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ANALYTICAL FOUNDATIONS ASSESSMENT – AGRICULTURE (RURAL PRODUCTIVITY)

Prepared for
United States Agency for International Development (USAID/Georgia)

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November 23, 2011

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Acknowledgments

The Assessment Team would like to recognize the immense contributions of a number of individuals and organizations that made this report possible. First and foremost, we would like to thank the many scores of informants to this report, including farmers, agribusiness owners and government officials, who so generously provided input into our report, proved and disproved our data, and enabled the team to complete this report with a high degree of specificity and confidence. Thanks go to the Counterpart Georgia team, led by Irakli Saralidze, providing us with office facilities, transportation, logistical and administrative support. Special appreciations in this regard go to the extra efforts of Mark Granius, Sopo Motsonelidze, Alex Gogiashvili, Becka Jandeyri and Iveelt Tsog. Thank you to Chris Brown, GBTI II Project Director, for his outstanding leadership, coordination and invaluable technical input into our assessment and reporting. Appreciations go to the Counterpart and TMG Washington-based home offices teams, in particular the efforts of Amy Southworth in providing editing support and pulling together the final report. The team benefited greatly from the input and synergies with the Financial Sector assessment team, whom we cooperated with through all steps of the process, and learned a great deal from. Finally, many thanks to our colleagues at USAID Georgia, in particular Grant Morrill and the Economic Growth office staff. The amount of time and input that you made available to us was invaluable to pulling together an assessment and report that will be of service to USAID and other development practitioners and policy-makers long into the future.

Acronyms and Abbreviations

ADA	Agricultural Development Activity
AMFO	Association of Microfinance Organizations (Georgia)
APLR	Association for Protection of Landowners' Rights
ARET	Agriculture, Research, Education, and Training
ASF	African Swine Fever
BCR	Business Climate Reform
BOG	Bank of Georgia
CDCS	Country Development Cooperation Strategy
CHF	CHF International
CIB	Comprehensive Institutional Building
CIS	Commonwealth of Independent States
CNFA	Citizen's Network for Foreign Affairs
CRRC	Caucasus Research Resource Center
DCA	Development Credit Authority
DCFTA	Deep Comprehensive Free Trade Area
EBRD	European Bank for Reconstruction
ECA	Europe and Central Asia
EPI	Economic Prosperity Initiative
EU	European Union
EXW	Grains purchased from factory, from silo, from elevator
FINCA	Foundation for International Community Assistance
FMD	Foreign Market Development
FSC	Field Service Center
FSU	Former Soviet Union
FSVPP	Food Safety, Veterinary, and Plant Protection
FVGWR	German Business Association in Georgia
GAC	Georgian Agricultural Corporation
GCMII	Georgia Community Mobilization Initiative
GDA	Georgian Drug Agency
GDP	Gross domestic product
GEGI	Georgia Enterprise Growth Initiative
GEII	Georgia Employment and Infrastructure Initiative
GEL	Georgian Lari
GIPA	Georgian Institute of Public Affairs
GIS	Geographic information system
GMSE	Georgia Microfinance Stabilization and Enhancement
GOG	Government of Georgia
GRDF	Georgia Rural Development Fund

GTZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
FAO	Food and Agriculture Organization
HACCP	Hazard analysis and critical control points
IDCDP	Irrigation and Drainage Community Development
IFAD	International Fund for Agricultural Development
IPPC	International Plant Protection Convention
KfW	KfW Bankengruppe
MCC	Millennium Challenge Corporation
MFI	Microfinance Institution
MOA	Ministry of Agriculture
MPC	Multi-Purpose Center
MSC	Machinery Service Centers
NEO	New Economic Opportunities
NFA	National Food Agency
NH	Ammonia
NPK	nitrogen (N), phosphorus (P), potassium (K)
OIE	World Organisation for Animal Health
PHH	Post-harvest handling
RASFF	Rapid Alert System for Food and Feed
SA	Social Assistance
SME	Small and Medium Enterprise
SPS	Sanitary and Phytosanitary
TA	Technical Assistance
TBC	TBC Bank
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
USA	United States of America
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USG	United States Government
VA	Value Added
VAT	Value Added Tax
VET	Vocational Education and Training
WB	World Bank
WDR	World Development Report

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I. EXECUTIVE SUMMARY

The Analytical Foundations Assessment Report provides USAID/Georgia with the necessary background, analysis, recommendations and perspective to help develop support to the agricultural sector over the medium-to-long term, with a particular eye to the formulation of the Mission's Country Development Cooperation Strategy (CDCS). The assessment report is organized by six key functional areas in the agricultural sector, Agricultural Finance, Knowledge and Training, Land, Agricultural Services, Marketing and Trade and Food Safety. Section VI of the full version of the report analyzes these six areas in-depth, delineating specific constraints, opportunities and suggested interventions in narrative form. Annex 1 to the Full Report, "Matrix of Challenges, Opportunities and Prioritized Interventions" provides an overall roadmap to be referenced throughout the report.

Overall, there are several **promising conditions** within the agricultural sector:

- Rapid and recent land consolidation, including 373,000 ha of commercial land privatized in the last 20 years. Given the proper incentives, Georgia is likely on the cusp of a major push toward commercial agriculture;
- Reorientation of government policy and priorities to the agricultural sector for the first time in more than a decade, with particular emphasis on meeting food safety and phytosanitary requirements;
- Increased financial sector activity and interest in the sector, with MFIs leading the way;
- Farm Service Centers (FSC's) and Farm Machinery Centers (MSC's) established and providing a broad based service of making agricultural inputs and machinery services available to farmers of all size; as well as, offering a good asset base from which to launch more support (i.e., advisory services, demonstration plots, etc.) mechanisms to farmers;
- An educational system that has experienced some change in recent years at the university and vocational technology levels and is becoming better geared to serving the needs of agriculture and agribusiness;
- Silo elevator storage and flat dry goods storage has been expanded or recuperated in recent years offering improved support to the grain, oilseeds, and packaged goods businesses within the agricultural sector;
- Cold storage facilities have been somewhat expanded in recent years and with improved experience in its management can offer substantial support to the perishable products (fruits, vegetables) sector of the food industry;
- Good water availability to support a substantial irrigation system if properly refurbished; and
- Increasing food price trends and overall demand for food on global markets attracting outside investment.

Despite this promise, the situation is tempered by **a number of concerns**:

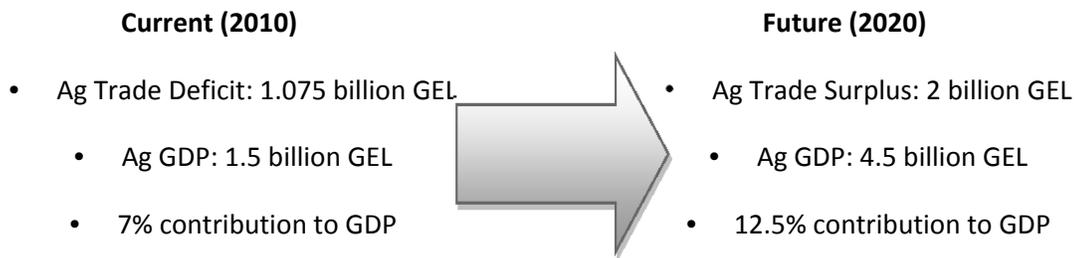
- Widespread fragmentation of land with a preponderance of small-holders;
- Embargo with Russia, a long-time consumer of Georgia's high-value exports;
- Weak food safety and phytosanitary standards compliance limiting short-to-medium term potential for robust EU trade;
- Storage and infrastructure while recently improved still lacks sufficient locally located facilities needed to support many small and semi-commercial farmers where they live;
- Vocational educational schools still need substantial strengthening to be more widely available to support adult retraining programs and students from the local areas;

- Irrigation systems still require substantial recuperation and regular maintenance if to provide the 25+% productivity impact possible for crops grown in the irrigation zones;
- Management of cold storage facilities expressed a need for technical support in running facilities and in preparing product for proper storage to best serve farmer and their needs;
- The market information available is very spotty, if at all, as the main focus of information comes via cell phone communication between players in the market;
- A lack of focused attention on developing markets for Georgian export products in target countries of interest;
- Shortage of capital flow into the sector, which includes direct investments, foreign and domestic and availability of credit recourses; and
- Ad-hoc policymaking.

The Growth Vision

Overall, the assessment report takes a promising view of growth opportunities for Georgia’s agricultural sector. The vision for 2020 here within foresees the following transition:

**Increase GDP contribution from 7% to 12.5% or more over next 10 years via:
Import Substitution and Export Expansion Thrusts**



The above-proposed tripling of agricultural productivity by 2020 is regarded to be an achievable vision, and could benefit from the support of USAID, GOG and other donors. Productivity at the moment is extremely low, with many experts speculated that it could be doubled, some estimate increases by as much as five-fold. The target for agricultural growth is approximately 300 million GEL per year, derived from both increased productivity and expanded use of at least .5 million ha of underutilized land.

Proposed Strategy

An effective strategy for the development of the agricultural sector will need to include the serious participation of a number of key actors in the sector, including GOG, private sector investors, rural residents, farmers, USAID and other donors supporting the sector. The assessment team recommends a strategy prioritized on the basis of the following eight strategic themes: commercialization; an import substitution-export oriented approach; regional specialization; integration of key interventions; improved market information; improved policy; strengthened research and extension; and capitalization on existing farm service centers (FSCs) as “nodes of development.”

SYNTHESIS DOCUMENT - ANALYTICAL FOUNDATIONS ASSESSMENT, AGRICULTURE (RURAL PRODUCTIVITY)

The Analytical Foundations Assessment Report provides USAID/Georgia with the necessary background, analysis, recommendations and perspective to help develop support to the agricultural sector over the medium-to-long term, with a particular eye to the formulation of the Mission's Country Development Cooperation Strategy (CDCS). This Agriculture (Rural Productivity) assessment was undertaken and coordinated with a Financial Sector Assessment, both contributing to USAID's overall economic growth strategy for Georgia. The Agriculture assessment specifically assesses the composition and characteristics of the population engaged in agriculture, and its potential for development. With a specific focus on rural productivity, the analysis endeavors to:

- Identify the major opportunities and constraints to increased agricultural productivity and assess the relative importance of each;
- Assess the composition and characteristics of the population engaged in agriculture and its potential for economic development; and
- Outline the dynamics of the rural community and how they interact with government agricultural policies, institutions, markets and other influencing factors.

The time horizon for the assessment covers the recent past and future strategic planning period from 2012 to 2017. Overall, a vision for the next ten years of Georgia's agricultural development is taken into consideration. Importantly, the vision is a strategic, not tactical, one. In this regard, the focus of the analysis asks, "Are we doing the right things?" rather than "Are we doing the right things right?". This analysis does not confine itself to the constraints of available donor financing or short time horizons. For more detail, please reference the Full Report document.

A. Development Challenge

The product of significant neglect over the last decade, Georgia's rediscovered agricultural potential represents a profound opportunity to become a major driver of growth and raise hundreds-of-thousands from poverty in the coming ten years. Georgia's abundant agricultural resources and strong productive base evidence this potential, with challenges apparent in the effective focusing of government and donor strategies, modernization, land consolidation, population displacement, and stimulating long-term investment in the sector. A troubling and well-publicized fact, 53% of Georgia's population derives the majority of their income from the agricultural sector, yet productivity has slipped to the extent where it only contributes to 9% of GDP.

Georgian agriculture is characterized by low productivity and weak competitiveness across most major sub-sectors. Old infrastructure, production and marketing systems were calibrated for an outdated Soviet model, with heavy subsidies un-calibrated to market demand. This has created both public and private disinvestment, coupled with the deterioration of essential

equipment and infrastructure. By way of example, Georgia was irrigating 386,000 ha in 1988, declining tri-fold to approximately 115,000 ha by 2007. Necessary services, in some cases as basic as vaccinations by state veterinary services, are no longer provided. Initial waves of privatization after independence further contributed to the situation, doling-out small plots of an average of .42 ha in size to 521,240 families, effectively relegating the rural majority to agricultural subsistence and poverty.

All this has left the Georgian farmer and rural population more generally, to fend for themselves over the past decade. While the rural population has been relatively stable, poverty rates are high in non-productive rural (especially mountainous) areas. 74% of the rural population work plots smaller than one hectare. With wage laborers earning at least twice as much as farmers on average, the agricultural sector has become synonymous with poverty, effectively serving as “employer of last resort.” These problematic arrangements are unsustainable for both the agricultural sector, and those masses of producers currently on the land.

As the government comes to recognize the difficulty of achieving the ambitious vision of Georgia as a major financial center, transportation hub, light manufacturing magnet and duty-free zone, attention has turned back to the agricultural center. Although policy-making efforts have been ad-hoc and Georgia still lacks an agricultural development strategy to date, overall government support for the sector is falling into line with donor efforts to support the sector and increased private sector investment overall.

Bullish positions on Georgia’s agricultural sector are bolstered by a several recent developments. First, a second-wave privatization taking place over the past five years has doubled private agricultural holdings, with much greater average sizes of approximately ten hectares. Second, global food price hikes put a premium on agricultural commodities, and have already stimulated significant foreign investments in Georgian agricultural land. Finally, free trade with the European Union necessitates significant agricultural sector investment, particularly in the area of quality standards and compliance with food safety requirements. This has already stimulated significant action within the government, including the buy-in of the Prime Minister’s Office.

Overall appreciation has built on the part of both the public and private sectors in regard to the potential for the agricultural sector to transform Georgia’s economic and human landscape. The basic challenge then, is how to build-upon structural changes and assets already in-place, super-charging and focusing public, private-sector and donor investment on poverty reduction via rapid transformation of the agricultural economy.

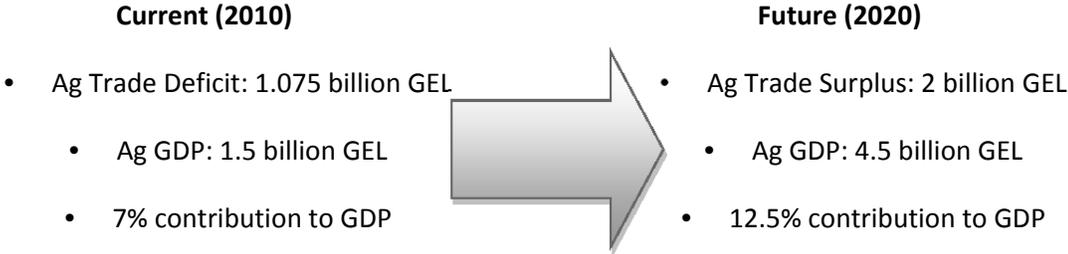
B. Vision and Assumptions

The **vision** for the agricultural sector presented in this report is one that builds upon the numerous positive developments in the sector, Georgia’s history as a major agricultural producer, and a well-informed review of its constraints. The vision projects nearly ten years into

the future, to 2020. As outlined above, USAID/Georgia’s Country Development Cooperation Strategy is anticipated to be en-force from 2012 to 2017. While this vision embraces the new CDCS period through 2017, it also envisions a strategy that can be utilized over the coming five years, and extends to envision impacts well into 2020.

Overall, the agriculture sector vision for 2020 foresees the following transition:

**Increase GDP contribution from 7% to 12.5% or more over next 10 years via:
Import Substitution and Export Expansion Thrusts**



The assessment team regards the above-proposed tripling of agricultural productivity by 2020 to be an achievable vision. Productivity at the moment is extremely low, with many experts speculated that it could be doubled, some estimate increases by as much as five-fold. The target for agricultural growth is approximately 300 million GEL per year, derived from both increased productivity and expanded use of at least .5 million ha of underutilized land. The team’s projections are grounded on the basis of a number of concrete factors, which include:

- Georgia’s proven agricultural productive capacity, with sowed agricultural lands nearly twice the amount they are now, representing as much as 41.7% of GDP;
- Recent privatization and consolidation of agricultural land holdings totaling an estimated 373,697 ha in the last five years with average holdings of approximately 10 ha in size;
- Renewed interest on the part of the GOG to prioritize agriculture as a key sector to push forward economic growth and poverty reduction; and
- Proximity and ongoing engagement with EU markets.

There are a number of key assumptions that underlie the above vision for the sector. Taken in sum, they represent some of the more significant variables/externalities that have the potential to greatly impact the sector. While the current reading of the sector indicates that these assumptions will be en-force for some time, any significant changes may have the potential to significantly alter the vision and strategy outlined here within. In line with this, assumptions include:

- Predictable government policy and level of support necessary to assist private-sector led growth in agricultural sector;
- Land ownership continues to be regularized and consolidated;

- Continued support by donors to sector for several more years;
- Continued embargo on exports of Georgian goods to Russia;
- Continued efforts to integrate with European Union trade standards;
- Domestic and foreign investment steadily increases in agriculture /agribusiness; and
- Rural dislocation of jobs to non-farm sector.

The Agriculture Sector Analytical Foundations Assessment is presented below in two parts: first “The Hand”, a review of conditions, constraints and challenges in the sector; second “The Play, inclusive of the assessment team’s analysis, findings and strategic recommendations. Annex A, “Table of Challenges, Opportunities and Prioritized Recommendations”, is an important reference point throughout this report, providing an overall roadmap for the narrative in a condensed and easy-to-digest format.

C. The Hand – Agricultural Situation (Assets and Fixed Constraints)

1. Geography

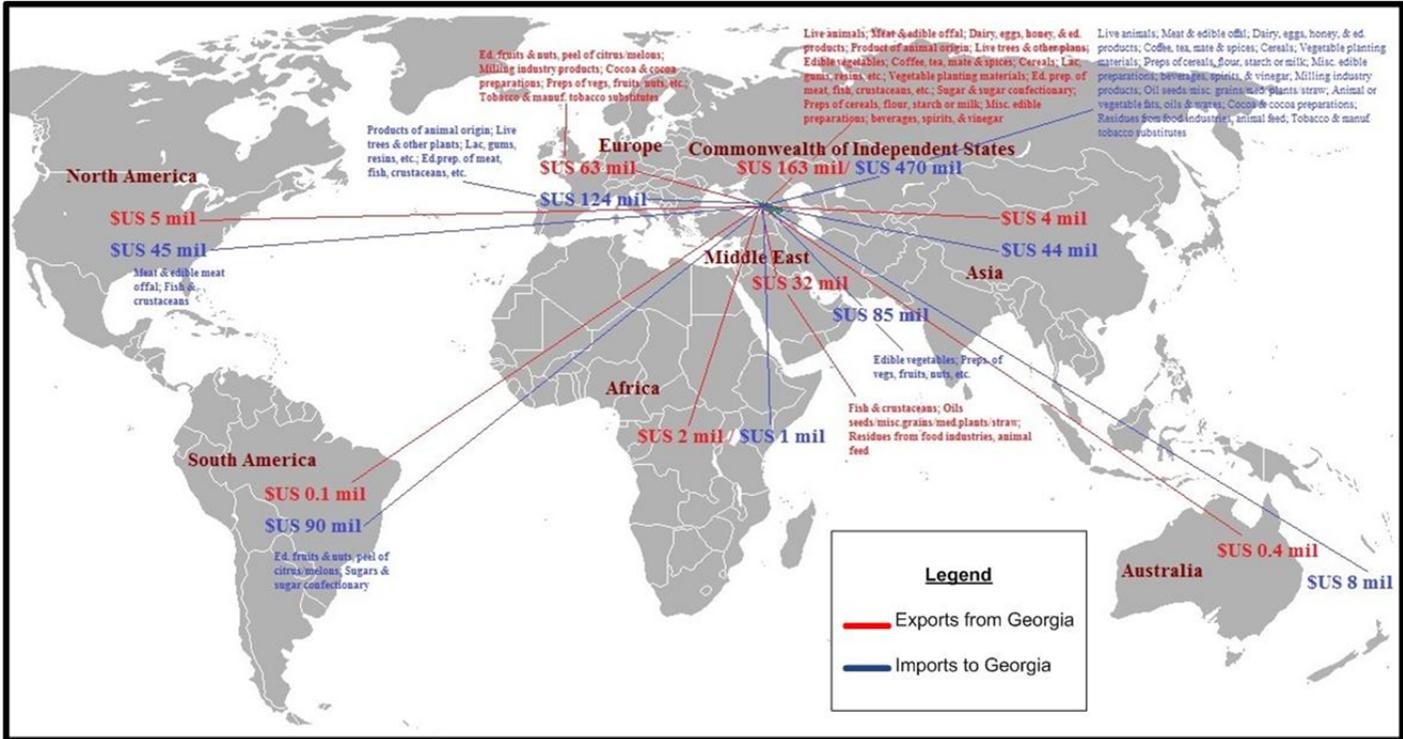
As a result of this geographic, topographic, and climatic diversity, Georgia has a great variety of ecological and climatic zones that allow for the production of most types of temperate and even sub-tropical food and agricultural products. This permits extension of the growing seasons to serve markets both early and late in northern countries such as those of the EU and Russia (irrespective of the current embargo). These include early and late vegetables, potatoes, essential oils, flowers, medicinal herbs, grapes, and a wide variety of fruits and nuts. Additionally, grains, oilseeds, animal fodder, and other crops like tea, tobacco, and citrus are grown. With approximately 1.8 million hectares of pastureland and meadows, grazed livestock (cattle, sheep, and goats) is quite common. Finally, swine and poultry production is carried out near cities and villages to serve the local markets.

Georgia is well located with respect to many major markets – traditional CIS markets, and newer ones in the EU and Middle East. Georgia has traditionally been a major supplier of agricultural products to FSU countries, particularly Russia and Ukraine. At present, however, the country is under an embargo by Russia and is unable to put Georgian product on the shelves of the retail stores of its formerly top trading partner. Ukraine has become a major trading partner with more than 25% of agricultural (see Figure II-2 below) and another 14% of trade with Azerbaijan and Georgia. These traditional trade relationships between Ukraine, Belarus, Kazakhstan, Azerbaijan¹ and other CIS countries should continue. However, Georgia should work to develop and strengthen market ties with the EU and Middle East. Establishment of these relationships will do much to diversify and reduce Georgia’s dependence on CIS markets

¹ Azerbaijan just recently has become a significant agricultural trading partner with Georgia, with live cattle export to Azerbaijan accounting for several million dollars in value. End markets and overall sustainability of these trading relationships, largely risking up since the Russian embargo, is unclear.

for food and agricultural trade. As well, the opportunity to serve more demanding markets will trigger Georgia's graduation from basic production and marketing systems to a greater sophistication able to meet more demanding market requirements.

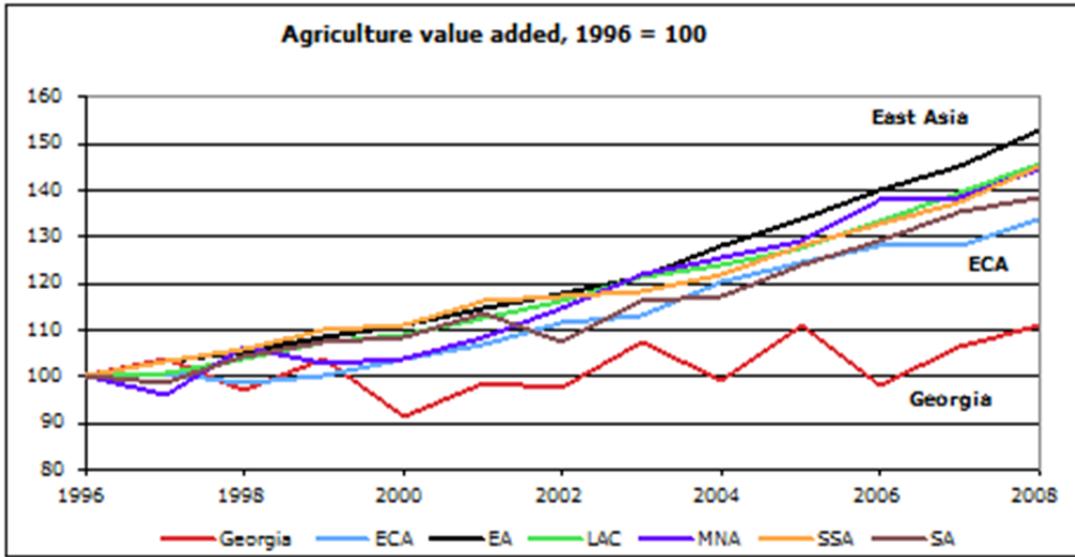
Figure I-1: Top Agricultural Import/Export Markets



2. Agriculture Sector Performance

Agriculture plays an important role in the Georgian economy, for many years representing the single-most important sector from a GDP, employment, and export standpoint. However, since independence agriculture (along with numerous other sectors) has performed poorly in Georgia, substantially worse than other countries in ECA region. Agriculture barely grew during the recovery from the 1990s recession, nor during the more heady years of 2004-07 (see Figure II-2 below). The potential of the sector is underutilized, with only a third of the nation's arable agricultural land in use. Though most state agricultural land was distributed to private households immediately post-independence, private owners remained constrained by limited knowledge and experience, poor utility service, few storage facilities, deteriorating road network and frequent floods and droughts. While its relative importance has declined in recent years and the problems facing it are significant, agriculture, including food packing and processing, may be the sector with the most potential for providing sustained economic growth and foreign exchange over the next ten years.

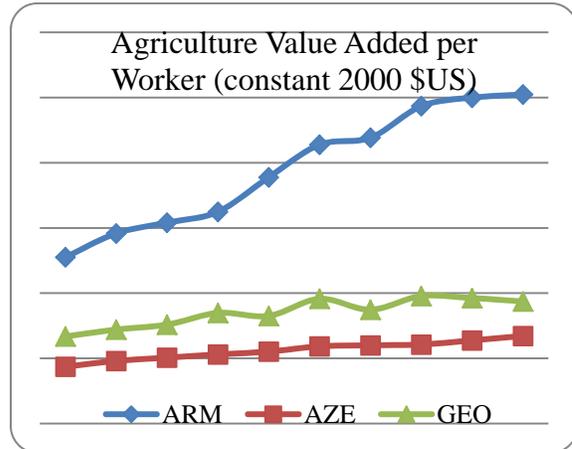
Figure I-2: Agricultural Growth Substantially Below Potential



Source: WDR

3. Population / Labor Force

Georgia’s agriculture sector provides a primary source of income to 53% of the population, while generating a comparatively paltry 10% of the country’s GDP. This is attributable to a number of factors, including the productivity of the agrarian population and labor force. It is difficult to underestimate the detrimental effects of this under-utilization of productive capacity. Despite 8% growth rates from 2003 to 2007, the agricultural sector was the #1 job loser, with 95,230 people leaving the sector.² With a potentially aging population on the land, weak traditional associations with farming, and dominance of subsistence activities, the agricultural sector has become Georgia’s employer of last resort.



Data from UN FAO

Some key present-day characteristics of Georgia’s agrarian labor force include:

- 63% of agricultural jobs are self-employment, the vast majority of which falls into the subsistence farming category;
- Preference on the part of youth to engage in non-farm wage employment, most often in urban areas;

² World Bank

- Smallholders lacking specialization / in-depth knowledge on modern technologies and practices;
- Conservative approach to risk and entrepreneurship.

Factors exacerbating this situation include:

- Fragmentation of land limits productive potential of farming households;
- Under-investment in the sector reduces rural employment potential, whether in primary production, processing or trade;
- Subsistence farming limiting potential for investment / expansion of small farming operations.

4. Farm Typologies

Current farm typologies in Georgia are strongly linked to the redistribution of land after the break-up of the Soviet Union. A discussion of the land distribution process that unfolded after the break-up is set out in section VI-C of this document. This discussion explains in greater detail the typology descriptions set forth, enabling analysis on the basis of these differing groups. It is understood that upon completion of the two stages of privatization, 1,090,942 hectares in total had been privatized. This transfer of land to the rural population has created farms of varying size and character, categorized into three typologies for which different strategies can be suggested. These include: Type 1 - Subsistence; Type 2 – Semi Commercial; and, Type 3 - Commercial. Each typology is discussed in the remainder of this section.

Typology 1 – Subsistence Farms: During the first land privatization, the largest number of families impacted received less than one hectare of land. In many cases, this land was divided into more than one plot – a plot that is normal arable land, a plot that has a perennial crop on it, and potentially an irrigated crop. In the Subsistence Farms typology there are reported to be 521,240 families that control 219,451 hectares of land, with an average size of .42 hectare. The result of this division of land renders it nearly impossible for these subsistence farmers to be commercially viable. They often consume or barter the food that they do produce, selling surpluses on local markets in good years. These farmers are typically unorganized, making it virtually impossible to achieve scale. Operating non-commercially, these farmers represent the majority of the rural population, requiring different strategies from commercial farmers if they are to realize maximum gain from their small land holdings, and break-out of poverty.

Typology 2 – Semi-commercial Farms: The first land privatization process also produced many households that were allocated 1-5 hectares of land. Size of plots increasing, the second wave of privatization further produced many more such farms and households. These farmers generally received some arable land, in addition to hay and grazing land. In this typology there are reported to be 164,589 households that control 280,604 hectares of land, on average 1.7 hectares in size. While still relatively small, as the average of 1.7 hectares generally provides sufficient scale for self-sufficiency. For these farmers, consistent income from farming is a possibility, assuming that they are equipped to with requisite knowledge and financial

resources to make proper choices of crops (high value fruits, vegetables, herbs) and utilize efficient production practices. A pivotal group for growth of the sector, deliberate efforts are required for their engagement and expansion into commercial agricultural practices.

Typology 3 – Commercial Farms and Agribusiness: During the first land privatization process very few households received more than five hectares of land. The second wave of privatization increased sizes dramatically, with plots rising substantially larger. Many of these farmers had been leasing the land, given first privatization rights, resulting in privatization of lands significantly larger than in the past. In this typology there are reported to be 17,303 households that control 590,887 hectares of land, averaging 34.1 hectares in size. The result of this division of land renders it possible for many of these larger landowners to be considered farmers – commercial farmers. Many of these farmers have sufficient land on which to make an adequate income, if the proper choice of crops is made, and represent an important base for expanding agricultural production. Many of these farmers could produce a wide variety of agricultural products, employ a significant labor force, and realize an adequate income. Again, these farmers are in a class that requires specific strategies that are supportive to commercial agriculture, several of which will be defined in this report.

D. The Play – Strategic Analysis and Recommendations

This section, “The Play,” reviews specific challenges and opportunities to promote overall development of the agricultural sector. It capitalizes on Georgia’s advantages and accommodates the constraints, much of which was presented and analyzed in the preceding “The Hand” section. It will identify and address actionable (non-fixed) constraints, in:

- Agricultural Finance
- Knowledge and Training
- Land
- Agricultural Services
- Marketing and Trade
- Food Safety

Overall, there are several **promising conditions** within the agricultural sector that can be capitalized upon:

- Rapid and recent land consolidation, including 373,000 ha of commercial land privatized in the last 20 years. Given the proper incentives, Georgia is likely on the cusp of a major push toward commercial agriculture;
- Reorientation of government policy and priorities to the agricultural sector for the first time in more than a decade, with particular emphasis on meeting food safety and phytosanitary requirements;
- Increased financial sector activity and interest in the sector, with MFIs leading the way;

- Farm Service Centers (FSC's) and Farm Machinery Centers (MSC's) established and providing a broad based service of making agricultural inputs and machinery services available to farmers of all size; as well as, offering a good asset base from which to launch more support (i.e., advisory services, demonstration plots, etc.) mechanisms to farmers;
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- Cold storage facilities have been somewhat expanded in recent years and with improved experience in its management can offer substantial support to the perishable products (fruits, vegetables) sector of the food industry;
- Good water availability to support a substantial irrigation system if properly refurbished; and
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Despite this promise, the situation is tempered by **a number of concerns**:

- Widespread fragmentation of land with a preponderance of small-holders;
- Embargo with Russia, a long-time consumer of Georgia's high-value exports;
- Weak food safety and phytosanitary standards compliance limiting short-to-medium term potential for robust EU trade;
- Storage and infrastructure while recently improved still lacks sufficient locally located facilities needed to support many small and semi-commercial farmers where they live;
- Vocational educational schools still need substantial strengthening to be more widely available to support adult retraining programs and students from the local areas;
- Irrigation systems still require substantial recuperation and regular maintenance if to provide the 25+% productivity impact possible for crops grown in the irrigation zones;
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- Ad-hoc policymaking.

An effective strategy for the development of the agricultural sector will need to include the serious participation of a number of key actors in the sector, including GOG, private sector

investors, rural residents, farmers, USAID and other donors supporting the sector. The assessment team recommends a strategy prioritized on the basis of the following themes: commercialization; an import substitution-export oriented approach; regional specialization; integration of key interventions; improved market information; improved policy; strengthened research and extension; and capitalization on existing farm service centers (FSCs) as “nodes of development.” Each strategic theme is explained in further detail below:

Strategic Theme 1 – Commercialization: Increased commercialization of the sector, achieved through sector support initiatives focused on promoting semi-commercial and commercial farms and agribusinesses. There are a number of important indicators demonstrating that commercial development of Georgia’s agricultural sector has potentially greater potential to foster rapid, equitable growth and reduce poverty than any other. These opportunities need to be capitalized upon.

The viability of Georgia’s current subsistence farms is limited within the larger strategic framework for commercial development of the sector. This group primarily requires livelihood and smallholder-oriented programming. Nonetheless, whether government or donor-supported, poverty alleviation programming should be oriented upon, and in-line with, a future commercial vision for the sector. This not only means smallholder support for agricultural livelihood projects, but also a re-tooling and reorientation of the workforce, able to respond to demands in other sectors or obtain work on larger farms and agribusinesses.

Strategic Theme 2 - Prioritization of Sectors for Import Substitution and Export: Strategic prioritization of specific sectors, with care taken to balance import substitution with export opportunities; would include three basic thrusts: First, fruits and vegetables for domestic and export markets to eliminate substantial imports and expand significantly exports to off-season markets in the EU, and north-eastern European country markets. Second, grains and oilseeds as primarily import substitution crops to replace some wheat imports and some imports that may be going to feed animals. Thirdly, develop a livestock focus that will provide more meat for domestic and regional markets, particularly sheep for the Middle East; dairy for local consumption of milk and dairy products as well as certain types of cheese that could be exported.

Strategic Theme 3 - Regional Specialization of Productive Capacities: Increased regional specialization, building off of specific assets such as crop-specific potentials, ports, transportation infrastructure, storage facilities, irrigation systems, workforce, and other factors will have the effect of focusing interventions, investing in areas with greatest potential for growth. The central corridor of the country offers the best potential for agriculture with the areas west of Tbilisi in irrigation zones offering the best potential for perishable fruit and vegetable crops to be exported. The eastern Kakheti valley region is appropriate for wine grapes (already a major crop in the region) and less perishable fruits able to stand the longer hauls to markets. In terms of grains, wheat is a viable crop for import substitution in the eastern areas of the country, especially Kakheti, Kvemo Kartli and Shida Kartli. Corn can be cultivated productively throughout western Georgia. And, finally the range areas common to the foothill regions from West to East, with concentration on the southern slopes would be devoted to the

livestock activities, particularly cattle and sheep. All of these commodities and respective geographic areas have high productive potential, which should be utilized in focused fashion.

Strategic Theme 4 - Integrated sector support strategies: The agricultural/agribusiness sector is an integrated business from producer to consumer and all stages of production, wholesale trading, storage, processing, distribution to markets and retailing. In addition, several functional areas support the system – finance, government policy, education and research institutions – to name a few. In Georgia today, many elements of the system are in place, but are weakly integrated/linked and do not provide the full support they could to the sector. The opportunity for doing this presently exists in Georgia. Two specific examples of the current state of weak market integration and associated development opportunities include:

- Farmers work independently rather than together. A lack of consolidation of resources and fragmentation at the subsistence and semi-commercial farming level constrains scale, limits productive efficiencies and integration with markets. Efforts at cooperative development education and tax reform are two long and short-term interventions that could have great impact on improving the situation.
- Storage and post-harvest handling linkages. As more new grain **storage facilities** help to integrate grain farmers with elevators, it will be possible to introduce the concept of warehouse receipts to provide an additional means for financing the farmers production activity. Further, if fruit and vegetable farmers can be linked to the cold store network developing in the country and packing facilities it will go a long way toward helping the farmers and traders prepare fruit and vegetables to meet the standards of the export market.

Strategic Theme 5 - Good market information: Market information is essential to good planning and plays a key role in enabling firms to respond to market signals. Market information acts as the glue that keeps producers linked to the markets and the participants between the farmer and the ultimate consumer. Without reliable information about markets, the decisions concerning what to plant may backfire and result in unprofitable operations for farmers. Also, if the groups that process agricultural products do not have good information they may over pay for raw materials. If farmers do not have the proper technical information they will make less than optimum decisions about how to grow their crops or livestock. Reliable, timely information not only helps farmers, it helps the government agencies that are responsible for the results of the environment in which agriculture and agribusiness operates.

Strategic Theme 6 - Supportive agricultural policy: The environment in which farmers and agribusiness operate has a significant impact on success of the sector. The Georgian government is responsible for establishing a sound climate for agricultural investment and success of the sector overall. There is a fine balance between government investment and interference in the country, and establishing the right mix of incentives to drive forward investment. Getting this balance right will be a key challenge to the GOG going forward, one that will require ongoing support and assistance from donor agencies. The need for support is particularly evident in regards to irrigation policy, Georgian Agricultural Company (GAC)

investments, and establishment of a state agricultural strategy on behalf of the Ministry of Agriculture, to name a few.

Strategic Theme 7 - Strong educational, research and, extension system: The backbone of any business is well-educated workers, cutting edge research, and the application of that research to provide for a strong competitive industry. This is what Georgia needs as it moves ahead to gain the maximum contribution from its agricultural sector. Thus, it is necessary to support education related to agriculture and good practices from the early years to all levels of farmers. High schools need to encourage young people to look at agriculture as a positive business; vocational schools need to train young people in advanced agricultural practices as well as older farmers in the new technologies that should be employed; and the universities need to be turning out the leaders that operate at farm, agribusiness, and government level. The well-trained workforce will carry out cutting edge research, and extend the research to farmers via a properly developed extension system with trained agents.

Strategic Theme 8 - Utilize Farm Service Centers (FSCs) as Nodes of Assistance: FSCs have proven themselves to be highly effective in delivering a number of knowledge, financial, machinery, inputs and other services to farmers. Their expansion has been rapid, services are in-demand, and viability as going-concerns already proven in many respects. MFI's, input suppliers, business service providers and donor-funded projects have already successfully linked many of their services to FSCs, with impressive results. Success in this realm should be capitalized upon for future assistance efforts.

E. Prioritization of Recommended Interventions

The assessment report is organized by six key functional areas in the agricultural sector, Agricultural Finance, Knowledge and Training, Land, Agricultural Services, Marketing and Trade and Food Safety. Section VI of the full version of the report analyzes these six areas in-depth, delineating specific constraints, opportunities and suggested interventions in narrative form. Further, Section VI of the report recommends eight **strategic focal areas** for future assistance to Georgia's agricultural sector, including:

1. Commercialization
2. Prioritization of sectors for import substitution and export
3. Regional specialization of productive capacities
4. Integrated sector support strategies
5. Good market information
6. Supportive agricultural policy
7. Strong educational, research and extension system
8. Utilization of Farm Service Centers (FSCs) & Machinery Service Centers (MSCs) as nodes of assistance

Expanding upon the above, our analysis presents below a chart encapsulating an overview of the multiple challenges, opportunities and responsive interventions. In regards to the latter,

the assessment team has prioritized specific interventions, scoring and ranking importance of the interventions on a 1-10 scale against a defined set of criteria, to include:

- Comparative Advantage – The extent to which suggested interventions serve to capitalize on or catalyze pre-existing comparative advantage in natural resource or other endowments.
- Asset Acceleration and Leverage – The extent to which suggested interventions serve to capitalize on or catalyze recent major investments in the sector.
- Bang for the Buck – this is a criterion that measures the ratio of low cost, rapid speed of results achieved, and high impact of those results for each suggested intervention.
- USAID Comparative Advantage – This criteria specifically factors USAID’s comparative strengths and competencies *vis a vis* other major donors and/or government for each suggested intervention.
- Market Opportunities – The extent to which there are viable market opportunities for a particular suggested intervention that will contribute to lasting economic growth.
- Ag. Productivity Potential – The extent to which the suggested intervention will impact upon productivity of the agricultural sector.

In terms of scoring the suggested interventions, each category has a minimum of one (no impact), maximum of ten (high impact), with a score of five being neutral. Scoring has been based upon this assessment’s overall ten year vision / timeframe, meaning that some highly scored categories may still not show strong results or impact for several years into the future. And, if this is the case the intervention may not be ready for immediate support.

Mindful that specific interventions should be carried-out in integrated fashion, aligned with multiple strategic focal areas outlined above, please reference the chart presented below as a roadmap to overall assistance to the sector.

Matrix of Challenges, Opportunities and Prioritized interventions

Expanding upon the eight strategic focal areas outlined above, our analysis presents below a chart encapsulating an overview of the multiple challenges, opportunities and responsive interventions. In regard to the latter, the assessment team has prioritized specific interventions, scoring and ranking importance of the interventions on a 1-10 scale against a defined set of criteria, to include:

- Comparative Advantage – The extent to which suggested interventions serve to capitalize on or catalyze pre-existing comparative advantage in natural resource or other endowments.
- Asset Acceleration and Leverage – The extent to which suggested interventions serve to capitalize on or catalyze recent major investments in the sector.
- Bang for the Buck – this is a criterion that measures the ratio of low cost, rapid speed of results achieved, and high impact of those results for each suggested intervention.
- USAID Comparative Advantage – This criteria specifically factors USAID’s comparative strengths and competencies *vis a vis* other major donors and/or government for each suggested intervention.
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Mindful that specific interventions should be carried out in integrated fashion, aligned with multiple strategic focal areas outlined above, please reference the chart presented below as a roadmap to be referenced throughout the report.

Agricultural Finance

Challenges	Opportunities	Suggested Interventions	Prioritization							
			Comparative Advantage	Asset Acceleration & Leverage	Bang for the Buck	USAID Comparative Advantage	Market Opportunities	Ag- Productivity Potential	Total	Rank
<p>Promotion of larger, scalable credits and investments targeted to commercial and semi-commercial farmers and agribusiness.</p>	<p>Catalyzing investment and credit with attention to the middle market via banks and investors.</p> <p>MFI's have an important outreach role to play, and can benefit from broader organization and services for their development / expansion</p>	Increased availability of long-term GEL funding, particularly for banks and larger investors.	5	4	7	5	9	9	39	3
		Linking of MFIs to Farm Service Centers and Machinery Service	4	9	10	10	6	8	47	1
		Leveraging of GDA and other guarantee mechanisms with	3	6	9	5	10	7	40	2
		Promotion of non-traditional lending products for agriculture	3	2	6	5	7	6	29	7
		Technical assistance in loan product development and	4	5	7	5	7	7	35	5
		Mobilization of savings	3	3	7	5	5	5	28	8
		Rural supply chain investment	3	6	5	6	7	8	35	4
		Enabling environmental reforms oriented to consistent	3	6	9	6	5	5	34	6

Knowledge & Training										
Challenges	Opportunities	Suggested Interventions	Prioritization							
			Comparative Advantage	Asset Acceleration & Leverage	Bang for the Buck	USAID Comparative Advantage	Market Opportunities	Ag. Productivity Potential	Total	Rank
<ul style="list-style-type: none"> • Educational system strengthening, especially as relates to agriculture and engagement / training of youth. • Retraining and reorientation of established semi-commercial and commercial farmers • Weak utilization of best practices in technologies and marketing • At the research level be sure stakeholders voices are being heard when agricultural research activities are being planned • Research must focus on technology transfer, not basic research • Develop a system that will help transfer advice (technical, post harvest, and market) to many small subsistence, semi-commercial and commercial farmers. • Help the GOG with restructuring and strengthening within the MOA and related institutions. 	<ul style="list-style-type: none"> • Provide strategic support to universities, VET's, & high schools to improve education • Provide support to universities, VET's, and academies of science to improve research • The FSC's and the MSC's that USAID, MCC and the GOG helped establish provides assets from which to build an extension effort and they should be used. • Additional restructuring and policy development is required to strengthen the MOA. • Carry out long-term knowledge and awareness building to help youth learn group dynamics • Advocate reform of the tax code concerning cooperatives • Provide support to universities, VET's, and academies of science to improve research • The FSC's and the MSC's that USAID, MCC and the GOG helped establish provides assets from which to build an extension effort and they should be used. • Additional restructuring and policy development is required to strengthen the MOA. • Carry out long-term knowledge and awareness building to help youth learn group dynamics • Advocate reform of the tax code concerning cooperatives 	Advocate for public investment in agricultural education,	3	6	7	4	3	8	31	6
		Ramp up support to FSC's and MSC's as training and extension	7	9	7	9	8	7	47	2
		strengthening of VET's	3	6	4	5	3	7	28	9
		Identify ways to implement young farmer organizations	3	5	5	4	6	7	30	7
		Assist the MOA to develop management for an effective	3	5	6	3	4	6	27	10
		Identify information to transfer via extension service related	6	4	6	4	3	6	29	8
		Design an appropriate national extension service and support it with agent training, continued	3	5	4	3	3	8	26	11
		Conduct an independent third party review of the planned	5	4	8	6	5	5	33	5
		Conduct a review of the implied MOA policy agenda and assess the impact of implied policies on	5	5	8	5	6	6	35	3
		Eliminate double-taxation on cooperatives and work to foster development of agricultural	6	9	10	6	8	9	48	1
Promotion of farmer groups in educational programming, "Future Farmers of Georgia", 4H, etc.	3	6	7	6	5	7	34	4		

Land

Challenges	Opportunities	Suggested Interventions	Prioritization							
			Comparative Advantage	Asset Acceleration & Leverage	Bang for the Buck	USAID Comparative Advantage	Market Opportunities	Ag. Productivity Potential	Total	Rank
<ul style="list-style-type: none"> • To Help small farmers re-register and clear up titles and ownership issues • Assist the National Registry with some final land statistics issues 	<ul style="list-style-type: none"> • With the facilities and tools that the National Agency of Public Registration has to work with now financial help would allow cleaning up relatively quickly final land clarity concerns. • To help GOG clarify a few final land related issues and develop a robust land market 	Provide assistance to smallholders for re-registration	6	8	6	8	7	7	42	1
		Clarify the rights and status of remaining leases that did not	4	6	4	8	7	7	36	2
		Create or re-establish a unit to keep statistics with respect to land ownership and use	5	5	5	5	5	4	29	3

Agricultural Services

Challenges	Opportunities	Suggested Interventions	Prioritization							
			Comparative Advantage	Asset Acceleration & Leverage	Bang for the Buck	USAID Comparative Advantage	Market Opportunities	Ag. Productivity Potential	Total	Rank
<ul style="list-style-type: none"> • Thus, several matters still need to be resolved in relation to management and rehabilitation of irrigation systems • Ensuing availability of fertilizer, pesticides, seeds and, machinery services at costs which are accessible to all farmers are available on a timely basis • Services of veterinarians and laboratory facilities related to crops and livestock are also important to ensure 	<ul style="list-style-type: none"> • Several strategies that do not require major investment are necessary in helping improve effectiveness of the irrigation systems • Several support strategies offer opportunity for strengthening to ensure that all farmers have agricultural services of all types - inputs, machinery services, veterinary services, etc.- available 	Conduct feasibility studies to determine viable management	10	5	10	4	8	10	47	2
		Design demonstration program to train farmers in use of water-saving irrigation technologies in	8	6	8	5	7	8	42	5
		Carry out irrigation systems upgrading / infrastructure	5	6	4	4	8	9	36	7
		Conduct analysis that supports focusing irrigation system	10	5	9	5	7	9	45	3
		Continue to implement and strengthen the breadth of	7	9	9	10	7	8	50	1
		Design program that will promote more competition between suppliers of fertilizers, agricultural chemicals and other inputs to encourage lower prices to farmers	6	7	7	8	8	8	44	4
		Provide support to EU led veterinary services programs that will improve food safety.	4	5	5	6	10	7	37	6

Food Safety										
Challenges	Opportunities	Suggested Interventions	Prioritization							
			Comparative Advantage	Asset Acceleration & Leverage	Bang for the Buck	USAID Comparative Advantage	Market Opportunities	Ag. Productivity Potential	Total	Rank
<i>To determine what can be done to help the EU and the GOG come together to meet the needs that will help the trade climate for Georgian agriculture and agribusiness.</i>	<i>To carryout activities that would help the GOG meet EU requirements before the doors open wide to receiving exports of agricultural commodities and food products from Georgia.</i>	Help GOG officials with technical assistance necessary to help them meet EU requirements	3	7	5	1	10	7	33	1
		Provide help in getting laboratories accredited at various locations throughout the country	3	7	4	1	10	7	32	2
		Conduct information campaigns to raise awareness of food producers, processors, traders	3	5	3	3	10	6	30	4
		Support producers/processors to comply with new food safety requirements	3	6	3	2	10	7	31	3