

**AN ASSESSMENT OF THE NEEDS OF GEORGIAN
SECONDARY AGRICULTURAL EDUCATORS**

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Introduction

The collapse of the Soviet Union in 1991 began an era of change in many Eurasian countries. Several countries have made the transition into democracy successfully and have developed into self-sustaining entities in agriculture, industry, and trade (Bendersky, 2005). Unfortunately, Georgia has struggled to establish itself as a key player in world trade (Corso, 2009; Parr, Edwards, & Duncan, 2008). Although Georgia has been viewed as being progressive in their quest to implement a democratic government since the “Rose Revolution” of 2003 (Microsoft®, Encarta® Online Encyclopedia, 2009), economic development has been slow (USDA, 2006). The involvement in three armed conflicts in the years following the dissolution of the Soviet Union compounded the economical shortage felt in the country. According to the Microsoft Encarta Online Encyclopedia, “The country’s gross domestic product (GDP), which measures the total value of goods and services produced, declined between 1990 and 1995 by the greatest amount of any former Soviet Republic” (2009, Economy of Georgia section, π 1). Further, recent deterioration of relations between Georgia and neighboring Russia, due largely to the commitment of Georgian officials to reclaim the breakaway regions of South Ossetia and Abkhazia has only worsened the economic disparity felt by many Georgian citizens (Chivers & Shanker, 2008).

Recent initiatives to improve economic standing in this country have included a concerted effort from the United States Department of Agriculture (USDA). Through the Caucasus Agricultural Development Initiative (CADI), USDA’s Foreign Agricultural Service (FAS) has implemented several strategies aimed at improving Georgia’s trade capacity and economic development in the agricultural sector (USDA, 2006). The specific objectives of the CADI are to: (1) “Promote private agri-business development, (2) Build trade capacity, (3) Support market-based agricultural policies and institutions, and (4) Support the development of local institutions” (Johnston, n.d.). According to the USDA,

CADI (the Caucasus Agricultural Development Initiative) is one of many capacity building efforts the U.S. government and USDA in particular have spearheaded. This initiative focuses on economic development and trade capacity building in Armenia and Georgia. The aim is to raise agricultural growth and integrate these countries into global agricultural markets (2006, ¶ 3).

One result of the effort toward helping Georgia establish itself as a viable player in the world economy is a network of institutions specializing in the education of students in the field of agriculture. This network includes eight K-12 schools that have implemented agricultural education as a part of their curriculum. These schools are referred to as “FFG schools” based on their interest in incorporating the newly-formed Future Farmers of Georgia into the agricultural education curriculum. In 2006, faculty of the University of Georgia (USA) assisted the aforementioned FFG schools in the development and implementation of curriculum appropriate for secondary agriculture students in the village schools of Georgia. This assistance included four days of professional development seminars that were conducted by two University of Georgia faculty members during the fall of 2006. The participants in this faculty development initiative included 13 teachers and administrators who agreed to implement the newly developed

curriculum and instructional methodology in their village school (Parr, Edwards, & Duncan, 2008). These faculty development seminars were followed by school visits from the seminar presenters in 2007.

Current efforts are to establish and sustain viable secondary agricultural education programs include the construction of greenhouses on the grounds of several of the village schools. It stands to reason that newly trained Georgia agricultural education faculty will require the appropriate development and facilities to carry out their respective missions. These facilities have been largely designed, funded, and built through the Georgia Rural Development Program (personal communication, N. Nugzar, April 18, 2007). This development is supported by earlier research conducted by Rothenberger and Stewart (1995) where the authors determined that the inclusion of a greenhouse in the curriculum of secondary horticulture students was conducive to the learning of selected principles. According to Rothenberger and Stewart, “In this study, students who received a greenhouse laboratory experience scored significantly higher on the knowledge test than did students who were taught the same lessons, without a greenhouse laboratory experience” (p.28). Further, the value of contextual, “hands-on” education has been supported by scholars across several educational disciplines including agriculture, mathematics, and science (Chiasson & Burnett, 2001; Enderlin & Osborne, 1992; Lancelot, 1944; Newcomb, 1995; Phipps & Osborne; 1988; Shinn et al., 2003).

While it is clear that the Georgian Ministry of Education is very serious about fully implementing agricultural education programs in the village schools of Georgia (GIPA, 2006; Parr, Edwards, & Duncan, 2008), the full extent of the needs that these programs are experiencing in terms of development, supplies, and training has yet to be determined.

Theoretical & Conceptual Framework

Evaluations are conducted to help improve the overall quality of a program and identify what components of the program work, what components do not work, and for the purpose of this study what components are needed. Among the more prevalent models is the Burke–Litwin model of organizational performance and change (Burke & Litwin, 1992). Also prevalent in agricultural education program evaluation research is the Theory of Planned Behavior (Ajzen, 1985). More recently a conceptual model of organizational evaluation (Lamm, Israel, & Irani, 2010) was introduced to gain a better perspective on evaluation structure and evaluation behavior. No single theoretical framework provided the structure for this study; instead this study utilized one common link between all of these evaluation theories, that key individuals should provide input during the evaluation process in order to improve the program.

Purpose and Objectives

The purpose of this study was to determine the perceptions of secondary educators involved in FFG schools throughout the country of Georgia concerning their needs for furthering the existing framework of agricultural education. Data collected from this focus group study will assist faculty and Georgia Institute of Public Affairs (GIPA) staff in continuing to build and expand existing programs, and determine the future direction of FFG programming. The specific objectives for this study were as follows:

1. Determine the perceived development needs for local agricultural education programs.
2. Determine the perceived future directions for FFG as perceived by agricultural educators.
3. Determine the perceived student benefits of the FFG curriculum and agricultural education programs.

Methods

Over the course of two weeks, faculty members from the University of Georgia (USA) traveled across the country and met with teachers and students in several of the village schools where agricultural education is now being taught. These visits provided the researchers with time for personal conversations with the teachers to determine the struggles that they were having with the implementation of the newly formed curriculum. Further, assistance for the first national FFG convention was provided in the summer of 2007 and additional leadership development workshops for students and teachers were provided in 2008. The agriculture teachers were very optimistic concerning the outlook for agricultural education in their country and are committed to providing effective educational programs to further the agricultural knowledge and sustainability of the students whom they taught (Parr, Edwards, & Duncan, 2008).

The researchers used a modified focus group method to meet the aforementioned objectives of this study. The focus group method works well when the goal is to improve one's understanding of opportunities and problems associated with a program (Skylmoski, Hartman & Krahn, (2007). The two primary benefits of utilizing focus groups for this study are to first gain an understanding of the wide range of views that are people share on this issue and second to ascertain how those individual interact when they discuss the issue (Conradson, 2005). The following authors have used the focus group method to identify trends, characteristics, and future programming of agricultural education (Buriak & Shinn, 1993; Roberts & Dyer, 2004; Trexler, Parr & Khanna, 2006; Vamadore & Iverson, 1991).

This study consisted of high school agricultural education teachers and their administrators who were participating in the FFG program ($n=14$). The sample size (n) and the population (N) are both 14 as this represents all agriculture education teachers and their respective administrators for the entire country; there were no additional agricultural education teachers to include. The teachers represented seven different school districts located throughout various regions of the country.

The first round instrument (probe) consisted of four statements that were first translated to Georgian by GIPA staff and then administered to the teachers and administrators during a leadership workshop conducted by faculty from the University of [state] (USA). The statements were developed by a panel of experts consisting of GIFA staff and teacher educators at the University of Georgia. Merriam (2009) recommends that a group that is as similar as possible to the population be utilized in trial interviews to ensure the validity of the questions to be asked of the focus group. Because a similar group does not exist for the population of this study the panel of experts reviewed the questions to ensure validity. Statements were as follows: 1. In your

opinion, how has the FFG program increased the academic performance of your students? 2. In your opinion, what needs to be done to improve the FFG program at your school? 3. How can the FFG program contribute to the future development of agricultural education in the Former Republic of Georgia? and 4. In your opinion, what do you see as the future of FFG programs in the Former Republic of Georgia?

Qualitative data collected from the probe was used to generate a series of 46 statements. In the second round participants were asked to rank the 46 statements using a five point Likert-type scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree). Quantitative data collected from round two was used to rank the statements and identify consensus among the participants. Statements with a score meeting the minimum importance scale were to be included in the third round. Due to the invasion of Georgia by Russia during this study, the third round could not be conducted. Therefore, the reseachers concluded that the round two data would be used to meet the objectives of this study.

Results

Of the 14 participants in the study, nine were female and five were male. All the participants held degrees of higher education from institutes in the country of Georgia. Years of agricultural education teaching experience ranged from one to seven; with 3.75 years as the mean. Fourteen percent of the participants held at least a bachelors degree; 79% held a masters degree; and 6% held a doctorate. Two participants were between the ages 25-34, eight were between the age of 45-54, and two were between the age of 55-64.

Participants strongly agreed that improvements of schools’ materials are necessary to improve the FFG program (Table 1), opportunities to share experience with US students would improve the FFG program (Table 2), and the FFG program strengthens leadership skills among their students and students have become more involved in practical/labor activities (Table 3).

In order to address objective number one: determine the perceived development needs for local agricultural education programs participants were asked to identify their level of agreement with 18 statements. The results of their responses to round two of this study are reported in Table 1.

Table 1.

Level of Agreement with Round Two Statements regardign perceived development needs (n=14)

Statement	<i>M</i>	<i>SD</i>
Improvements of schools’ materials are necessary to improve the FFG program.	4.85	0.36
Improvements of schools’ technology base are necessary to improve the FFG program.	4.78	0.42

Recommendations in Georgian language regarding FFG work are necessary to improve the FFG program.	4.78	0.42
Agricultural equipment and tools are needed to improve the FFG program.	4.71	0.46
Financial support is necessary to improve the FFG program.	4.64	0.49
Students' motivation and teachers' hard work are necessary to improve the FFG program.	4.64	0.49
The FFG coordinator should have a salary.	4.57	0.64
Round tables and discussions would help improve the FFG program.	4.57	0.51
Relevant literature is needed to improve the FFG program.	4.57	0.64
The FFG program plays an important role in agricultural education development in Georgia.	4.50	0.51
Through the FFG program, agricultural development could develop life conditions in Georgia.	4.50	0.65
As more students and schools become involved, the FFG program will be the foundation for agricultural development in Georgia.	4.28	0.46
The FFG program supports the whole village to gain modern knowledge of agricultural issues.	4.21	0.57
The FFG program will help establish entrepreneurial foundations using existing resources.	4.21	0.57
FFG students will improve agricultural education in Georgia by sharing their knowledge with future generations.	4.14	0.36
Due to the FFG program, enthusiasm and interest in natural sciences and agriculture has increased.	4.07	0.47
Development of livestock is necessary to improve the FFG program.	3.92	0.73
As more students and schools become involved, the FFG program will be the foundation for agricultural development in Georgia.	4.28	0.46

Note. 1=strongly disagree; 5=strongly agree

In order to address objective number two: Determine the perceived future directions for FFG as perceived by agricultural educators participants were asked to their level of agreement

with four statements. The results of their responses to round two of this study are reported in Table 2.

Table 2.

Level of Agreement with Round Two Statements regarding future directions for FFG(n=14)

Statement	<u>M</u>	<u>SD</u>
Additional teacher training is needed to improve the FFG program.	4.71	0.46
Involving other schools in the FFG program would improve the FFG program.	4.64	0.49
Frequent contact with local farmers and field days are necessary to improve the FFG program.	4.50	0.51
Increasing the hours of labor activities in school would improve the FFG program.	4.42	0.64

Note. 1=strongly disagree; 5=strongly agree

In order to address objective number three: Determine the perceived student benefits of the FFG curriculum and agricultural education programs, participants were asked to their level of agreement with twenty five statements. The results of their responses to round two of this study are reported in Table 3.

Table 3.

Level of Agreement with Round Two Statements regarding student benefits of the FFG curriculum and agricultural education programs (n=14)

Statement	<u>M</u>	<u>SD</u>
The FFG program strengthens leadership skills among students.	4.85	0.36
Opportunities to share experience with US students would improve the FFG program.	4.85	0.36
Due to the FFG program, students have become more involved in practical/ labor activities.	4.64	0.49
Due to the FFG program, students use the gained knowledge and skills practically.	4.64	0.49
Gaining knowledge and skills from the FFG program will improve the future development of agricultural education in Georgia.	4.64	0.49

Due to the FFG program, motivation has increased among the students.	4.61	0.5
The FFG program helped the students enjoy working together.	4.57	0.51
The FFG program allowed students to get familiar with novelties in agriculture.	4.57	0.51
By increasing the student's interest in the field of agriculture, the FFG program contributes to the future of agricultural education in Georgia.	4.57	0.51
The FFG program will play an important role in the further development of schools that are involved in the program.	4.57	0.51
FFG members from each school should meet at least yearly to share ideas and experiences regarding FFG activities.	4.57	0.51
Due to the FFG program, student interest for English language has increased.	4.50	0.65
The FFG program increases student knowledge and interest in the proper use of pesticides and fertilizers.	4.50	0.51
Due to the FFG program, student interest and responsibility for projects has increased.	4.42	0.51
The FFG program helps students discover and plan their future careers at an earlier age.	4.42	0.64
The FFG program increases student knowledge and interest in bees.	4.42	0.51
The FFG program increases student knowledge and interest in landscape design.	4.42	0.51
The FFG program increases student knowledge and interest in cultivating soil properly.	4.42	0.51
The FFG program increases student knowledge and interest in producing a variety of plants.	4.42	0.51
The FFG program will help students to implement new methods and technologies in agriculture.	4.35	0.63
The FFG program increases student knowledge and interest in floriculture.	4.35	0.49
Due to the FFG program, agricultural knowledge among students has increased.	4.28	0.46
The FFG program has encouraged students to consider continuing studying or pursuing a career in agriculture after graduation.	3.85	0.53

Due to the FFG program, academic performance has been increased among students.	3.71	0.46
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Due to the FFG program, students have greater academic success in History and Geography.	3.21	0.69
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Note. 1=strongly disagree; 5=strongly agree

Conclusions and Recommendations

Through this study, the researchers have gained a greater understanding of the knowledge and needs of FFG teachers who are participating in this new secondary agricultural education program. The findings are similar to studies conducted in the US regarding the impact agricultural education has on student performance (Balschweid, 2002; Chiasson & Burnett, 2001; Enderlin, Petrea, & Osborne, 1993; Ricketts & Duncan, 2006; and Whent & Leising, 1988). The aforementioned authors have all found positive correlations between participation in an agricultural education program and academic success. As the FFG programs mature and expand, more teachers and students will witness the benefits of the curriculum and experiential learning – the foundation of agricultural education.

The participants strongly agreed that upgrades to course curriculum, materials, and technology are important to the future success of the FFG program. To assure sustainability of current and future FFG programs, the Georgian government along with international funding agencies must continue to support FFG programming to insure future development of agricultural education across the country. Teacher training was very important ($M = 4.71$, $SD = .46$) for the future direction of FFG to the participants to ensure that the programs improve and grow. Teacher training and in-service opportunities have been determined to be an important component to the success of agricultural education programs in the US (Dobbins and Camp 2000; Joerger, 2002; Roberts and Dyer 2004). Educational leaders (university faculty and government officials) must continually determine the needs of teachers so as to offer the necessary in-service opportunities. In addition participants believe that the FFG program strengthens leadership skills among students ($M = 4.85$, $SD = 0.36$) and that students are benefiting from the program.

The results of this study show the perceived importance of the FFG program to agricultural educators in Georgia. Anecdotal to the data, there were fifty five additional schools interested in developing their FFG programming and receiving training for the agricultural education teachers and students from the faculty of the University of Georgia (USA). These findings will provide a direction for further development and implementation of agricultural education programs at the eight FFG schools and help determine the current and future directions of this effort.

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