures should be interpreted with some caution since they are based on reports submitted by client firms. Given the tendency to under-report income, it is possible that sales are understated.

Perhaps the most disappointing result, relative to project targets and objectives, has been export sales--about one third of what had been hoped for the project. There are several factors that explain this figure, at least in part:

- High levels of food imports indicate significant domestic market opportunities that are generally easier to access than export markets. Interviews with client firms confirm that many of them found immediate opportunities for growth in domestic markets.
- Exports take longer to develop since it is necessary to find buyers, adapt to certification, quality and packing requirements, and in some cases make significant investments to meet customer requirements. Thus, it is not unusual for an SME support project to show higher results well after the technical assistance is completed.

<sup>3</sup> Most recent four quarters

<sup>4</sup> Most recent four quarters

- The Armenian currency has appreciated, making exporting that much more difficult.

ASME has been a catalyst in helping Armenian agribusinesses develop new markets and or recover and reposition themselves in traditional markets. For example, it provided support that has permitted Armenian aquaculture to develop and regain the position it had in Soviet times as a major provider of trout to CIS markets as well as to diversify into new products such as sturgeon and trout caviar. Similarly, ASME has also been active in developing non-agriculture employment in rural areas in fields such as textiles, fashion, and clothing manufacturing.

ASME has provided various types of financial support, as presented in Table II.2 below. The important result figure is the number of firms receiving these cost-sharing grants and the resources leveraged in terms of resources from the client firm and/or other financial institutions.

**Table II.2 ASME Linkages to Finance Benchmarks**

<b>Benchmark</b>	<b>Life of Project Target</b>	<b>Actual Through September 30, 2005</b>	<b>Actual Through June 30, 2006</b>
<b><i>Market/Product Development Cost-Share Grants – Study Tours, Trade Shows, Product Development (Component # 2)</i></b>			
Number of Grants	100	185	258
Value of Grants	\$300,000	\$375,525	\$480,068
Number of Companies Assisted	25	87	118
Leveraged Funds	\$300,000	\$674,314	\$813,483
<b><i>Operational Support Cost-Share Grants–Business Plans, Quality Mgt. Systems, Technical Support</i></b>			
Number of Grants	40	81	100
Value of Grants	\$400,000	\$150,380	\$192,572
Number of Companies Assisted	20	48	57
Leveraged Funds	\$400,000	\$89,173	\$188,934
<b><i>Capital Finance Support Cost-Share Grants – Commercial Loans, FDI, Supplier Credit, Other</i></b>			
Number of Grants.	25	38	44
Value of Grants	\$1,000,000	\$895,151	\$906,862
Leveraged Funds (excluding leases)	\$3,000,000	\$3,242,655	\$3,273,072
<b><i>Capital Finance Support Cost-Share Grants – Leasing</i></b>			
Number of leveraged leases	NA	NA	230
Leveraged Leases (Value)	NA	\$3,200,000	\$5,587,815
Leasing Company Capital and Operational Support	\$1,200,000	\$1,200,000	1,200,000
Leveraged Capital (committed)	\$3,000,000	\$3,000,000	\$3,000,000

Source: ASME April 1-June 30, 2006 Quarterly Report to USAID

Total grants to firms add up to \$1.58 million with an additional \$1.2 million to capitalize the leasing company. This leveraged a total of \$4.28 million or \$2.7 for each USAID dollar in grants

(excluding the capital for the leasing company). This excludes the direct technical assistance provided by project staff (without co-financing) and project overhead. The operational grants have been very small (averaging less than \$2,000, partly reflecting the availability of direct TA). The investment in the leasing company appears to be paying off with a rapidly growing portfolio of leases.

Results related to the strengthening of BSPs are difficult to measure. Table II.3 summarizes the results monitored and reported by the project (e.g. reflecting performance targets). These primarily report on the level of support provided.

**Table II.3 ASME Skills Development & Information Dissemination Benchmarks**

<b>Benchmark</b>	<b>Life of Project Target</b>	<b>Actual through 9/30/ 2005</b>	<b>Actual through 6/30/06</b>
1. BSPs with signed Capacity Building Agreements	30	32	33
2. BSP capacity building activities implemented	60	66	82
3. SME seminars/training workshops completed	51	74	108
4. Seminars/training workshops focused on woman-owned SME's	11	11	16
5. SME's receiving training services	400	648	1,401
6. Performance contracts awarded to BSPs	41	33	45

Source: ASME April 1-June 30, 2006 Quarterly Report to USAID

ASME staff suggest that the capabilities of BSPs are improving, but are still modest, especially in the areas of strategic planning and marketing assistance. This is why the project delivers much of its strategic planning and marketing TA directly, rather than through BSPs.

Of the regional business centers, at least one, the Goris Business Support Center, appears to have become self-sustaining and provides a number of services to the businesses of Goris and the surrounding area in the Syunik Marz. The Goris center provides training and services in marketing, management, creating business plans, micro-planning, computers, human resources, time management, preparing loan applications, advertising, internet services and email. Much of the training is done on contract for ASME and other donor agencies, while services for firms are performed on a fee basis, but probably insufficient on their own. In addition, the Goris Center produces an annual agriculture marketing trade show, the "Syunik Prodexpo" and has initiated a tourist service program, as well as assists clients in securing the services of technical support often from other USAID and USDA sponsored activities such as MAP/CARD and Farmer-to-Farmer. Other donor agencies that the Goris Business Support Center has worked with include the Peace Corps, SEF International, MEDI, and SME DNS. The key factor in the success of this Center appears to be the entrepreneurial drive of its director. Without this entrepreneurial factor, it does not seem that the success can be easily replicated in other centers.

The final type of results reported by ASME relate to Component # 5 for association strengthening and policy advocacy. Project results indicators focus on numbers of policy issue generation workshops, working groups established, issues identified and addressed and numbers of activities

to strengthen the policy advocacy capabilities of SME support organizations. The project has generally achieved or surpassed its quantitative targets. However, its reports do not indicate what impact these have on SMEs in terms of removing constraints, reducing transaction costs or improving the delivery of services. Its most recent policy advocacy initiative involves supporting the Ministry of Agriculture (Veterinary Inspection Service) to monitor commercial and backyard poultry flocks for a possible outbreak of avian influenza.

In this area, ASME has given particular emphasis to developing agricultural associations, both to provide services to SMEs and advocate policies. The case of beekeepers is one of the success stories. ASME recruited an internationally recognized expert beekeeper to assist Armenian beekeepers in exporting their honey. A particular obstacle to accumulating sufficient quantities and quality to justify an export effort was the reluctance of the beekeepers to form associations.

The solution to the problem was to use a soft approach toward organizing the reluctant beekeepers. The first step was to organize regional training sessions on health, production and quality and to invite the beekeepers in each region to attend. Incorporated into those training sessions were examples of the benefits of collaborative efforts. The result was that eventually 19 separate beekeeping associations were formed along with marked increases in quality, domestic market price, bee health, and exports. More recently an Armenian national federation of the 19 associations was formed.

Specific marketing successes have included the establishment of an export contract by the beekeepers association Vardenis Beekeepers Union, located in the Lake Sevan area with a firm in Switzerland. A second success has been the packaging and distribution of comb honey, food service individual service sized jars, and additional retail jars of honey that have replaced import products on the shelves of many markets in Yerevan and other Armenian cities. Further, the associations have matured to the point where they are becoming self sufficient, charging dues, collectively marketing their production, and providing their own training. Two of the associations, Vardenis and MAG Honey, with ASME's assistance have now initiated queen bee programs and are marketing the queens to other association members throughout the country. Finally the beekeepers associations have developed uniform quality standards and monitor these standards by periodic sampling and testing. The latter is conducted by Exlab of the Armenian Drug and Medical Technology Agency, which is an agency within the Armenian Ministry of Health.

### **C. USAID Micro Enterprise Development Initiative (MEDI)**

The USAID funded MEDI Project, started in August 2004, is implemented by Chemonics International and scheduled for completion in July 2006. The Project goal is to improve the enabling environment for micro financing organizations in Armenia, most of which are organized as local NGOs obtaining funding and management support from foreign based donor organizations. As such, this program is only indirectly involved in agriculture and agribusiness.

With the objective of bringing about an improved competitive environment, the Armenian Central Bank has required, beginning March 1, 2006, that all MFIs operating in Armenia register under the existing banking legislation and thereby become subject to existing banking regulations, including regular audits administered by the Bank. Bringing the MFIs within the national banking laws is expected to improve the competitive position of this portion of the credit market by bringing them into the formal bank oriented credit sector (including the ability to capture deposits and savings). To support this objective MEDI has carried out due diligence

assessments and prepared business plans for several MFIs including FINCA, Horizon, Kamurj, Aregak, and SEF.

For various reasons, mostly related to issues internal to the organization, MEDI did not develop intensive working relations with FINCA, Horizon, and Kamurj. However, intensive follow-up support including training to improve corporate governance mechanisms has been provided to Aregak and SEF. Aregak, which specializes in lending to women entrepreneurs was formed in association with UMCOR and receives most of its capitalization in the form of grants from USAID and USDA. SEF receives funding and other support from World Vision. MEDI has not worked with the ACBA or ANIV, both of whom are very active in agriculture and agribusiness lending as the former receives continuous support from the EU under the TACIS Program, and the latter continues to receive support from IFAD, which is its parent entity and primary source of loan funds.

MEDI also supported Anelik and Converse Banks in developing asset based lending products, but this has reportedly been slower than expected.

MEDI set up and supervises credit facilitation offices in the three northern regions of Shirak, Lori, and Tavush that are located respectively in Gyumri, Vanadzor, and Ijevan cities. These offices are charged with assisting local entrepreneurs and buyers with administrative and technical support to complete loan application procedures that meet bank lending requirements. Each is funded directly by the project and charged with the objective of generating sales growth of \$1 million over 15 months by the credit facilitation officer. Since the target area covered by these credit development offices is largely rural, they provide assistance to many applicants for agricultural loans. Reportedly, most of these agricultural and agribusiness loans in the area are made by the ACBA.

Project results do not disaggregate activities and impact on different sectors, and agriculture and agribusiness in particular. Observations on the aggregate impact on the credit and financial markets of all USG and donor programs can be found in Appendix II of this report.

#### **D. Farmer to Farmer and VISTAA Programs**

The Farmer to Farmer (FtF) program is funded by USAID Washington EGAT Bureau and has been operating in Armenia since 1992. Managed by a consortium including ACDI/VOCA, Land O'Lakes, and Winrock International, the current contract expires in September 2007. Six Armenian staff, including the director, administers the program. The FtF cooperates with a wide range of donor projects including CARD and ASME, but also provides volunteers for European and American NGOs, Armenian private sector businesses, EU TACIS, United Methodist Committee on Relief (UMCOR) and the World Bank supported National Rural Advisory Program.

In recent years FtF has provided an average of 20 volunteers per year. Originally FtF depended heavily on MAP to provide technical support opportunities, but by 2005 volunteers placed as a result of CARD requests contributed only about 30 percent of total volunteers. Most requests came from private companies including aquaculture and agribusiness related assignments generated as a result of work carried out in this area by the ASME Project. The FtF program has over the years, provided technical assistance to meet very specific business and technical needs as specified by the client firm or organization.

The Volunteers in Service to Armenian Agriculture (VISTAA) is an Armenian NGO consulting company that was formed by VOCA in 1996 to supplement the FtF program. It was the first Armenian private consulting company focused on agribusiness and is now self-sustaining. VISTAA currently has four full time staff, a roster of 170 consultants, and successfully completed 30 consultancies in 2005. It has an ongoing grant from the World Bank to prepare a water management plan for 100 villages in the Gegharkunik and Tavush regions, identified as among the poorest in 2001. They recently provided training for the Aregak micro credit program and for several small business service centers that also receive technical support from ASME. Community based technical skill training in crop and livestock improvement have been undertaken in almost all regions and other training includes livestock health and pasture improvement, introducing low cost renewable energy systems and orchard management and providing direct business support services to individual clients.

### **III. OTHER DONOR ACTIVITIES**

#### **A. Millennium Challenge Corporation**

On March 27, 2006 the United States Millennium Challenge Corporation (MCC) signed a five-year, \$235.65 million Compact with the Government of Armenia. This program is just underway, and has one stated goal: to reduce rural poverty through a sustainable increase in the economic performance of the agricultural sector. This will be accomplished through a five-year program of strategic investments in rural roads, irrigation infrastructure as well as technical and financial assistance to improve the supply of water and to support farmers and agribusinesses. The Program hopes to directly impact approximately 750,000 people, or 75% of the rural population, and is expected to reduce the rural poverty rate as it boosts annual incomes.

The specific components are as follows:

- A \$67 million project to rehabilitate up to 943 kilometers of rural roads, more than a third of Armenia's proposed "Lifeline" road network. When complete, the Lifeline road network will ensure that every rural community has road access to markets, services, and the main road network. Under the Compact, the Government of Armenia will be required to commit additional resources for maintenance of the road network. The Republic of Georgia has also executed a Millennium Challenge Account (MCA) compact, a part of which is targeted at improving the main highway from Tbilisi to the Armenian border. This will also aid Armenia who is a primary trading partner with Georgia.
- A \$146 million program to increase the productivity of approximately 250,000 farm households (34% of which are headed by women) through improved water supply, higher yields, higher-value crops, and a more competitive agricultural sector. This project consists of two activities: An infrastructure activity that aims to increase the amount of land under irrigation by 40% and will improve efficiency by converting from pump to gravity-fed irrigation, reducing water losses and improving drainage; and the \$33 million Water-to-Market component. "The water-to-market activity will build the management capacities of the local and national water supply entities and support the transition to higher value agriculture systems of some 60,000 farmers by providing technical and rural credit assistance. This will insure the sustainable management of the improved irrigation infrastructure and enable the emergence of profitable farming operations." This component will be implemented through a consulting contract with a private firm currently being tendered.

#### **B. The Peace Corps**

The Peace Corps supports some 50 volunteers in Armenia. It develops and implements its programs separately from USDA and USAID development activities. Most volunteers are located in villages and develop their own programs using a Peace Corps supplied mini grant of \$5,000. A further requirement is that village residents should be closely involved with project management, but control of funds remains the responsibility of the Peace Corps volunteer. Most projects are of an instructional or teaching nature with formation and operation of English teaching skills as one of the most popular.

Under current policy, Peace Corps does not place volunteers within a donor program structure. However, volunteers are encouraged to informally support such efforts if they are related to the

work undertaken by the volunteer. The leadership of both the ASME and the CARD projects reportedly network closely with Peace Corps leadership in Yerevan to identify areas where volunteers may effectively provide synergies with their project activities. With respect to ASME, such opportunities generally are in the area of providing support to the Agribusiness Service Centers. With respect to CARD they are in the area of providing Youth Club support.

### **C. World Bank**

The World Bank, in association with the USDA, jointly developed and funded the National Extension Service in 1995 under a World Bank umbrella Agricultural Reform Support Project (ARSP), which continued through June 2005. Field implementation started in 1996 with the opening of a Marz Agricultural Support Center (MASC) in each of the 11 regions. Modeled after the U.S. LGU teaching/extension/research model, a new Extension Department was organized within the AAA structure. Unlike the U.S. model where LGU professors have joint extension, teaching, and research appointments, AAA professors provided services to the Extension Department as consultants, receiving a stipend in addition to their normal AAA salary.

The program reportedly worked quite well until 2002 when the AAA was transferred from the MOA to the Ministry of Science and Education (MSE) and the policy and management linkage between the AAA and the MOA could no longer be sustained. To retain policy and operational management within the Ministry of Agriculture, a new Republican Agricultural Support Center (RASC) was created within the Ministry of Agriculture to provide management and technical leadership to the Extension System, including development of a unified knowledge base, and preparation of technical support people.

USDA reportedly did not support this change in management structure, but continued to provide funding for the Extension Department within the AAA. However, USDA continued to fund LGU technical specialists to work with the restructured National Extension Service through 2003 when all such funding was curtailed.

Currently the RASC has 24 permanent staff members. Field Extension staff members are allocated roughly on the basis of one agent per eight villages and currently there are 145 Field Extension Specialists who are typically supported at the regional level by a senior extension specialist, a marketing specialist, a publication and media specialist, and other accounting and administrative support staff. A Bank study commissioned in 2004 concluded that the staffing level did not provide sufficient coverage to adequately meet community needs, so the Bank approved the addition of 200 new agents to be resident at village levels. One hundred individuals were placed in 2005, an additional 50 in 2006, and 50 more will be placed in 2007. Villages benefiting from these extension agents share salary costs and other personnel expenditures with the Bank, with villages covering the base salary and the Bank picking up social costs and other taxes.

The Bank negotiated a new program with the MOA in 2005 (implementation started in July 2005). The Rural Enterprise and Small Scale Commercial Agriculture (RESCA) Project broadened the mandate from agricultural development to rural development with four main objectives:

- Increase efficiency of the agricultural sector
- Increase employment in the rural economy

- Increase agricultural productivity
- Reduce the incidence of rural poverty

Under this Loan program, field level specialists are now referred to as “Rural Advisors”. The new program expands the outreach capacity to an additional 350 villages with the Bank supporting the cost of building a village rural advisory reference room within the village administrative unit. This reference room serves as repository of technical materials and is reserved for use by Rural Advisors and other specialists when working in the village.

The new program also introduced a cost-sharing feature with the MOA and the MASC's. The initial Bank/RASC/MASC cost share formula is 75/15/10. By the end of the project in 2009 the targeted cost share is 45/35/20. This feature places substantial additional pressure on the MASC offices to expand fee for service consulting and provides a competitive presence for private sector consultants who may be working in the area.

#### **D. European Union/TACIS**

The Armenian European Policy and Legal Advice Center (AEPLAC), funded by EU/TACIS, provides comprehensive policy and legal analysis and advice to the GOA. The Center, formed in 1999 to address issues associated with Armenian WTO accession (through 2003) is now oriented to support the implementation of the EU/Armenian Partnership and Cooperation Agreement (PCA).

A key aspect of the PCA implementation program is accession to full EU trading status within the European Neighborhood Policy (ENP). It requires that Armenia conform to EU legislation and regulations governing trade and public/private sector governance practices. This includes the introduction of European food quality, safety and environmental standards. Efforts to introduce EU food safety and quality regulations are designed to replace the Soviet inspired GOST standards which are still the de facto criteria used in CIS trade. AEPLAC leadership is of the opinion that it is essential that Armenia adopt the EU standards, not just to come into compliance with outstanding obligations under the WTO agreement, but also because Russia is also moving to adopt EU standards and that if Armenia does not take the initiative now it may lose its Russian market when Russia accedes to the WTO. A further concern is that EU trade agreements, for example the recent opening of the EU crayfish market to Armenian product, will increasingly be time limited with long term access dependent on achieving full compliance with EU regulations and standards.

AEPLAC has developed good synergy with several U.S. funded projects including the Commercial Law Project in the preparation of the PCA implementation program, and with CARD in jointly developing EU friendly wine import legislation which is still in process.

#### **E. International Fund for Agricultural Development (IFAD)**

IFAD funds the Rural Areas Economic Development Programme (RAEDP) in Armenia, which provides financial support for development of agricultural credit systems and rural infrastructure to support expansion of rural and agricultural businesses. IFAD started work in Armenia in 1996 as part of the World Bank regional extension and water management program. By 2001, IFAD provided a \$4.5 million credit line to the Agricultural Cooperative Bank of Armenia (ACBA) and further supported the World Bank irrigation and rural social investment program. The RAEDP

started in 2005 and continues to provide an agricultural lending facility to ACBA at 1% above LIBOR rates. It also provides loan capital to ANIV micro finance institution and cooperates closely with the ASME project but it has not worked with USDA programs.

#### **F. Food and Agriculture Organization (FAO)**

FAO has operated in Armenia since 1993 providing mostly Technical Cooperation Programs (TCP) with a maximum duration of 18 months to two years. Twelve programs were implemented from 1993 through 2005, including providing emergency supplies of winter wheat seed, potato seed, and animal feed, sustainable mountain development, and locust and rodent control. Current programs include support for land consolidation, food safety capacity building, strengthening trans-boundary animal disease diagnosis, surveillance and control capacities with Azerbaijan and Georgia, and development of appropriate legal frameworks for protection of domestic plant genetic resources.

FAO has also been asked by the GOA to assist in developing a law on the Agricultural Census that is needed to implement this program, which can support the completion of WTO accession requirements regarding VAT application to farm level products sold in formal commercial channels.

## IV. ASSESSING IMPLEMENTATION, IMPACT AND SUSTAINABILITY

### A. Introduction

This section of the report answers the specific questions in the scope of work that relate to implementation, impact and sustainability of the USG programs related to agriculture and agribusiness. This is not an “evaluation” of specific projects and initiatives, but rather an attempt to review the relative effectiveness and impact, with a view towards recommending future priorities and guidelines. It also looks at the very critical question of sustainability and how the USG can eventually “exit” from providing assistance.

Several analytical methods have been used:

- A review of economic and trade data to assess the macro-economic impact;
- Interviews with 24 agribusinesses, including some that have not received any USG program support, to determine their perception of the relative value of different services, how these have transformed and/or impacted their business, and key constraints and opportunities;
- Compilation and assessment of project specific results (see section II above), especially for those such as MAP that do not maintain a performance monitoring system;
- A more in-depth review of the credit market to assess the extent it has been impacted and/or distorted; and
- Interviews with selected business service providers, including consulting firms, business support centers and financial institutions, to understand their perception of how the supply and demand for their services has been positively or negatively impacted.

### B. Implementation

1. Have USG activities in the agribusiness/ agriculture sectors been properly targeted to identify and support products that satisfy local demand, compete against imports, and hold potential for export?

Table IV.1 below indicates the principal agribusiness related exports and imports from and to Armenia between 2000-2004 (excluding some products such as sugar, tobacco and cocoa that are not relevant to USG programs, as well as some where trade is negligible).

**Table IV.1 Armenian Agribusiness Exports and Imports (USD Millions)**

	2000		2001		2002		2003		2004	
	Ex	Imp	Ex	Imp	Ex	Imp	Ex	Imp	Ex	Imp
Meat	.01	20	.007	21	.04	19	.5	22	.5	25.5
Fish/shellfish	.5	.04	.7	.1	1.7	.1	3.1	.1	2.9	.09
Milk/dairy	.2	12.3	.4	8.2	.5	7	1.9	9.0	2.8	13.9
Fruits/nuts	1.3	4.6	.9	5	.9	4	1.1	5.4	1.2	9.4
Coffee, tea, spice	.1	14	.2	14.5	.7	9.3	1.8	8.8	6.0	12.6
Cereals	.01	64.4	.002	48.2	--	49.3	.01	49.2	.0001	72.6
Flour/related	--	11.4	.02	8.1	--	6.5	.01	3.9	.02	8.6
Oils seeds	.05	1.2	.01	4.9	--	1.2	--	1.5	.01	1.0
Animal/vegetable oils	--	17.2	.06	19.5	--	18.4	.17	22.7	.06	20.7
Processed meats	--	4	.14	3.6	.1	3.4	.3	2.2	.58	3.7
Processed fruits, vegetables	2.7	2.9	5.5	3.0	5.6	3.7	7.7	4.8	5.8	7.4
Beverages	22.5	.5	39.1	1.4	44.9	2.6	60.1	4.9	57.0	8.1

Source: 2005 Statistical Yearbook, National Statistical Service of Armenia

These statistics provide some initial insights as to whether USG efforts have been properly targeted to capitalize on import substitution and export opportunities.

- By far the largest domestic market opportunities involve cereals, flour and related products, meat and animal products, milk/dairy products and edible oils. The USG projects have emphasized meat and dairy, but have not directly targeted the others. Cereals are particularly difficult to produce competitively on very small holdings, and processing is capital intensive, indicating these are not product areas of comparative advantage for Armenia. Imports of milk and dairy products have trended downwards suggesting some success in this area. However, for the most part imports in these categories have tended to stay stable or increase. Meat and dairy, an area of focus of most projects, would seem to provide particular room for additional import substitution.
- Growth in exports generally correlates with product categories emphasized by USG projects. These include dairy products, fish/shellfish (aquaculture), fruits and processed fruits and vegetables and beverages (e.g. wineries). However, with the exception of beverages at about \$60 million (mostly alcoholic), most export categories remain very small. For example, exports of dairy products (including cheeses), an area of significant project support, amounted to \$1.9 million in 2003 and \$2.8 million in 2004; and processed fruits and vegetables about \$7.7 million.
- The trade data does not include per capita consumption of various food products, including on-farm consumption. Given the dominance of small holdings, it is likely that the size of the domestic market has increased (e.g. the value of agricultural production, excluding on-farm consumption) from 311 billion dram in 1999 to 410 billion in 2003. Thus, while imports of most categories have remained relatively steady, the market share of local producers has undoubtedly increased.

- The negative balance of trade in agricultural and food products, confirms that while agriculture and related activities is the source of livelihood for the largest number of families, it is hard to conceive that it will be a major engine of growth. Import substitution opportunities are modest, and exports have been limited to the former Soviet Union (mostly Russia) where traditional Armenian products find a market; and very specialized and small niche markets with modest growth potential and with limited aggregate impact at the macroeconomic level.

USG projects have used different methodologies in “targeting” opportunities. In the case of ASME, the project has sponsored a wide range of market studies aimed at helping agribusinesses then capitalize on the resulting opportunities and market penetration recommendations. The selection of product categories and markets for study is based on a combination of demand from potential clients, and the professional judgment of the project team and its experts. Follow-up with specific clients is then “demand-driven”—that is focused on the interests and needs of specific client firms or clusters of firms (e.g. for participation in a trade show or market study tour).

In the case of MAP and now CARD, the profile above indicates the targeting of key value chains or “clusters”. There is no written documentation of criteria used in developing these target areas, but it appears to have been based on professional assessments of product areas combining significant numbers of producers (in a particular region) with potential for improving competitiveness.

**The Chilean Export Miracle:** The so-called “Chilean export miracle” is well known and has been documented extensively through academic papers and other mediums worldwide. It has been driven by the ability to clearly assess international consumer demand and respond strategically to market opportunities through what, in many instances, has amounted to the creation of entirely new agribusiness sectors. At the forefront of these efforts has been the well-regarded Fundación Chile, which was created in 1976 by the Chilean Government and the ITT Corporation of the United States.

Fundación Chile’s methodology for working in the agribusiness sector consists of the following steps:

1) Identification of market opportunities, 2) vetting opportunities with the private sector and establishing clusters or firms and entities interested in developing the opportunity area, 3) investing in pilot trials and information dissemination to encourage production, 4) investment in catalytic or “anchor” firms that commercialize the final product and/or supplier firms that provide needed inputs, 5) technology sharing collaboration with local/foreign universities and others, and 6) divestiture of project sponsored firms and investments once the sector has reached “critical mass”.

In addition to the well known examples of grapes, berries and other fruits, Fundación Chile’s many successes include:

- The creation of *pioneer salmon farming companies* and associated technological services that led to the take-off of this industry in Chile -- Chilean salmon exports grew from \$159 million in 1991 to \$1.7 billion in 2005, and could rival to overtake the world’s largest producer Norway by 2010.
- Development of applications for seaweed, including in feed to supply the needs of salmon farming industry, as well as help establish reliable supplier firms in this new product area.
- Development of the technological concept of vacuum-packed beef, introducing centralized slaughtering, and the subsequent sale, of packed beef. This activity generated new and innovative channels for meat sales, by substantially improving the product's hygiene together with lowering the cost of transport per unit of beef sold.

What is generally missing however, seems to be studies that demonstrate how Armenian agricultural and food/beverage products can be competitive in domestic and export markets,

especially given changing consumer preferences, international trade agreements and standards, high cost and inefficient transport and logistics systems, and the very fragmented nature of Armenian agriculture. USG support has tended to assess these opportunities on a case-by-case basis, usually for one “client” or small cluster of producers in a similar product area. This means a tendency to focus on what is already produced (improving quality and marketing), rather than figuring out possible major new opportunity areas and developing entirely new agribusiness sectors (e.g. the approach taken by countries such as Chile and Israel).

**The Israeli Agribusiness Sector:** Israel’s agricultural sector is characterized by an intensive system of production aimed at overcoming the scarcity of its natural resource base, particularly water and arable land. The constant growth observed in agricultural production is credited to the close cooperation that exists between and among researchers, extensionists, collectively organized farmers, agribusinesses and investors. Driven by export market opportunities, these stakeholders have effectively interacted to develop, and apply and commercialize new methods in all branches of Israeli agriculture. The close collaboration between R&D efforts and industry has led to the development of a market oriented agribusiness sector that exports agro-technology solutions on a world-wide scale. For example:

- Israel is the world’s most advanced user of *agricultural irrigation*, with half of all its agricultural land under irrigation. The irrigation industry in Israel was a pioneer in developing innovative technologies and accessories like drip irrigation, automatic valves and controllers, media and automatic filtration, low discharge sprayers and mini- sprinklers, compensated drippers and sprinklers. Computer controlled drip irrigation saves growers huge quantities of water and enables the application of fertilizers along with needed irrigation (fertigation).
- Israel is a world leader in the development of *greenhouse technologies*, which it has successfully applied in production efforts in order to overcome its natural restrictions of soil, water and climate. Israel has also exported this technology to other parts of the world, which is particularly useful for the development of high added value crops in countries facing similar conditions.
- Due to the country’s semi-arid climate, and scarcity of water, the country has forged the development of an intensive form of *aquaculture*. Fish farming is carried out in the open sea in floating cages, and man-made reservoirs and ponds. Due to the lack of fresh water, fish farmers typically use closed water systems for intensive farming, and in some projects reservoirs water is used for irrigation purposes. A wide range of ornamental fish and marine plants are bred, including coldwater fish, tropical fish and water lilies. These products are typically exported overseas, in particular to Europe.

The drivers in this successful model have been the identification of market opportunities, private and government investment in solutions to overcome the natural disadvantages Israel faces (the Agricultural Research Organization coordinates government support), and catalytic/anchor firms that commercialize both technologies and products while providing collective and cooperative farms with world class supply chains into world markets.

Interviews with agribusinesses, as summarized in Appendix I, present interesting perspectives. Of the companies interviewed, two thirds depend entirely on domestic markets and only four have primarily export markets (wine and cheese). Most of these firms were already established or starting up (e.g. had decided on target products and markets on their own), but almost all the more successful firms (in terms of growth) attribute much of their success to a combination of services:

- Low cost and longer term loans, grants, leases and/or co-financing, especially for new equipment and marketing support
- Advice on new products and market niches, and/or technology/production solutions and business planning to better meet market requirements

Interestingly, less successful agribusinesses tend to be those that received mostly financing for new/better equipment and technology, but not enough in the way of business and market

planning, such that they ended up with underutilized capacity and/or insufficient sales to pay off the loans. This is particularly true of early MAP clients.

It also appears that most of the firms that have succeeded in growing rapidly in domestic markets are nowhere near being ready for exporting on any scale. Not only do they lack the necessary European and US certifications, but it also appears they lack volume to be able to meet customer needs and justify investments in logistics, branding and marketing. Few assistance projects seem to directly work through their agribusiness clients in reaching out to small farmers to directly improve their volumes and quality. Exceptions include projects such as honey associations (which still remain very small scale), and separate support provided by MAP for milk collection centers (not always considered beneficial by the processors). In some areas, such as dried fruits, processors believe they will soon reach “capacity” unless there is investment in new orchards.

Prices for some Armenian produced commodities were actually higher in the local market than comparable imports. Some products, such as honey, have increased in value from a starting position in which they were perceived to be of lower quality than the imports, to a position where it is now perceived to be of higher quality and therefore of higher value. In a similar vein, Armenian cheese producers have introduced at least five new varieties of cheeses such as blue and Gouda as the result of technology provided by the Farmer to Farmer program’s Dr. Poul Hansen, Ohio State University Professor emeritus and world recognized cheese specialist. This has permitted these dairies to displace imported products for domestic consumption. Additionally, Dr. Hansen has trained dairy workers to use small pasteurizers to enrich expensive enzymes and cultures purchased from European suppliers reducing the cost of these supplies by a factor of four. However, one blue cheese producer is losing money because while the firm has received quality awards, there is not enough of a market in Armenia for this “exotic” product, while the firm is unprepared for exports.

An additional consideration here is that while USG projects have sought to target certain product areas as providing the greatest promise, the more important consideration is finding entrepreneurs and managers with the capability to grow their business, regardless of the product area.

In short, USG programs have tended to support/improve the types of agribusinesses that already exist, while finding new niche opportunities. This is not a critique, since it is how the programs were designed and structured. MAP and USDA programs have been structured to address systemic problems associated with existing product value chains. ASME is structured to support small and medium enterprises, and address systemic issues facing SMEs (not agribusiness). The only obvious alternative would be a major research and development program, along the lines of what countries like Chile, Israel and New Zealand have utilized, to completely reorient their agribusinesses towards new market opportunities for which they have a competitive advantage.

A brief review of some of the existing and potential product value chains further demonstrates some opportunities that have been identified, but also the systemic constraints faced in effectively competing with imports and/or in export markets. Capitalizing on these opportunities would require a more proactive, strategic approach to at least some of the USG programs, with a particular focus on promoting key, catalytic investments.

- Armenia’s growing aquaculture sector has received support but could represent a major opportunity growth area. Traditional farming of trout and carp has been constrained by the need to import virtually all of its feed. Furthermore, sturgeon, and especially protected Caspian species could also be farmed and scarcity in world markets suggests a major opportunity. However, it normally takes about 7-10 years to rear a sturgeon to

maturity from which quality roe can be harvested. While the cost of rearing a sturgeon to that point is approximately \$300 and the value of the fish and caviar at maturity is approximately \$6,000, the need to wait for so long represents a cash flow problem for most smaller scale operations. The development of a feed mill or mills in Armenia would also appear to represent an opportunity for capitalizing on the increasing demand for farmed trout and sturgeon, as would the aquaculture operations themselves. Selected Armenian aquaculturists, including the pioneering firm Akvatekh, have enjoyed support and technical assistance from, USAID, and non-governmental donor intervention efforts. It would seem that new investments could help catalyze significant expansion of this opportunity area.

- Very little terrestrial animal feed is produced domestically although there is a demand for feed and many of the primary ingredients are available locally. Further, the small size of the farms and current lack of extensive collaborative efforts means that imported feed ingredients are imported in small quantities that do not permit realization of the significantly lower prices that would result from economies of scale. This is particularly significant in regards to soybeans and soy meal, both important feed constituents for livestock and poultry. Although livestock development and related products have been important to USG programs (including artificial insemination and herd improvement), as of yet there has been little attention to the development of regional feed mills that would serve the respective feed demands (and efficiently import the high energy inputs). If these can be commercially feasible, can investment be stimulated? Will the meat/dairy supply chain be competitive over the longer term with imported feeds? Can herd improvement efforts be effective without solving the feed problem?
- Grazing livestock are a significant component of Armenian agriculture and Armenia does have some excellent herds of Caucasus Gray cattle that are used both for meat and dairy production. This breed is very well adapted to local conditions and could be used as the basis to improve the less productive herds of cattle. While the less productive herds are also of the Caucasus Gray breed, most are in poor genetic condition. USG supported research at the local level directed toward herd improvement has been provided to some degree, but a more concentrated effort is required to increase production and thus income for many farmers.
- Goats are also well adapted for Armenian growing conditions. They produce more milk and meat per unit of input than cows and there is a growing market demand for goat cheeses in Armenia as well as internationally. The ARID goat breeding project, supported by USDA MAP/CARD and the cheese production efforts supported by ASME and the Farmer-to-Farmer programs, have taken advantage of these attributes to significantly improve local goat herds and the income of goat herders. This is an area that is not only replacing a formerly small import market for goat cheeses, but is actually increasing the demand while also developing an export market. However, can this be turned into a major opportunity area, with a recognized “Armenian” brand image?
- Seed production is another area in which Armenia could take advantage of its growing conditions and climate to reduce its current dependence upon imported seed. Currently, most vegetable, cereal, feed/forage, and potato seed is imported, principally from Europe. The seed is expensive and not always the best variety for Armenian growing conditions, and supply is often unreliable. The area near Lake Sevan and surrounding mountain valleys appears suitable for production of seed potatoes for the Armenian and CIS markets. What is the best strategy for catalyzing a possible seed industry?

- The developing greenhouse sector in Armenia is also having success in exports including fresh vegetables, greens and cut flowers. Greenhouse agriculture provides one of the ways small farmers (in relation to land farmed) can transition to having viable and sustainable commercial operations. Greenhouse based agriculture has proven very successful for Israel, Palestine, Colombia and many other locations, but is predicated on exceptional transportation, logistics, supply chain management and marketing. Are there companies/ entrepreneurs prepared to provide this critical role? Can USG programs play a strategic and catalytic role in helping developing what amounts to a new industry with significant infrastructural requirements? Can this be a focus area for MCC based initiatives?
  - Armenia also has apparent potential to participate in the international demand for “organically certified” products. Such products not only include fruits and vegetables, but fish, meat, and honey as well. There are some efforts being made at this time by both MAP/CARD and ASME to support the development of the supply, market and certification infrastructure required for successful participation in this relatively lucrative and rapidly growing export market. However, at this point the cost of meeting market requirements is high relative to the scale of the agribusinesses likely to participate.
2. *Additionally, have these efforts improved the safety and quality of food products in the marketplace?*

Several successful efforts have been made by both USDA and USAID implementers to improve food quality and safety. The results have been good in several instances, although sanitation and manufacturing practices remain poor in the majority of processing facilities. However, on the whole there remains a universal need for training and support in Quality Assurance, Food Safety and Sanitation (HACCP or Hazard Analysis Critical Control Point & SSOP or Sanitation Standard Operating Procedures), Good Manufacturing Practices (GMPs), Good Agricultural Practices (GAP and Euro Gap), Bio-security and Traceability, Labeling, and basic compliance with international regulations.

The GOST standards, primarily directed toward minimum product specifications rather than food safety, which were mandatory during Soviet times and remain somewhat in effect in the CIS, are outdated and there appears to be consensus amongst the CIS nations that the system will be replaced with systems more in line with accepted international standards.

Both MAP/CARD and ASME have provided training and one-on-one assistance to Armenian food producers and processors. Some of the latter efforts have included providing grants for food safety equipment and initial inputs. A major effort has been expended in the dairy industry with refrigerated milk storage tanks provided by a MAP leasing program, and pasteurization techniques taught, together with help in securing pasteurization equipment. Unfortunately, in 2005, a goat cheese export order destined for the California Diaspora market was unable to be realized, as CARD’s internal controls detected problems with the product arising from the fact that it had been produced from un-pasteurized milk and stopped the shipment.

The problem is that food safety and quality management is only likely to be enthusiastically adopted by producers once consumers in Armenia become more demanding and/or agribusinesses are committed to focusing on export markets. For example, several dairy product companies supported by MAP and ASME have taken a much greater interest in food safety certifications only once they have realized that they need export markets to continue growing. On the other hand, a MAP supported slaughterhouse has found little demand for its services among farmers

who do not perceive that domestic market prices and consumer preferences warrant the higher fees at a hygienic facility.

Thus, the continued education of both producers and consumers is important, and although food safety will become a reality once producers realize they have no choice (from both market and regulatory perspectives). Where possible, this training capacity should be developed within educational entities such as the Armenian State Agrarian University and the technical colleges within the Marzes, as well as within producer and processor associations. It is also recommended that assistances be provided to the Armenian Government to develop policies and regulations in compliance with Codex Alimentarius.

ISO 9000 (quality), 14000 (environmental), and 22000 (HACCP) have gained a great deal of attention and efforts have been made to “certify” some Armenian producers. Such certification, however, is quite expensive and is rarely warranted except in the case where exports to a particular country require and warrant the expenditures. It is recommended therefore, that assistance be provided to Armenian producers to adopt ISO standards, but ISO certification should be supported only in those cases where economically warranted. It should also be noted that there have been several instances in Central Asia and specifically in the CIS where companies have been able to “buy” ISO certification without actually meeting the requirements.

### *3. What are the main strengths and weaknesses of USG assistance to date?*

The strengths and weaknesses of USG assistance need to be first reviewed in the context of a rapidly evolving environment. USDA assistance programs took shape during a period of traumatic disruption and change in Armenian agriculture. It moved from collective farms and vertically and horizontally integrated distribution and support systems, as well as central control, to extreme fragmentation of production and distribution and completely inadequate institutions and service capabilities (public or private sector) to provide and link vital functions such as research, extension, financing, logistics and marketing and access to know-how. USAID programs took shape during a period when the Agency was focusing on supporting the transition to a market economy (not on agriculture), including the support for newly emerging small businesses which by definition were still very primitive in their understanding of markets and managing in a competitive environment.

In this context, the perspective of both the assessment team and beneficiaries of the assistance is that they managed to provide invaluable transitional support. Specifically:

- The assistance helped to accelerate the learning process for a wide range of stakeholders regarding agriculture and agribusiness in a market economy, new technologies, enterprise management (especially marketing and financial management which were entirely new concepts) and food safety and quality management. The programs provided a wide range of mechanisms for the dissemination of this know-how, from participation in study tours and trade shows, to workshops, to one-on-one technical expertise. Asked to comment on the value of the USG programs, quite a few beneficiary agribusinesses emphasized that it saved them several years of learning curve. Most companies placed financing as the most critical form of assistance, but in fact firms that received financing without effective technical assistance were usually not very successful. Thus, linking the two can also be seen as a strength, except in those cases where it was not done.
- Financing of equipment and technology, especially for processing capacity, was especially critical given that packaged food and consumer products did not previously

exist, while Soviet era facilities were not viable in a market economy, were in terrible condition, or both. With lending from commercial banks slow to develop, and especially long term financing of fixed assets, the provision of loans and grants, including the support for leasing companies, helped accelerate the installation of critical new capacity of firms in a position to buy from farmers. The credit clubs and microfinance institutions were also an effective way of getting modest amounts of working capital into the hands of farmers and rural households.

- Assistance can be viewed as flexible in that it evolved over time based on changing circumstances and lessons learned. Thus, the MAP and later CARD financing programs became more selective and targeted over time, including more emphasis on priority value chains and more wariness of formerly state-owned enterprises. The evolution of MAP through three distinct phases has been described.
- The testing of multiple concepts and initiatives through the various programs is also a strength. At the outset, there was no clear road-map for helping countries such as Armenia through the process of transitioning to a market economy, and particularly one in which the agriculture sector experienced such a completely radical change. Most of the programs had multiple components, some of which proved to work better than others. To the extent that programs focused on the components and activities that worked best, this approach can be considered a success. In this context, programs with effective systems for defining expectations and measuring results have been able to adjust strategies and tactics more quickly than those that do not.
- Methodologically, for a “vertical”, sector specific program such as MAP, the increasing focus on selected agribusiness “systems” or value chains was positive. For small-scale farmers, nothing could be more important than viable commercial linkages to processing companies, markets and sources of finance and inputs. The dairy and winery farm-to-market value chain initiatives are two good examples.

Some weaknesses and mistakes can also be identified, although the assessment team fully recognizes the enormously complex and challenging environment in which the programs have operated and the fact that weaknesses/mistakes have mostly been corrected. A few remaining issues:

- ASME has been mostly restricted from providing support for agricultural production in order not to overlap with MAP. However, the reliable supply of quality inputs is one of the key success factors for any agribusiness processor and exporter, and furthermore processors and larger “anchor” companies provide an excellent vehicle for channeling technical assistance and know-how to farmers. In fact, projects such as support for honey associations did do this, and a few clients also invested in backward, vertical integration. All programs involved in agribusiness would benefit from this more systemic approach.
- Systems for measuring performance and impact would be very beneficial. MAP did not develop and maintain a system for measuring and monitoring results, making it harder to rapidly recognize problem areas and make adjustments and/or to focus resources on the most cost-effective resources. ASME regularly tracks results, but its system could be improved to better measure the relative cost-effectiveness and impact of different initiatives.
- A number of projects received financing, especially from MAP, without adequate attention to business planning and commercial viability. While cases like the goat slaughter facility built by ARID is well known, there are a number of additional

situations where new facilities financed by USG are underutilized and/or where sales and income do not look like they will ever produce a rate of return. Most of these were cases where the entrepreneurs involved did not receive business planning and management oriented TA tied or prior to the financing.

- Financing has generally been provided in US dollars, despite the fact that almost all the companies are mostly selling in the Armenian market (earning drams). Financing in foreign currency makes sense for imported equipment, but not for working capital or domestic expenses. This means that the borrowers carry exchange rate risks that would technically bankrupt them in the event of a sharp devaluation of the dram (and of course result in a non-performing portfolio for the programs providing the funding). Luckily, the dram has generally appreciated. USAID has learned over several decades of financing and credit programs worldwide that precautions need to be taken regarding exchange rate risks.
- The principal focus of the USG programs has implicitly been to support existing agribusinesses (who seek assistance) or farm-market value chains that appear to have potential. While this is consistent with the objectives of the specific programs, it means there is no proactive way to identify and systematically follow-up strategic investments that could have a catalytic effect on transforming major agribusiness systems, or investments in major new opportunity areas, such as greenhouses and aquaculture. Countries that have continuously evolved export oriented agribusiness, such as Chile, Israel, New Zealand, and Costa Rica, have the capability to identify new opportunities in the markets that build on their comparative strengths, and then systematically promote investment in these areas.

4. *What are the major constraints facing assistance? How can constraints be reduced or mitigated?*

As previously stated, if one were to pick a country to specialize its economy in agriculture, Armenia would not be it. Land, water and a short growing season are issues that do not readily contribute to Armenia being an agrarian powerhouse. With about 0.4 hectares of agricultural land per inhabitant, the agricultural resource base of Armenia is among the lowest in Europe and Eurasia. Further, the supporting infrastructure for agriculture, including transportation (roads, railways, and air cargo), energy, water, available financing, farm equipment and inputs are all insufficient in quantity and/or lacking in acceptable quality.

- This constraint can be reduced or mitigated by USG efforts with strategic investments in infrastructure and support services. While high expectations are being placed on the MCC program, there should also be a parallel emphasis on private investment in infrastructure (and public-private partnerships) and competition in key sectors (to promote lower costs and better services). However, since the underlying competitiveness of much of Armenian agriculture is questionable, emphasis should also be given to investment in other economic sectors, especially in services, that can ultimately productively employ more of the labor force.

The dispute with Armenia's neighbor Azerbaijan over the Nagorno-Karabakh issue, coupled with the closing of the border with Turkey as a secondary result of the same issue, has placed Armenia in a rather perilous situation. Armenia only has two highways and a single rail line upon which it can export products. The most critical of these highways and the single rail line exit Armenia through the Republic of Georgia providing land locked Armenia with its principal access to

Russia and the other CIS countries, Europe and the remainder of the world through Georgian ports (Poti and Batumi) on the Black Sea. The second highway connects Armenia with Iran, which tightly controls the transport of product through its territory, limiting trade with Armenia to imports of raw materials to Iran in return for finished products and petroleum.

- The emphasis on roads in the MCC Compact should help address this transportation constraint. The constraint can also be mitigated with high value exports that can be shipped by air. While air transport is also poor, service will tend to increase in parallel to demand.

Transport and logistics constraints affect the import of inputs and export of finished products. Given the small size of the Armenian market, future growth will increasingly depend on export markets. However, despite modest small-scale success stories, Armenian agribusinesses and agriculture are nowhere near ready to export in any significant volume.

- Projects that facilitate consolidation and scale (anchor firms, associations, etc.); Investment promotion in export-oriented projects; helping meet international quality specs.

Agriculture education and technology transfer problems are also impediments to economic development in Armenia.

- The MCC program intends to train 60,000 technicians to support agribusiness. Another possibility is to seek to link specialized training through the high schools, as there is a very high rate of completion of high school by Armenian's and almost one half of these individuals end up in agriculture. A third approach involves USG support of the Water User Associations (WUAs) that will be strengthened under the MCC program, in order to enable them to expand their service delivery capabilities into the area of agriculture extension, as well as continued linkage with the World Bank in this same technical area. Most importantly, larger agribusiness need to be extensively involved in solving this problem by collaborating in transferring know-how to farmers and linking with educational and training institutions on programs that can best meet their needs.

5. Have activities been well coordinated with other donor organizations and focused on achieving mutually agreed objectives economically and efficiently? Have activities been coordinated effectively between USAID and USDA to take advantage of economic opportunities in the agriculture and agribusiness sector?

The range of US Government and other donor programs that directly or indirectly impact on agriculture and agribusiness have been profiled in Sections II and III above. The principal distinction that can be made in characterizing programs and projects is that for the most part the USDA (as well as World Bank sector loans and now MCC) is supporting the systemic transformation of agriculture, while USAID has focused on support for micro, small and medium business development through ASME and MEDI. The implication is that USAID programs have a more horizontal approach to the policy and institutional frameworks supportive of any business, including agribusiness, whereas the USDA has a more vertical approach focused on the policies, institutions and services related to agriculture and agribusiness specifically.

These two approaches have been generally complementary, with or without extensive coordination. The principal point where the two approaches intersect is in the support for

agribusinesses involved in processing and other mostly non-farming activities. ASME was reportedly asked not to support businesses whose primary focus is agricultural production. This may be a mistake since it limited ASME's ability to work with upstream farm suppliers to the processors (perhaps through the processors), and thus help address very critical quality and capacity issues in the supply chain.

Another area where the two approaches intersect involves addressing the critical constraint of access to financing. Both MAP and ASME supported the establishment and development of leasing companies and provided direct financing to companies. MAP has been involved in developing a micro-finance network through credit clubs involving farmers, while USAID through MEDI has focused on strengthening the policy environment and institutional capabilities of the microfinance sector. The two types of initiatives are generally complementary. The USG involvement in credit is discussed in greater detail below in answering the question on the impact on “markets”.

Sector and systemic USDA initiatives, covering policies, institutions and extension, have overlapped with World Bank loans and related policy negotiations. These have generally been coordinated and consistent, with the most critical exception, as noted being different views on how to support extension once the AAA was transferred to the Ministry of Science and Education. The World Bank helped develop the RASC in the Ministry of Agriculture while USDA continued to support AAA.

Otherwise, our perception is that the implementers of the various programs are well aware of other initiatives and that implicit or explicit guidelines evolved to avoid duplication of efforts. For example, agribusinesses reported that they were turned down financial assistance from one program if they were being actively supported with financing by another. This indicates that ASME and MAP were not “competing” for clients. On the other hand, a number of agribusinesses reported receiving support from a range of programs including MAP, CARD, ASME, FtF, Eurasia, IFAD, etc.

It would appear that efforts to coordinate strategies and programs among the various institutions, has been relatively ad hoc, at least until recently. This is not surprising, and not a criticism, since it reflects the realities of how programming was conducted in these various institutions. USAID, for example, did not generally work in agriculture in the late 1990's (worldwide) and planning, while taking the activities of other donors and USG departments into account, was relatively inward oriented. Thus, it is unrealistic to expect that there would have been official, formal strategic planning and coordination mechanisms for Armenia in particular. Coordination was more informal and depended on the individuals involved. There are no records of integrated strategic plans and/or mechanisms for tracking progress and follow-up.

This situation has changed dramatically in that the USG is adopting a much more coordinated approach to its assistance efforts. Country plans are supposed to strategically integrate the efforts of all relevant USG departments and agencies, with the Ambassador playing a critical leadership role. The emergence of Armenia as one of the first countries with a MCC Compact has also provided a specific process for involving the Armenians and all donors in a more strategic view of how best to achieve “transformational development”. This current assessment, jointly supported by multiple USG agencies, is another indication of a more formal approach to coordination.

In the context of looking towards future programming and coordination, the process for periodically asking the question of ‘what are the key strategic interventions that will most

significantly transform agriculture and agribusiness' will be very important. This was done in the mid-1990s when the answer was clearly the need to replace some of the "systems" and support institutions that had existed in the Soviet period and/or introduce those that would be required in a market economy. It was done again in the context of the MCC process, with the emerging consensus being the importance of infrastructure investments (transportation and irrigation) to reduce costs, improve market access and increase agricultural productivity.

Moving forward, all agencies can be looking at how they can most strategically complement the MCC led programs. For example, the implicit current strategy is to largely support existing production and agribusiness, albeit by helping them become more efficient, add value and/or diversify. However, as noted in the answer to the first question above, most of these involve small niche and domestic markets, or products where it is exceptionally difficult to compete abroad, and thus can only have a modest aggregate impact. The question is whether there are opportunity areas for Armenia (such as greenhouse based agriculture and aquaculture) with the potential for hundreds if not thousands of firms and farmers to become involved.

A more proactive approach to seeking out and helping facilitate growth of major opportunity areas will require some different activities and/or orientation, including:

- Studies to identify and assess significant opportunity areas that build on growth markets (primarily export given the small size of the Armenian market) and Armenia's comparative advantages, and/or that have a major transformative impact (e.g. feed mills, seed production). It is entirely possible, however, that many of Armenia's principal opportunities lie in areas other than agriculture.
- Investment promotion, both foreign and domestic in the strategic areas. Successful countries such as Costa Rica, Chile, Slovakia, China and Malaysia have understood that significant growth and/or the development of new export oriented clusters/industries cannot happen without investors that bring the technology, access to markets and capital.

Regardless of strategic approach, effective coordination requires corresponding management tools. While planning and programming is becoming more coordinated (e.g. country strategies), attention should be given to defining measurable ways for tracking implementation and impact. At this point, with the exception of project results tracking at USAID projects (especially ASME), this is almost entirely lacking. Periodic coordination meetings will become much more valuable if they are supported by concrete information on the status of mutually agreed upon objectives, priority initiatives and milestones.

6. *Have the positive and negative experiences resulting from activities been adequately recorded, validated, and otherwise made available for future use?*

The Evaluation team found little if any documentation that described either positive or negative experiences associated with the project activities that were evaluated. This is particularly true for USDA programs evaluated; ASME has a good performance monitoring system in place, but many of the lessons learned and other insights are not captured in the reporting.

### C. Impact

1. Is the assistance achieving or helping to achieve the desired results, both in terms of the projects' own targets, and in terms of USG objectives in general?

We can summarize progress towards the achievement of desired results on a project-by-project basis as follows:

- ASME – As has been described above, ASME implements activities within five defined service components in order to achieve principal program results in the areas of new annual domestic and export sales, as well as jobs creation. Progress in attaining specific performance targets within these service components is tracked through ASME's monitoring and evaluation system. ASME has achieved or surpassed almost all of the established performance targets for the project, but has only achieved a level of export sales that is about one third of what had been hoped for the project (see Table IV.2).

**Table IV.2 ASME Direct Impact on Employment and Sales/Exports**

Benchmark	Life of Project Target	Results to 9/30/05	Actual through 6/30/06
New annual domestic sales	\$10 million	\$6,550,000	\$11,135,000 <sup>5</sup>
New annual export sales	\$15 million	\$3,920,000	\$4,574,000 <sup>6</sup>
FTE jobs created	6,500	4,831	6,751

Source: ASME April 1-June 30, 2006 Quarterly Report to USAID

- MAP – Reviewing and assessing MAP or CARD's attainment of program results is complicated by the fact that neither project has defined measurable indicators or benchmarks for monitoring performance. Consideration of the survey results obtained from the 24 agribusiness firms (refer to Appendix I) shed important light on the achievement of MAP's principal objectives with regard to firm level assistance, that is 1) assist farms and agribusinesses to increase incomes and jobs, and 2) address supply chain constraints and enhance competitiveness. Of the firms that were surveyed and received either MAP or CARD assistance, 50 % indicated that they had experienced either sales and/or employment growth, 25% indicated that they had attained greater vertical integration within their respective value or supply chains.
- MEDI – The MEDI project goal is to improve the enabling environment for micro financing organizations in Armenia. The microfinance sector, further reviewed in Appendix II, has definitely become a significant factor in the financial sector, supported as well by MAP and the credit clubs. One of the important achievements is moving microfinance into the regulated sphere, which will allow for improved financial intermediation. However, MEDI project results do not disaggregate activities and impact on different sectors, and agricultural and agribusiness in particular.
- Farmer-to-Farmer – The Farmer to Farmer (FtF) program has three objectives, 1) Increased sustainability of private agribusinesses enterprises, 2) Increased capacity of Agricultural Service Organizations (ASOs) and 3) Strengthened rural financial systems.

<sup>5</sup> Most recent four quarters

<sup>6</sup> Most recent four quarters

It largely measures performance or results through the completion of its volunteer assignments plan. For first half of FY 2006, the FtF program implemented only 4 volunteer assignments of the 21 yearly planned assignments (see Table IV.3 below): However, this is attributable to the fact that the first half of the year is quite slow for the request of volunteers due to seasonal reasons, and is now starting to pick up. In FY 05, the program achieved 98 % of its target

**Table IV.3 Farmer to Farmer Plan for Volunteer Assignments**

	<b>Total Planned</b>	<b>Actual as of 3/31/06</b>	<b>% of Plan Complete</b>
Total Volunteer assignments	21	4	19%
<b>Assignments by Objective Area</b>			
<b>Private Enterprises</b>	13	1	13%
Livestock / Dairy	9	1	22%
Fruit / Vegetables	4	0	0%
Grain	0	0	---
Agricultural Service Orgs	7	3	43%
Credit and Finance Institutions	1	0	0%

Source: FTF – Caucasus; Annual Report to USAID FY 2006

FtF also tracks specific outputs or deliverables achieved by its volunteers, as well as showcases project success stories. However, periodic and systematic measurement of client sales and employment growth are not conducted.

Inter alia, USG objectives emphasize poverty alleviation through the development of the Armenian agricultural and agribusiness sector; with an emphasis of increasing productivity, and generating greater sales (both domestic and exports) and employment for the sector as whole. The firm interviews cast an encouraging light with regard to these broad objectives. As can be appreciated in the table below, of the firms that received assistance over 40 % indicated that they had experienced greater sales and/or business expansion (some of them doubling or tripling in revenues), 33 % had increased employment, and over 20 % reported greater integration with their respective value and/or supply chains (in moving towards strategic business relationships that enhance competitiveness).

**Table IV.4 Impact Attributed by 24 Agribusiness Firms Interviewed**

Area	Greater Sales/Expansion		Increased Employment		Enhanced Industry Integration	
	#	%	#	%	#	%
Reporting Firms	10	41.6	8	33	5	20.8

Source: Evaluation Survey

In summary, The USG programs were successful in helping ease the traumatic transition process that Armenian agriculture went through. They helped introduce the very concept of “agribusiness” and helped with the replacement of broken systems to link producers with markets and inputs. Significant new processing capacity and product diversification was introduced. Access to finance was also significantly improved. Individual agribusinesses were transformed in how they do business, and through them opportunities for numbers of farmers were enhanced. On the negative side, the majority of Armenian farmers remain extremely poor and barely able to provide for subsistence. Transforming Armenian agriculture, into a dynamic, competitive,

commercial sector will be difficult to achieve without consolidation of land holdings, significantly more strategic investments that can help “pull” and transform the sector and specific value chains, and major improvements in infrastructure.

2. *How and to what extent have the activities contributed to income generation and job creation?*

Rural incomes have increased from a 1992 average of \$20-30 per month to a current \$40-50 per month. It is also worth noting that - according to Armenia’s National Statistical Service – the growth in average monthly wages for agricultural workers for the period 2000-2004 was in excess of 35 % than that experienced for industry workers and almost 45% greater than for the economy as a whole. Due to the limitations or absence of monitoring and evaluation systems used by USG programs, it is difficult, if not impossible, to ascertain the precise measure of attribution to assign USG programs for these income improvements, but they no doubt played a favorable role in this regard.

Through its M&E system the ASME project gauges impact that its activities have on sales (a good proxy for income generation) and employment. As of June 30, 2006, ASME has created 6,751 jobs and is generating an annual \$11.3 million of domestic and \$4.5 million of exports sales, respectively. The other programs under consideration, i.e. MAP, MEDI and Farmer-to-Farmer do not systematically monitor income generation nor job creation.

Of the firms that were surveyed and received some type of project assistance, 50 % indicated that they had experienced either sales and/or employment growth. In various cases this growth was dramatic, as in the case of a yeast producer that grew its operations by twelve fold due to the access to commercial loans.

There is no ability to track the impact of USG projects on farmers without a major household survey. It is apparent that MAP had an important impact at the farm level through the credit clubs and links to marketing/processing firms. Undoubtedly, extension efforts had important benefits, but would require extensive surveys beyond the scope and resources of this assessment. ASME was generally precluded from working in agricultural production, so most of its impact would be indirect, as would be the case for MEDI. However, one of the important benefits of these projects is their contribution to non-farm employment and income opportunities.

Over time, major increases in agriculture based jobs and income will require two principal “engines”: investment and exports. Private investment is indispensable for developing and transforming agricultural value/supply chains to meet the increasingly demanding domestic and export consumers. The poor performance of exports to date indicates that the present combination of products, quality, volume and cost is not adequate for exporting on a significant scale. Investment must include foreign sources, not just because savings are modest in Armenia, but because of the need for know how and access to markets.

However, investment will only flow into the sector to the extent that attractive opportunities clearly exist, especially based on exports, given the small size of the domestic market. Capitalizing on these involves a new strategic phase for Armenia—one in which the MCC program is a critical component.

3. To what extent have the activities had a positive effect on the market, increasing competitiveness, efficiency and growth potential, etc.?

Local market demand for Armenian agricultural and processed food products have increased and several new products such as domestically produced “European style” cheeses have replaced imports. Progress, both in competitiveness and in growth, has also been made in the areas of domestic seed production, green house produced cut flowers and vegetables as well as in aquaculture. Thus these products now successfully compete on the local markets with imports and several are developing export markets as well to Russia, Georgia, other CIS countries, and to a lesser extent to the European Union countries. There are also some exports to the United States, which are primarily directed toward the Diaspora market.

It was evident from visits to agribusiness companies that activities had a positive impact in several ways:

- Increasing the utilization of new technologies, facilitating improved processes, food safety, presentation and consumer “appeal”, as efficiencies;
- Improved understanding of what customers want and the requirements for successfully penetrating new markets (although only some companies were able to meet these on any significant scale);
- Introducing improved management concepts, especially related to financial management, business planning, marketing and quality management;
- Helping better understand supply chain issues, although for many firms the reaction was backward and forward integration rather than working with suppliers.

In our discussion with interviewed firms, however, it was clear that a significant number of these enterprises see growth tapering off unless they can make a quantum leap in quality, volume and maybe efficiency to successfully export on any scale. It was also evident that some of the assisted companies did not think through their investments well enough to see how their businesses would become more viable, thus allowing them to pay back loans and make a profit. A few companies tended to diversify in many directions (e.g. producing a little of many things), indicating both the fragmented market, and the huge hurdle of becoming major, competitive players in the domestic, regional and/or export markets.

Perhaps one of the more important markets impacted has been financial services. On the demand side, USG programs moved thousands of people into the financial system through microfinance and helping firms assess projects and access financing. On the supply side, they have helped strengthen institutions, develop new financial products (including leasing) and demonstrate to the banks the opportunities in agribusiness. This impact is further described in Appendix II.

USG programs have had some impact in input markets. Some of the projects give producers greater choice and quality of inputs ranging from seeds and animal stock, to baling twine and yeast.

4. Have the activities had a negative effect on the market through market distortion, unintended side effects on other segments, subsidy of non-competitive or unsustainable products?

USG support has not been large enough to subsidize or sustain any segments or product areas, at least not for a sustained period of time. There have been a few projects that were not particularly viable, but these will undoubtedly disappear or be restructured over time.

The two principal “markets” that could have been significantly distorted involve financial services and business services. This is further explained below.

The financial services market:

US Government finance related programs focused mostly on market segments that did not exist at all or were barely functioning, and therefore aimed at either facilitating or directly granting working capital for very small scale farmers, and provided longer term financing for equipment and facilities (including leasing). Basically these credit programs helped jump-start these financial market segments; getting micro financing going and then institutionalizing the practices; introducing and strengthening leasing; and showing that longer term financing of agribusiness can be profitable (despite poor initial repayment performance of MAP loans). They also helped banks learn to lend and borrowers how to deal with the banks.

Given that in many instances, loans and financing were provided at below market level interest rates, it could well be hypothesized that certain production and/or commercial activities were undertaken that were not sustainable. Now, however, especially as CARD has gotten out of the business of promoting Credit Clubs and is “on board” with the farm credit program, this concern seems to have significantly dissipated. Further, the action taken by the Armenian Central Bank on March 1, 2006 to have all MFIs operating in Armenia register under the existing banking legislation and thereby become subject to existing banking regulations, will further improve the competitive environment of the entire sector and help remove any distortions. Over time, any differential that may exist in interest rates between USG funded and commercial programs should disappear altogether.

It should be noted that many of the 24 firm respondents (especially successful ones) indicated they very much appreciate lower cost financing, but will pay higher rates if they have to (and do). These entities feel that lower cost loans saved them some years of slower growth. At least two companies credit US Government programs for reducing corruption in the financial sector. Under this operating environment it is felt that the US Government can now turn to support for the development of new financial products and delivery options (e.g. warehouse receipts and warrants, improved financial intermediation by microfinance institutions, non-bank financing of inputs).

The business services market:

In relation to the business service market, subsidies to firms to “access” know-how and direct TA were necessary because most people “don’t know what they don’t know”. Resistance to advice, and especially having to pay for it, is common everywhere. Most processors and farmers are rightly proud of their traditional ways of doing things, and tend to blame problems on external factors including inadequate financing. Thus, linking TA with financing proved to be particularly effective. Subsidized TA not only helps the companies targeted but also creates a demonstration effect for others.

However, there is always a danger that by providing free or subsidized technical assistance, international donor funded technical assistance programs can restrain and even prevent a local business service market from emerging. Why pay for services if they are available for free?

While it is plausible that USG technical assistance programs could have initially crowded out some local consultant initiatives, interviewees of BSPs suggest that USG programs do not represent unfair competition—they recognize that there would be no market for consultants and fee for service, without projects like ASME. Their perception is that the foreign projects and experts provide credibility to business advice and demonstrate that this type of service has measurable value to the firm.

USG programs, and especially ASME, helped on both the demand (e.g. demonstrating the value of services) and supply sides—e.g. training and mentoring BSPs, as well as providing them with subcontracts. It is difficult for many BSPs to survive without business from donors until the market further develops.

5. *How did good practices and innovations introduced by the activities spread beyond the direct beneficiaries?*

The most effective mechanism for spreading good practices and innovations has been through the formation of clusters - e.g. honey associations, credit clubs, and links between producers and farm suppliers. However, we recommend that this practice be further emphasized and promoted in future assistance programs through the engagement of anchor firms, nuclear estates, etc. that provide a package of TA to farms and growers in return for reliable, quality supply. USG programs have worked on providing extension through government mechanisms, but underfunding is likely to continue to be a problem. Thus, working through commercial channels is a “win-win” proposition.

The ideal is for projects to provide a demonstration effect(s), and undoubtedly they do in terms of demonstrable management practices. However, since many are involved in the incursion into small domestic markets, there is a limit to how many in the same field can imitate ideas related to products and markets. It is noteworthy to appreciate how some commercial entities complain that the cheese market is now too competitive with accompanying falling prices.

Throughout project implementation, many expatriate technical experts were well utilized to try and benefit as many farms and firms as possible, leading to important demonstration effects. Also, market studies were made available to all firms that encourage the judicious and opportune participation in emerging market opportunities.

#### **D. Sustainability**

1. *Are the institutional and legislative environments supportive of agricultural and agribusiness development?*

Generally the institutional and legislative environments are adequate and neither project implementers nor beneficiary companies mention any major policy problems adversely affecting agricultural and agribusiness development. Technical assistance programs have been able to address policy and legislative issues as they come up (e.g. participation in formalizing credit clubs), and have evolved as market and institutional conditions have changed.

Strengthening of the GOA institutional and legislative enabling environments is one of the major unfinished agendas for making the next quantum step towards making Armenian agricultural and food products competitive in European and American markets. Through the recently adopted

European Neighborhood Policy (ENP), Armenia has declared its intent to harmonize its trade and related governance laws and regulations to those of the European Union. This harmonization is essential to ensure in the long run that basic market economy safeguards including full judicial enforcement of contract rights and property rights are observed. The step by step approaches by ASME, MAP and CARD personnel working with the GOA to write and enact legislation to the set of quality and safety standards for export commodities demonstrates an understanding of the constraints and an ability to assist the GOA in overcoming them.

Further support may be needed within the USG agribusiness programmatic framework to more systematically address the broader needs of the GOA to harmonize its trade laws and regulations with those of the EU. For example, recently the GOA successfully negotiated an agreement with the EU to export crayfish into the EU. However, this is only a short term arrangement and long run access to this market is dependent on achieving full harmonization with a broader range of EU food quality regulations. This is as much a challenge of helping supply chains comply in practice with EurepGap, for example, as it is with drafting of norms and regulations. Moreover, with expanding U.S. direct foreign investment into Armenia additional technical assistance in protecting private contracts and property rights may also be warranted.

In addition, a more systematic approach is needed to meet the short and long run export market constraints now facing Armenian agriculture. By the end of 2008, Armenia needs to bring its VAT and trade policy into compliance with WTO requirements. Farm products are now exempt from VAT while a 20% VAT tax is levied on all processed food products and on all agricultural inputs. Generally, commercial farmers who purchase a large share of their production inputs stand to gain from entry into the VAT system as they can claim a rebate from VAT paid on purchased inputs. However, the situation with respect to subsistence farmers is not so clear.

Recently a NAS representative from the USDA was in Armenia to discuss the possibility of supporting Armenia in implementing a Census of Agriculture. FAO is also interested, but the World Bank is not. It is recommended that USDA in association with EC/TACIS and FAO develop a joint strategy with the MOA and National Statistics Agency to develop and fund a National Agricultural Census to begin in 2007. The purpose of the Census is development of a viable and consistent national rural data set that is able to provide the basis for addressing the above issues, and in addition for preparing a long term rural and agricultural policy strategy that is based on current demographic and economic conditions of the rural and agricultural population.

With regard to specific sectoral concerns, there is still work that has to be undertaken in the area of range land management/restoration, forage grass improvement, etc. which is supportive of the livestock industry. Overgrazing, and the resulting degradation of grazing land appears to be epidemic, as there seems to be no control of who grazes on what public land and when. USG sponsored technical assistance and policy support in this area could result in increased incomes for livestock owners and improved environmental conditions in local communities. Furthermore, better public land use policy development could be an effective tool for good governance and decentralization, and could reduce the potential for conflict over natural resources.

Overall, the institutional environment requires further maturation. Financial institutions are some of the first to be forging ahead to reach this point – thanks to the participation of USG programs and other related efforts. The continued support of applied research and extension is vital to the development of this sector, and the funding issues that will result from the withdrawal of donor support must be addressed; hence the need to do more through anchor, and other catalytic agribusinesses. Trade and business associations are still relatively few and nascent in their stage of development; their promotion and strengthening can be a vital source of common services

available to exporters in a number of areas, such as competitively priced laboratory testing and inspection services, packing and logistically related services, etc. Finally, as described above, BSPs and professional service capacity is improving, but should be further strengthened as is proposed below.

2. *Is the assistance effective in building local capacity to carry on and sustain development after USG funded technical assistance is ended?*

As previously discussed in this evaluation, some sectors such as beekeeping have learned to organize themselves (with USG support) and have reached a point where they are becoming less dependent upon external support. Other sectors, such as greenhouse production, still lack the organizational capacity to help this value chain to take off. Aquaculture is in a similar position. Food processors, including dairies, still need significant assistance in the areas of sanitation, quality control, production as well as meeting international grades and standards, and the question is whether BSPs are ready to provide this type of assistance. Brandy and vodka producers in Armenia have developed to an extent, but often by the injection of outside investment or partnering with existing successful companies in the field, demonstrating the importance of external investment as a model for addressing systemic challenges.

In addition to direct support to firms, USG support has been focused on sustainable capacity building. Two USG program “spin-offs”-- CARD and VISTAA, represent efforts for services to continue on a self-sustaining basis. The regional business support centers and efforts to survive on the basis of fees represent another example. Over time, their ability to succeed will depend on their ability to effectively market and deliver services. Experience elsewhere suggests that a few will succeed, and most will not.

Thus, in terms of local capacity, the following conclusions can be made about the effectiveness of USG efforts:

- The greatest impact may well be at the level of the large number of individuals who have been formally trained and mentored in new concepts, skills and knowledge; while some may leave Armenia, most will continue to contribute.
- The further development and maturation of the financial sector will continue, and represent an important USG legacy to the extent it has become more relevant to agribusiness (even though much remains to be done, especially with farm credit).
- Business service providers have begun to emerge on a commercial basis, although many will be challenged to survive in the agricultural area given current market conditions.
- Processors and agribusinesses (and new investors) become a critical and dynamic part of the “capacity” framework to the extent that they provide know-how backward through the supply chain.
- The most challenged institutions—in terms of their stage of development and sustainability—are governmental, if only because of the government’s budget limitations.

3. *Will the businesses and products that have benefited from USG assistance be viable and competitive in the absence of the assistance?*

Yes, in most cases; but these businesses and producers must remain adaptive as the economy of the country transitions further, resulting in modified buying habits and market preferences. While many individual companies will remain successful in their niche markets, longer-term growth and success of important product groups depends on the ability to enter export markets. This is closest for some such as selected dairy, dried fruits, aquaculture, beekeeping, and greenhouses. However, these and others can strongly benefit from strategic private investment to address supply chain and capacity limitations and facilitate access to market.

4. Is there a credible exit strategy that will allow USG funding to be phased out efficiently and without undue transition problems?

Individual projects do have well defined or planned exit strategies—USDA has already articulated this and started with the transition from MAP to CARD. The MCC changes the landscape as it introduces a new time horizon and major programmatic initiatives. MCC also introduces a new strategic dimension—greater Armenian government and stakeholder control over the program. This is an important element of an eventual exit strategy.

The USG can be satisfied in having helped stabilize the situation and eased the pain of the initial transition. It helped “jumpstart” key services and intermediaries that link producers to technology, markets and inputs, as well as started implementing important capacity building activities. USG can move towards an exit strategy by:

- 1) Co-investing with the government in critical infrastructure and constraints (MCC program).
- 2) Conceptualizing an approach for promoting private investment in strategic opportunity areas and/or public private partnerships (e.g. if there are good opportunities and awareness of these possibilities, private capital will flow to them. There is always financing for good projects), and these private and market based investments will help address many of the constraints to agribusiness development (selected infrastructural services, access to market, technology and know-how, financing, management, and supply chain management and logistics).
- 3) Helping key service and support institutions mature and further develop their capacity (eventual legacies) while ensuring that these are “market” driven and not just donor creations.
- 4) Continuing to support other sectors of the economy, since agriculture cannot possibly be the principal source of jobs and improved incomes for the majority of the population.

# APPENDICES

## APPENDIX I. INTERVIEW RESULTS FROM SELECTED BENEFICIARIES

<u>Product Sector</u>	<u>Markets</u>	<u>US Government Services Used</u>	<u>Impact</u>	<u>Perception of Services</u>	<u>Future Needs</u>
Cheeses	Export (80% to Russia/USA)	<ul style="list-style-type: none"> <li>• MAP financing (loans)</li> <li>• Marketing &amp; TA</li> <li>• Supply chain – help to milk processor</li> </ul>	<ul style="list-style-type: none"> <li>• Buys from Farmers</li> </ul>	<ul style="list-style-type: none"> <li>• Loans expensive, but critical</li> </ul>	<ul style="list-style-type: none"> <li>• Supply chain</li> <li>• Quality Management</li> </ul>
Pig/ Cheese/ Sausage	Domestic	<ul style="list-style-type: none"> <li>• MAP loans (equipment)</li> <li>• ASME grant (equipment)</li> </ul>	<ul style="list-style-type: none"> <li>• 500 suppliers</li> <li>• Viability</li> </ul>	<ul style="list-style-type: none"> <li>• Financing most important (but not linked to ag. cycle)</li> <li>• MAP made promise but did not deliver</li> </ul>	<ul style="list-style-type: none"> <li>• Highly leveraged</li> <li>• Strategic business plan</li> </ul>
Dairy	Some export of cheese	<ul style="list-style-type: none"> <li>• Leasing (MAP)</li> <li>• ASME (Grant &amp; TA)</li> <li>• IFAD loan</li> </ul>	<ul style="list-style-type: none"> <li>• Vertically Integrated</li> </ul>	<ul style="list-style-type: none"> <li>• MAP promised marketing help and did not deliver</li> <li>• ASME “rescued” company</li> </ul>	<ul style="list-style-type: none"> <li>• Quality management for export</li> </ul>
Slaughterhouse	Local, domestic	<ul style="list-style-type: none"> <li>• CARD grant (equipment)</li> </ul>	<ul style="list-style-type: none"> <li>• Viability</li> </ul>	<ul style="list-style-type: none"> <li>• Lacks viable business plan</li> </ul>	<ul style="list-style-type: none"> <li>• Underutilizing capacity (not viable)</li> <li>• High cost for most locals</li> </ul>
Honey Association	Switzerland (lower price) Local	<ul style="list-style-type: none"> <li>• ASME TA (technical, marketing)</li> </ul>	<ul style="list-style-type: none"> <li>• Few members</li> <li>• Exports have lower price</li> </ul>	NA	<ul style="list-style-type: none"> <li>• Need consolidation and processing center</li> <li>• Working capital</li> </ul>
Goat Breeding	Local farmers	<ul style="list-style-type: none"> <li>• MAP creation</li> </ul>	<ul style="list-style-type: none"> <li>• AI package useful (viability)</li> </ul>	<ul style="list-style-type: none"> <li>• Slaughterhouse unusable</li> <li>• AI useful</li> </ul>	<ul style="list-style-type: none"> <li>• Financial viability</li> </ul>
Wood Processing	Domestic	<ul style="list-style-type: none"> <li>• Multiple Eurasia and IFAD loads</li> <li>• ASME TA (financial management)</li> </ul>	<ul style="list-style-type: none"> <li>• 23 additional employees</li> </ul>	<ul style="list-style-type: none"> <li>• Wants low cost loans (not grants)</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of business planning</li> <li>• Underutilized capacity</li> </ul>
Honey and Beef	Domestic	<ul style="list-style-type: none"> <li>• CARD TA for beef</li> </ul>	NA	<ul style="list-style-type: none"> <li>• Useful (want/need more)</li> </ul>	<ul style="list-style-type: none"> <li>• Low price of honey (high cost)</li> <li>• Marketing</li> </ul>
Canned fruits and vegetables, tomato paste and ketchup, brandy	Domestic Russia (brandy)	<ul style="list-style-type: none"> <li>• MAP loans</li> </ul>	<ul style="list-style-type: none"> <li>• Vertical Integration</li> </ul>	NA	<ul style="list-style-type: none"> <li>• Acquisition of land for own supply</li> </ul>
Baler twine, plastic	Domestic	<ul style="list-style-type: none"> <li>• ASME business and marketing TA</li> <li>• Grant (facility purchase)</li> </ul>	<ul style="list-style-type: none"> <li>• Growth from 2-4 employees</li> <li>• Output up 15%</li> </ul>	<ul style="list-style-type: none"> <li>• All credit to ASME TA (especially marketing and planning and property purchase)</li> </ul>	<ul style="list-style-type: none"> <li>• Long-term financing</li> <li>• Packaging materials and inputs (volume and quality)</li> </ul>
Wine	Russia Balkans	<ul style="list-style-type: none"> <li>• 3 MAP loans (equipment and inputs such as grapes and glass bottles)</li> <li>• CARD 75% financing of printing of marketing materials (including road signs)</li> <li>• Co-financing of trade shows</li> <li>• Some TA</li> <li>• ASME workshop</li> </ul>	<ul style="list-style-type: none"> <li>• From 7-13 jobs</li> <li>• 3x Output in 7 years</li> </ul>	<ul style="list-style-type: none"> <li>• Invaluable (Loans)</li> <li>• TA business planning less helpful</li> <li>• No follow-up of ASME workshop</li> </ul>	<ul style="list-style-type: none"> <li>• Long term financing</li> </ul>

<b>Product Sector</b>	<b>Markets</b>	<b>US Government Services Used</b>	<b>Impact</b>	<b>Perception of Services</b>	<b>Future Needs</b>
Goat Milk products	Russia US	<ul style="list-style-type: none"> <li>Multiple MAP loans</li> <li>MAP STTA (technology)</li> <li>MAP trade shows</li> <li>MAP subsidy of transport costs (Russian buyer)</li> </ul>	<ul style="list-style-type: none"> <li>Growth from 4-22 employees</li> <li>5x increase in output</li> </ul>	<ul style="list-style-type: none"> <li>Milk collection centers helpful (own part of these)</li> <li>Marketing most useful</li> <li>Low cost loans sped up growth</li> </ul>	<ul style="list-style-type: none"> <li>Marketing/ Marketing image</li> <li>Long term financing</li> <li>Insurance</li> </ul>
Wine	One client in Russia	<ul style="list-style-type: none"> <li>MAP loan (buy grapes)</li> <li>USDA leasing of equipment</li> <li>MAP STTA</li> </ul>	<ul style="list-style-type: none"> <li>No expansion as a direct result of assistance provided</li> <li>Minimal overall impact on development of business</li> </ul>	<ul style="list-style-type: none"> <li>STTA mostly unfocused (supply driven)</li> </ul>	<ul style="list-style-type: none"> <li>Low cost/long-term financing</li> <li>Access to technology</li> <li>Testing (quality)</li> </ul>
Catering/delivery	Domestic	<ul style="list-style-type: none"> <li>ASME STTA</li> <li>2 grants (equipment/facilities)</li> </ul>	<ul style="list-style-type: none"> <li>Growth from 4-23 employees</li> <li>Increase in sales from \$15 k → \$100k / month</li> </ul>	<ul style="list-style-type: none"> <li>ASME suggested expanded service line (delivery), which was implemented and has been successful</li> <li>STTA and grants have been invaluable</li> </ul>	<ul style="list-style-type: none"> <li>Long-term financing with grace periods so that business can be doing business by the time the loan begins to be repaid</li> </ul>
Narine (dairy by-product)	Domestic	<ul style="list-style-type: none"> <li>MEDI – exhibited product on business's behalf at regional tradeshow</li> <li>ASME – TA &amp; workshops</li> <li>Grant (equipment)</li> </ul>	<ul style="list-style-type: none"> <li>Growth from 1-12 employees</li> <li>Production growth from 300 units/month to 10,000/month</li> <li>Anticipates growth in sales from \$10k/mo to \$15k/mo over the next year</li> </ul>	<ul style="list-style-type: none"> <li>TA was targeted well, using a useful combination of local and expatriate consultants</li> <li>Allowed to select training seminars based on which would be most useful (as opposed to being directed to attend specific seminars/workshops)</li> </ul>	<ul style="list-style-type: none"> <li>Access to technology</li> <li>Continued TA (tax, financial, etc)</li> <li>Networking</li> <li>Long-term/low-cost financing</li> </ul>
Herbal tea	Domestic	<ul style="list-style-type: none"> <li>MAP loan (facilities and start-up costs)</li> <li>MAP cost-sharing (tradeshow/ equipment/ establish a testing laboratory)</li> </ul>	<ul style="list-style-type: none"> <li>15% of growth due to MAP assistance</li> </ul>	<ul style="list-style-type: none"> <li>Refused ASME trade show (required to exhibit at ASME booth instead of individual company booth)</li> </ul>	<ul style="list-style-type: none"> <li>Finance</li> <li>Quality pool of employees/HR pool</li> <li>Sector branding/image</li> <li>International standards</li> </ul>
Consulting	Domestic Some foreign (India and Russia)	<ul style="list-style-type: none"> <li>ASME Training</li> <li>Has been subcontracted by DAI to provide services to ASME</li> </ul>	<ul style="list-style-type: none"> <li>50% of sales direct result of ASME assistance</li> </ul>	<ul style="list-style-type: none"> <li>Learn by doing (mentoring)</li> <li>Developed marketing skills and credibility within the domestic market</li> </ul>	NA
Dried fruits	Export Domestic	<ul style="list-style-type: none"> <li>USDA loan &amp; guarantee</li> <li>Co-financing of participation at tradeshow</li> <li>ASME grant (equipment)</li> <li>STTA – food safety/marketing</li> </ul>	<ul style="list-style-type: none"> <li>Increase from 3-9 permanent employees &amp; from 12-70 seasonal</li> <li>Access to commercial loans</li> <li>Export 20% growth/yr</li> </ul>	<ul style="list-style-type: none"> <li>Financing sped up growth by 5-6 years</li> </ul>	<ul style="list-style-type: none"> <li>Access to finance</li> <li>Sector cannot reach operating capacity w/out financial assistance for inputs (land is available, but lacking seeds, trees, etc.)</li> </ul>

<u>Product Sector</u>	<u>Markets</u>	<u>US Government Services Used</u>	<u>Impact</u>	<u>Perception of Services</u>	<u>Future Needs</u>
Dairy products	Domestic	<ul style="list-style-type: none"> <li>• USDA leasing (equipment)</li> <li>• ASME STTA &amp; cost sharing agreements – ISO certification and marketing</li> </ul>	<ul style="list-style-type: none"> <li>• 30% growth</li> <li>• Decrease in corruption of lending sector</li> <li>• Access to commercial finance</li> </ul>	<ul style="list-style-type: none"> <li>• Mostly self-financed</li> <li>• USDA creation of milk collection points increased cost of production (milk price rose due to creation of “middleman”)</li> <li>• TA received was extremely useful, especially in the area of marketing</li> </ul>	<ul style="list-style-type: none"> <li>• Great access to long-term financing</li> <li>• Export marketing – links to buyers needed</li> <li>• Supply chain improvements</li> </ul>
Mushrooms	Local Export (Tbilisi, Republic of Georgia)	<ul style="list-style-type: none"> <li>• ASME STTA (on technology)</li> <li>• Cost-sharing grant (equipment) and tradeshows</li> </ul>	<ul style="list-style-type: none"> <li>• Growth from 10-50 employees (1/2 due to USG assistance)</li> <li>• Growth from 180 days/year production/output to 360 days/year production/output</li> <li>• 300% increase output</li> <li>• Less bank corruption</li> </ul>	<ul style="list-style-type: none"> <li>• Very positive (financing)</li> </ul>	<ul style="list-style-type: none"> <li>• Affordable finance</li> </ul>
Blue cheese	Yerevan only	<ul style="list-style-type: none"> <li>• MAP small grants</li> <li>• Equipment refurbishing, study tour, tradeshows (MAP and CARD)</li> <li>• STTA (MAP)</li> </ul>	<ul style="list-style-type: none"> <li>• Credits USDA MAP with jump-starting the business</li> <li>• Currently losing money due to low sales/lack of market</li> </ul>	<ul style="list-style-type: none"> <li>• Study tour and expert of particular value</li> <li>• Recent CARD local show not useful (focus was on exhibiting rather than networking with buyers/signing contracts for new business) – no new sales</li> <li>• Financing was key to implementing changes/renovation - estimates that without MAP assistance, would have gone out of businesses due to lack of productive capacity</li> <li>• Consulting firms not helpful</li> </ul>	<ul style="list-style-type: none"> <li>• Exposure to best practices</li> <li>• Export marketing &amp; certifications</li> <li>• Long-term financing</li> </ul>
Cheese, Sour Cream, Yogurt	Domestic	<ul style="list-style-type: none"> <li>• MAP loans and grants (equip., etc.)</li> <li>• MAP STTA (marketing, technological advancements, business development and product line expansion)</li> <li>• Technology, new products, marketing</li> <li>• CARD financing (cost-share) of catalogue of products</li> </ul>	<ul style="list-style-type: none"> <li>• Expansion into new products</li> <li>• Helped business to switch from distribution only to production</li> </ul>	<ul style="list-style-type: none"> <li>• Local TA not as useful as expatriate</li> <li>• Technology solutions provided by US STTA</li> </ul>	<ul style="list-style-type: none"> <li>• Export certifications &amp; labeling</li> <li>• Access to long-term/low cost financing</li> </ul>

<b><u>Product Sector</u></b>	<b><u>Markets</u></b>	<b><u>US Government Services Used</u></b>	<b><u>Impact</u></b>	<b><u>Perception of Services</u></b>	<b><u>Future Needs</u></b>
Yeast	Domestic, some Georgia	<ul style="list-style-type: none"> <li>• MAP financing fell through</li> <li>• ASME grants (cost-sharing) and TA covering business planning, equipment purchase, development of marketing materials, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Business has grown 12 times larger since ASME assistance was provided</li> <li>• Improved ability to access and receive commercial loans</li> </ul>	<ul style="list-style-type: none"> <li>• MAP experience was disaster</li> <li>• ASME success story (very happy with the finance &amp; TA combination and recognizes that financial assistance alone is not sufficient)</li> </ul>	<ul style="list-style-type: none"> <li>• Export marketing, networking &amp; certifications</li> <li>• Long-term/low-cost financing</li> <li>• Management training</li> </ul>
Packaging Materials, Dried Fruits, Dairy Products	Domestic	<ul style="list-style-type: none"> <li>• MAP co-financed participation in international tradeshows &amp; training (technology advancements)</li> <li>• ASME continues this &amp; STTA</li> <li>• 2 MAP loans (50% raw materials)</li> <li>• CARD co-financing market research</li> <li>• ASME 50% co-financing (equipment) &amp; training</li> </ul>	<ul style="list-style-type: none"> <li>• Forward integration (company has moved from only packaging to producing vacuum packed vegetables, fruit &amp; dairy products)</li> <li>• STTA ensured that domestic standards were met</li> <li>• Market research has facilitated product expansion/development</li> </ul>	<ul style="list-style-type: none"> <li>• STTA very useful</li> <li>• Market research assistance extremely useful for continued development and profitability of the business</li> </ul>	<ul style="list-style-type: none"> <li>• Marketing &amp; branding</li> <li>• Low-cost/long-term financing</li> <li>• Access to technology</li> <li>• Assistance resolving constraint of cost of meeting standards requirements</li> </ul>

## APPENDIX II. AGRICULTURAL CREDIT MARKETS IN ARMENIA

Agricultural credit markets in Armenia are quite well developed in 2006 and similar to markets for other economic goods and services display a significant degree of segmentation among different types of borrowers. One of the features of segmented markets is that similar products or services are provided to buyers with different characteristics with each group charged at a different market rate. Table A.1 below illustrates the principal of different market rates for loan products that are supplied to different customers.

We conclude that the ACBA bank provides full service lending to meet the needs of commercial farmers and SME agribusinesses at long-term sustainable market rates. This bank is well managed and positioned to provide commercial loans to the Armenian agriculture and agribusiness sectors in the future.

However, most low income borrowers operate in a separate market segment and pay higher interest rates than borrowers able to meet normal credit requirements. This is the expected outcome under normal market conditions. However, at least two additional credit market segments exist where borrowers that are identified through objective donor development criteria as having a high probability for loan repayment are supplied with lower cost loans to provide an additional incentive to improve their commercial position. These two segmented markets include one managed by IFAD and another one by the USDA CARD NGO through their Credit Club model. The IFAD lending window has a default rate of 4.6% while none of the USDA CARD loans are currently in default. The latter is of particular interest to this evaluation, as an effective self-sufficiency exit strategy has not been developed to date. It is recommended that a fixed date of four years be adopted by the donor agency for full transfer of donor capital to an individual Credit Club and close out of direct Project Assistance unless the Farm Credit Administration study recommends an alternative process.

### Discussion

**Table A.1** Selected Indicators for Financial Institutions that Provide Credit to the Armenian Agriculture and Agribusiness Sector

Finance Institution	Staff Number	Borrowers Number	Avg Loan Balance (\$)	Gross Portfolio (\$000)	Borrowers per staff Number	Cost per Borrower (\$)	Nom Int rates (%)	Savings Int Rate (%)
Aregak*	123	17,614	326	5,747	143	140	28-39	N/A
Kamurj**	76	6,536	317	2,075	86	97	28-39	N/A
SEF**	34	1,686	667	1,142	50	278	28-39	N/A
ANIV**	19	174	7,036	1,224	9	787	12	N/A
Agricultural Cooperative Bank**	223	28,292	1,193	33,762	127	131	16 -20	6-7
CARD Credit Clubs*	3	969	1,709	1,656	323	51	10	N/A

Sources: \* Data reflects position as of May 2006 from CARD staff interviews

\*\* Data reflects 2004 audit reports posted on Mix Market MFI ([www.mixmarket.org](http://www.mixmarket.org))

### Micro Finance Institutions:

Six micro credit institutions operate in rural Armenia. Selected indicators are provided in Table A.1 for three of them, Aregak, Kamurj, and SEF. All three are sponsored by International donor organizations. The United Methodist Committee on Relief (UMCOR) founded Aregak in 1988 with capitalization primarily by USAID and USDA. Kamurj, founded in 1988 is sponsored and capitalized by Save the Children Foundation and Catholic Relief Services. SEF is sponsored by

and capitalized by World Vision. All are now becoming registered as financial institutions with the Central Bank as Armenian financial institutions. As a result they are all in the process of being restructured to realize greater independence from their founding organizations and potentially become more efficient lenders.

Aregak is considerably larger than the other two with more than 17,500 borrowers in 2004. Kamurj had more than 6,500 borrowers and SEF almost 1,700 borrowers. The ratio of borrowers per staff members and servicing cost per borrower also varies considerably but the loan size is small. The data for the period displayed indicates that the two larger organizations provide average loans of less than \$330 while the average loan size for SEF is \$66.

These three organizations serve the market segment of borrowers who generally are unable to qualify for credit from other lending institutions. They do not require collateral, and typically do not require business plans or other due diligence performed by commercial banks. Consequently, the cost to the borrowers is quite high with nominal interest rates from 28% - 39% per annum. The loans are generally of three months duration or less.

Specialized SME credit: ANIV is directly managed and capitalized by IFAD and has a relatively small credit window. Table A.1 shows that it had only 174 loans outstanding in 2004 but the average loan balance was just over \$7,000. Similar to the micro credit organizations, ANIV serves the segment of SME borrowers that may not be able to qualify for commercial credit. Borrowers must submit a business plan and provide collateral, which can include the items purchased by the loan. Loan maturity is from one to three years. Lending credit is provided exclusively by IFAD at LIBOR +1. Borrowers interviewed reported nominal interest rates of 12% per annum.

Table A.1 shows that the average loan size was about \$1,200 per person, and that just over 28,000 borrowers were reported in 2004. During our interview the ACBA General Manager indicated that the bank had some 40,000 customers in May 2006. About one quarter of the bank loan portfolio is agricultural loans. The bank provides savings accounts and all agricultural loans are provided through some 700 village credit associations. The bank provides short and long term loans for periods of three months or less to up to two years. A subsidiary, ACBA Leasing that is owned in association with IFC and Credit Agricole of France provides for purchase of large scale capital equipment for periods up to seven years. The nominal per annum interest rate for this program is 18% - 20%.

Individuals seeking an agricultural loan generally first join a village association, where village leaders make an initial assessment of credit worthiness. If this informal assessment is positive the nominal interest rate for first time applicants is generally 20% per annum but may be lower if the village association has a good reputation. Borrowers are required to prepare a business plan and provide 100% collateral, which can include land. A simplified collateral procedure is used whereby the collateral does not have to be notarized, thus reducing the servicing fee. ACBA is reportedly the only full service bank that uses the simplified procedure.

After one successful loan of at least one year period, interest rates may be reduced to 16% per annum and then held at that rate. Discussions with bank personnel indicate that they prefer not to accept loan funds at less than market interest rates (they usually obtain funds at LIBOR + 3 or LIBOR + 3) within the context that the money will be lent out at rates lower than their current market levels within the above framework. They note that their agricultural loan portfolio is

expanding and they believe that their current rate structure is not excessive and will adapt to changing cost of capital and the risk profile of the borrower over time.

CARD Credit Clubs: This USDA MAP program pioneered the Credit Club concept primarily for the small scale pre-commercial farmer market segment who needed loans primarily for one year or less, who cannot meet normal commercial criteria, and who are linked directly with a processor who is a part of the USDA program.

MAP (and a successor NGO agency CARD) is the only provider of Credit Club loan funds to date, although under the existing enabling legislation, donor agencies, a union of Credit Clubs, International donor organizations, and governments and communities can also supply loan capital. As of May 2006, almost 1,000 loans were outstanding with an average value of about \$1,700 each. The Credit Clubs are registered legal credit organizations with the Ministry of Finance. Membership usually ranges between 15 to 20 persons, all from one village who established good informal working relationships, but may exceed this number. Loans are usually for a one year period and business plans are preferred, but not always required. Village Heads usually are members of the local Credit Club and provide longer term leadership and stability.

The nominal interest rate for Credit Club loans is 10%. However, the calculation for establishing this rate is somewhat complex. All borrowers must be members of a village Credit Club, which must become registered after the first year of operation. Borrowers do not make formal interest payments but receive only 85% of the requested loan amount. The remaining 15% is divided as follows:

- 4% is paid into an undivided capital fund which remains on the account of the borrowers but is used by the Credit Club as part of its loan pool;
- 5% is paid into an joint capital reserve fund which remains the property of the Credit Club and is part of the loan pool;
- 2% is paid into a joint loan risk reserve fund that is not part of the loan pool.
- 3% is paid to CARD to cover servicing of the Credit Club loans including training Club members in loan fund management.

The 4% paid into the undivided capital fund is in effect a form of savings for the individual member, who may reclaim this money, without interest, upon withdrawal from the club as a member in good standing (or upon the liquidation of the Club). In the event of liquidation the accumulated moneys in the joint capital reserve fund and the risk fund revert to an account in the Ministry of Finance.

As noted in Table A.1 almost 1,000 individuals are Credit Club members, and they are organized into 51 clubs. CARD provides initial loan capital as a no interest grant to be used by members as described above. As the undivided and divided reserve fund is increased CARD provides further matching grants to build up gradually the reserve capital balance. Under current CARD policy up to \$44,000 may be provided on a matching basis to an individual Credit Club. As of May 2006 the CARD loan capital invested in the Credit Clubs is \$1.180 million and the Credit Club reserve capital base is \$.476 million.

The Credit Club provides a useful loan intermediary for small-scale farmers unable to meet normal credit requirements, but CARD has not established a procedure for graduation into full self-sustainability apart from the maximum total matching fund level. This criteria does not lead

to a fixed maturation date but is dependent on the level of funds provided annually. For example if a Club has 20 members each borrowing \$1,000 per year a matching total capital reserve plus risk reserve fund of \$40,000 will be reached in twenty years. However, for a 20 member club with each member receiving \$2,000 per year or a 40 member club with each member receiving \$1,000 per year a matching fund of \$40,000 will be reached in 10 years.

The Credit Club model, which fills the loan market segment for small-scale commercial farmers, can be viewed as a unique form of a commercialized grant program. That is, the donor provides interest free grants to farmers which apply an internal interest based lending approach within a registered credit organizational framework. The Clubs are subject to regular audits by the Ministry of Finance. Three percent of the grant is returned to the donor to provide systematic training in loan servicing and principles of association management. This training is designed to provide each Credit Club with the knowledge and experience to self manage this supply of credit and slowly expand the lending base. However, the self sufficiency criteria currently in force requires the donor to continue turning over its own grant capital for a period of at least ten years before the Club reserve fund matches the annual donor contribution. To meet the current maximum matching fund may take up to or more than twice as long. This is not a suitable criterion to attain program self-sustainability.

### Micro-Credit Programs (ACBA, Aregak, ANIV, Kamurj, and SEF)

The Agricultural Cooperative Bank of Armenia (ACBA) registered as a bank; and Aregak, ANIV, Kamurj, and SEF registered as NGOs, all operate as micro finance institutions (MFI) in Armenia and provide loans to small-scale entrepreneurs. Selected performance indicators for these organizations are summarized in Table A.2.

**Table A.2 Selected MFI Performance Indicators, 2004**

MFI	Staff	Borrowers	Avg loan balance \$	Gross portfolio (\$000)	Assets (\$000)	Savings (\$000)	Cost per borrower \$	Borrowers per staff	Write off ratio	Source of funds
ACBA	223	28,292	1,193	33,761.9	50,390.4	12,181.3	131	127	0.95	IFIs
ANIV	19	174	7,036	1,224.3	1,396.6	0.0	787	9	4.60	IFAD
AREGAK	123	17,614	326	5,746.6	10,723.0	0.0	140	140	0.00	USAID/USDA
Kamurj	76	6,536	317	2,074.5	3,565.6	0.0	97	86	0.55	SCF/CRS
SEF	34	1,686	667	1,142.2	1,142.2	0.0	278	50	5.13	World Vision

Source: Mix Market MFI ([www.mixmarket.org](http://www.mixmarket.org))

ACBA was founded in 1996 within a EU/TACIS project to provide loans to agriculture, production, trade, and services. Up to 60% of ACBA lending activity is in the micro finance area and it manages over 700 village credit associations. It is one of the largest private banks in Armenia with a staff of 223 persons, and 28,292 borrowers in 2004. The gross loan portfolio was \$33.7 million. The bank provides savings, loans, and leasing services and has one of the largest agricultural loan portfolios in Armenia. It is unique among credit organizations in that it makes unsecured loans to small-scale borrowers based on cash flow business plans supported by recommendations from respected village leaders. Interest rates for agricultural loans range from 16% to 20% per annum. With assistance from the USAID ASME Project it introduced an agro leasing company in 2002 to support lease/purchase of capital equipment.

ANIV was founded in 2000 by IFAD to provide farm and non-farm loans to individuals with insufficient collateral and a risk profile that would prohibit them from qualifying under normal bank lending criteria. In 2004 ANIV had a staff of 19 people, with 174 borrowers and a gross

loan portfolio of \$1.2 million. ANIV specializes in loans to small scale agribusinesses with limited collateral and a higher risk profile than is accepted by commercial banks at interest rates of 12% per annum. As noted in Table A.2, its average loan balance is considerably larger than that of the other lending institutions.

Aregak, founded in 1998, is the micro credit arm of the United Methodist Committee on Relief (UMCOR) program in Armenia. It operates in 9 of Armenia's 11 regions and provides financial support to women entrepreneurs from low-income families. In 2004 Aregak had a staff of 123 people, with 17,614 borrowers and a gross loan portfolio of \$5.7 million. Agricultural and agribusiness loans are not a major component of its lending portfolio.

Kamurj, founded in 1998, is funded by Save the Children Foundation and Catholic Relief Services. In 2004 it had 76 employees, and 6,536 borrowers, with an average loan balance of \$317. Agricultural and agribusiness loans do not make up a significant portion of its portfolio.

SEF, founded in 1997 is supported by World Vision and reported 34 employees in 2004. It had 1,686 borrowers with an average loan balance of \$667. Similar to Aregak and Kamurj NGOs, agricultural and agribusiness lending is not a significant portion of its portfolio.

As of March 2006 all NGO MFIs became subject to the Armenian Central Bank banking regulations. This change in legal status requires financial audits, and most NGO MFIs are in the process of restructuring their internal operations. In the long run this is expected to improve the competitive nature of this lending component and reduce interest rates that now range from 40% to 60% per annum.

In April 2006, the US Farm Credit Administration concluded an extensive study of farm credit in Armenia. The study was conducted at the request of the US Government with the cooperation of the Armenian Government. That study is much more detailed and complete than the work conducted within this evaluation.

It is imperative that any system put in place, work closely with the government of Armenia and that it be a comprehensive approach that consolidates the now fragmented USG farm credit efforts. It is also highly recommended that the farm credit efforts of the forthcoming MCC program also be coordinated and in concert with the Farm Credit Administration promulgation.

More specifically, the evaluation was directed to respond to 16 key questions in the general areas of *Implementation*, *Impact* and *Sustainability*. The objective of this report is not only to provide answers to these queries, but to also formulate a "way forward" for future USG assistance programs in this sector.

## **APPENDIX III. SCOPE OF WORK**

### **Independent Evaluation of US Government Agriculture Sector Activities in Armenia**

#### **I. Introduction**

This document describes the concepts for an independent evaluation of ongoing US Government (USG) agriculture sector activities in Armenia. The purpose of the evaluation is to:

1. Inform future programming decisions by identifying the most promising areas for further development as well as interventions that have not been as effective.
2. Examine the market impact of USG agriculture sector interventions, including any positive impacts (i.e., increases in efficiency or growth rates) and negative ones (i.e., introduction of market distortions or promotion of non-competitive products).
3. Review the portfolio of USG activities in terms of internal “division of labor” and coordination issues, as well as coordination with other donors active and potentially with the Millennium Challenge Account Armenia.
4. Analyze the sustainability of interventions and the existence of an effective exit strategy in anticipation of the phasing out of USG assistance in the future.
5. Determine the adequacy of the current levels of assistance in relation to the needs and absorptive capacity of the sector, especially in areas on which USG assistance has focused.
6. Determine how the activity has promoted innovation and change in the agriculture sector.

The evaluation will examine the following activities:

- a. The USAID Agriculture SME Market Development Project (ASME); aspects of the USAID Micro Enterprise Development Initiative (MEDI) that are relevant to agribusiness; and the Farmer-to-Farmer program.
- b. The USDA Marketing Assistance Project (MAP), which has been recently replaced by the USDA Center for Agribusiness and Rural Development (CARD) project.

#### **II. Background**

##### The agriculture sector in Armenia

Over the last decade, the agricultural sector has played an increasingly important role in the economy and currently accounts for roughly 35 percent of Armenia's GDP. Armenia is still a large net importer of food, importing almost a third of food consumption. Quality and quantity of farmland is not generally a source of comparative advantage for Armenia. Agricultural land makes up only 1.3 million hectares (43 percent of the territory). With about 0.4 hectares of agricultural land per inhabitant, the agricultural resource base of Armenia is among the lowest in Europe and Eurasia.

The Government of Armenia has been pursuing a liberal agricultural policy since the early 1990s. Most subsidies have been abolished. The country also adopted a liberal import policy on agriculture with duties of 0-10 percent. However, there are significant constraints to the development of the agriculture and agribusiness sector in Armenia, ranging from a lack of efficiencies of scale and poor infrastructure to inadequate sources of financing and limited local demand.

Armenia's agriculture sector also has some significant strengths. The country has multiple agronomic zones, conducive to production of a range of crops and animal products. There are extensive high meadows suitable for goats and sheep that can supply the milk for a variety of cheeses. Lower flatlands can support dairy cows, and grain. The range of elevations and microclimates allow production of several varieties of grapes and tree fruits that were highly regarded in Soviet times. There are food processing enterprises that are producing quality products with the potential to compete in world markets.

### USG assistance

The USG has invested over \$80 million in agribusiness and agricultural development in Armenia during nearly 12 years of technical assistance. The USG and other donors sponsor interventions designed to mitigate some of the deficiencies mentioned in the previous section and to capitalize on Armenia's attributes. The USDA interventions under MAP and now under its successor CARD started in 1996 and have made up the largest portion of international development funds invested in Armenia's agriculture sector. The USAID ASME program was launched in 2000 with similar objectives and has been complemented by MEDI another USAID project that targets micro and small enterprises, including ones in the agriculture sector.

### *USDA: MAP and CARD*

The Marketing Assistance Project (MAP) has been the largest and longest running agribusiness development project managed by the U.S. Department of Agriculture (USDA). MAP was established in 1996 to assist farmers and agribusinesses in Armenia to increase their production and marketing capabilities and in so doing develop and advance the country's agricultural sector. Its mission statement reads:

*MAP assists farmers and agribusinesses in production, marketing, and exporting food and related products to increase incomes, create jobs, and raise the standard of living for Armenians working in the agro-processing sector. This assistance comes in the form of technical, financial, and marketing support to farmers and farmer groups, agribusinesses, as well as education, extension services and applied research throughout the country.*

MAP's approach to small and medium enterprise (SME) development had an intensive and integrated package of technical, financial, and marketing assistance delivered in a flexible and rapid manner. Technical assistance was provided through short and long-term consultants from American land-grant universities, faculty from the Armenian Agricultural Academy, ACDI/VOCA volunteers, VISTAA, and other international and local organizations. Its assistance included, but was not limited to, irrigation training and water management; integrated pest management (IPM); dairy herd health, nutrition, and breeding; increasing food health and safety through improved cleaning and sanitation procedures and in-house labs; new product development, often for import substitution; increased fruit and vegetable, dairy, and meat

production; agricultural sector seminars and knowledge and technology transfers to local agribusinesses; etc.

MAP offered financial assistance through direct client grants, micro-enterprise and strategic loans to agribusinesses, as well as marz-wide, local village Production Credit Clubs fanned around farmer groups. In addition, MAP facilitated agro-leasing agreements for agricultural field equipment, production equipment, and transportation vehicles through.

Marketing assistance included label design and printing; food container/packing procurement; market research conducted through surveys, feasibility studies, domestic and foreign market assessments; product promotion by creating brochures, posters, videos, and an annual Armenian Food Products catalogue; export certification and compliance documentation; local and international festivals, exhibitions, and tradeshow, to launch Armenian products into current and new markets; foreign buyer identification, creating producer-importer links, and export market development, etc.

In addition, MAP supported the Agribusiness Teaching Center (ATC), a premiere undergraduate educational center located within the Armenian Agricultural Academy; the Small Farm Water Management Research Center (SFWMRC); the Foundation for Applied Research and Agribusiness (FARA); applied research programs; extension programs; and the MAP Village Well & Pipeline Project.

The MAP project closed at the end of April of this year and a newly formed Armenian foundation-implementer called the Center for Agribusiness and Rural Development (CARD) has been formed. CARD is reviewing activities funded under MAP and will continue USDA projects formerly undertaken by MAP that fit into its long term strategy. In addition, it will pursue its own goals and activities to contribute to the development of rural areas in Armenia, and improve the competitiveness of agribusiness in local and foreign markets. CARD aims to be a financially sound and sustainable organization. In the initial years of its operation, CARD will continue to be funded primarily though USDA Foreign Agricultural Services though at a much reduced rate. In the future CARD will seek alternative sources of funding.

CARD is planning to conduct a month-long review of its first year starting in mid December. The result of this review will be made available to the evaluation team.

#### *USAID: ASME, MEDI and Farmer-to-Farmer*

Implementation of the ASME project began in August 2000. ASME seeks to achieve growth in the country's small and medium-sized enterprises in food processing and related industries. The six-year project provides intensive firm-level assistance to selected agribusiness enterprises identified as having significant export and employment generation growth potential. USAID assistance under ASME is delivered by Development Alternatives, Inc.

Supporting market development activities involves two significant efforts: a) assisting ASME clients to obtain appropriate financing to facilitate or enhance the growth of their enterprises and to finance the implementation of technical improvements identified as part of the market development activities; and b) addressing constraints that interfere with the ability of Armenian firms to achieve growth in these markets, and designing and implementing measures to alleviate those constraints.

ASME supports firm-level assistance to the agribusiness SME community that enables participating businesses to upgrade their marketing, management, financing, and production capabilities. Technical assistance areas include: product branding techniques, improving product packaging, product advertising campaigns; integrating marketing strategies with an overall business strategy; and supporting participation of Armenian agribusiness companies in

international trade shows and study tours aimed at bringing Armenian producers and processors into contact with potential brokers and buyers. ASME has provided direct assistance to well over 100 different agribusiness firms in the form of intensive one-on-one management assistance, business and capital planning, market development, cost share grants and training. This number is now growing rapidly as ASME becomes involved with more companies through its new efforts in the textiles and apparel and non-farm rural enterprise areas.

Over the life of their relationship with ASME, these firms have generated increased export and domestic sales of approximately \$35 million and generated approximately 1,500 full-time new jobs. Sales increases are accelerating rapidly as some of the assisted companies reach international quality standards are making serious inroads on export markets. New products are being introduced to domestic markets and new markets are being opened to Armenian products as a result of the trade shows, market tours and other initiatives planned and supported by ASME.

The program has made a significant contribution to the introduction of international certification and food safety systems to Armenian agribusinesses. ASME has been assisted in the development and launch of Armenia's first privately owned and financed leasing company, which adds an important new dimension to the business finance arena.

The Micro Enterprise Development Initiative (MEDI) is a USAID project which aims to create a more favorable business environment for Armenian micro and small enterprises. A number of MEDI's clients are agribusinesses that receive micro loans, business services and training.

Farmer-to-Farmer is a regional program that provides volunteer technical assistance to enhance the capacity of private agricultural enterprises, service organizations, and rural financial institutions.

### **III. Objectives of the Evaluation**

This evaluation has three principal objectives:

- To conduct an assessment of USG assistance to Armenian agriculture and agribusiness in terms of effectiveness, sustainability and market impact;
- To recommend areas and activities that hold the most promise for stimulating agricultural production, agribusiness development, and ultimately an increase in broad-based income generation and employment;
- To identify problem areas in activity design and implementation and to recommend remedial steps.

The evaluation should reveal both strengths and weaknesses of each program. It should also discuss the effectiveness of coordination among USG activities and with other international development institutions working in Armenia. It should make recommendations for future coordination, including coordination with the Millennium Challenge Account, should the Millennium Challenge Corporation (MCC) sign a compact with Armenia.

More specifically, the evaluation should respond to the following key questions:

#### *Implementation*

1. Have USG activities in the agribusiness/agriculture sectors been properly targeted to identify and support products that can satisfy local demand and if relevant compete against imports and/or hold potential for exports? Additionally, have these products improved the safety and quality of food products in the marketplace?
2. What are the main strengths and weaknesses of USG assistance to date?

3. What were the major constraints facing the assistance? How can constraints be reduced or mitigated?
4. Have activities been well coordinated with other donor organizations and focused on achieving mutually agreed objectives economically and efficiently?
5. Have activities been coordinated effectively between USAID and USDA to take advantage of economic opportunities in the agriculture and agribusiness sector?
6. Have the positive and negative experiences resulting from activities been adequately recorded, validated, and otherwise made available for future use?

#### *Impact*

1. Is the assistance achieving or helping to achieve the desired results, both in terms of the projects' own targets, and in terms of USG objectives in general?
2. How and to what extent have the activities contributed to income generation and job creation?
3. To what extent have the activities had a positive effect on the market, increasing competitiveness, efficiency and growth potential, etc.?
4. Have the activities had a negative effect on the market through market distortion, unintended side effects on other segments, subsidy of non-competitive or unsustainable products, etc.?
5. How did good practices and innovations introduced by the activities spread beyond the direct beneficiaries?

#### *Sustainability*

1. Are the institutional and legislative environments supportive of agricultural and agribusiness development, and are the activities effectively addressing any important problems in those areas?
2. Is the assistance effective in building local capacity to carry on and sustain development after USG funded technical assistance is ended?
3. Will the businesses and products that have benefited from USG assistance be viable and competitive in the absence of the assistance?
4. Is there a credible exit strategy that will allow USG funding to be phased out efficiently and without undue transition problems?

#### **IV. Team Structure**

The independent team conducting the evaluation will be made up of four individuals:

1. A lead evaluator
2. A local (Armenian) team member
3. A representative of a land-grant university
4. A USG representative such as a USDA RSSA from USAID – assigned by USAID

Administrative staff may be proposed as appropriate.

## **V. Timeline and Deliverables**

### *Schedule*

It is anticipated that the evaluation team will spend four to six intensive (six-day) weeks working on the evaluation, with the majority of that time spent in Armenia. The team will be expected to gain familiarity with the programs and with Armenia's agriculture sector prior to starting the field work.

While in Armenia, the evaluation team will conduct interviews and gather and review relevant material on agribusiness SME development. A list of potential interviewees and information sources will be provided by USDA and USAID prior to the team's arrival in Armenia.

The team is expected to begin the evaluation in February 2006.

### *Deliverables*

- a. A work plan and proposal of specific questions to be covered by the evaluation.
- b. An outline or table of contents of the contractor's report should be presented within five days of startup.
- c. A short briefing to USDA, USAID, and MCC at the half-way point of the evaluation, and debrief of the initial findings before departure from Armenia. A synopsis of the evaluation and major findings will be expected before the team departs Armenia.

The final report should be submitted within two weeks after receiving comments on the draft from the relevant USG agencies. It should contain an Executive Summary and clearly identify the team's findings, conclusions, and recommendations. Appendices should, at a minimum, list the people and organizations interviewed.

## APPENDIX IV. INDIVIDUALS CONTACTED AND/OR INTERVIEWED

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