

China and has produced nearly 300 graduates in the last five years.

In the agricultural teacher education profession throughout the country, the quantity and quality of agricultural educators is the most severe problem. Most faculty members are either agricultural scientists or professional educators without advanced study in agricultural education. Their creativity is much confined due to insufficient information on the development and general approach to this profession.

For the last forty years students were assigned a job by the university upon graduation. A student's assignment was determined by a number of factors, including the general performance and special mastery of the student, demand and supply of his/her hometown, and chance. Because of many disadvantages of the assignment system, it will no longer be applicable to all students who have entered college since 1988. No doubt this new policy will have strong impact on agricultural teacher education programs. Its result is yet to be seen. However, experience with former graduates will have definite influence on the present programs.

### Performance of Graduates

The product of any education program determines the worth of its offering. This profession is certainly no exception. The largest group of graduates is currently employed in teaching professions at various secondary agricultural programs. The rest of them are employed in the extension system, government bureaus, civil organizations, etc. No specific follow-up data are available at the national level at present. One survey done in 1986 at Zhejiang Agricultural University showed that about 4.9% of its former students were working in the educational system; while the second largest employer was the extension system.

Since most vocational agricultural programs are offered at senior high school level, it brings a sharp question for the profession. One of the requirements for teacher qualification at this level is the college degree, but these students are not trained in an academic track. This contradiction results in a negative psychological impact on their career in the teaching profession. Unfortunately, there have been no plans of further training for them in order to improve their academic qualifications.

From such a broad picture above, we can conclude that agricultural teacher education in China has had a rapid change in recent years. However, it is still in an early stage of development which needs to be matured. The time has come for Chinese agricultural educators to evaluate the past and form a new future direction. Although the success of these programs in the end will be determined by society, the profession itself can greatly contribute to its development by reorganization. A professional association needs to be formed to strengthen cooperation among the colleagues nationwide. Valuable expertise also can be

obtained through international exchange programs. Continuing education for in-service teachers is a practical way to improve their professional qualities. There are many things that need to be done for agricultural teacher education in China in both short and long terms.

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## Foreign Students' Perception of Home Country Development Role

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### Introduction

Recent famines in developing nations have attracted world attention as the scale of death and media coverage grows. Such crises have reinforced prior experience and knowledge that the transformation for these countries from an agrarian to an industrial society must proceed through the development of the agriculture sector (Mellor and Gavian, 1987).

This development is linked with the need for trained manpower and the desire to increase technology. The need for trained manpower and increased technology and the lack of adequate educational facilities are major reasons for the current number of students from developing countries studying in the United States (Boyan, 1982, FAO, 1983).

Because the ultimate goal of educating foreign students from developing countries is to provide knowledge, skills, information and new ideas which the students can utilize when they return to their home countries to promote the building of educational institutions and play a role in the country development, it is important for U.S. institutions to ascertain the impact of their programs on students (Jenkins, 1982).

A major concern of educating foreign students in agriculture is whether or not these students perceive themselves as being able to influence changes back home. Whether or not foreign students perceive themselves as playing a role in their home country's development process can influence the degree of

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satisfaction with and learning in their graduate programs.

### Purpose and Objectives

The purpose of this study was to determine factors associated with foreign graduate students' perceptions of playing a role in home country development. Specific objectives were:

1. To describe the personal and situational characteristics of foreign graduate students in the College of Agriculture at The University of Georgia.
2. To describe the level of satisfaction among foreign graduate students with their academic programs in the College of Agriculture at The University of Georgia.
3. To describe foreign graduate students' perceptions of their home country situation, type of financial assistance and future employment status.
4. To determine the relationship between the level of academic program satisfaction, home country situation, financial assistance, future employment status and the dependent variable.

### Procedures

A list of all foreign graduate students enrolled in the College of Agriculture at The University of Georgia Spring Quarter, 1986, was obtained from the international Student Office at The University of Georgia. To assure that students were from developing countries, the international office list was checked against the United Nations Food and Agriculture Organizations' classification of developing countries (FAO, 1983). A total of 115 students comprised the population and participated in the study.

### Data Collection

Data were collected via a mail questionnaire developed by the researchers. Face validity was established via a panel of experts comprised of faculty and administrators at The University of Georgia. The instrument was field tested on 20 randomly selected foreign graduate students who were not part of the study. Final refinement was made to the instrument upon completion of the field test. A satisfaction scale was constructed to measure the level of satisfaction with the graduate program. Based on the returned questionnaires the reliability (Cronbach's Alpha) for the scale was .76. Tests to determine the internal consistency of the remaining instrument items were judged inappropriate because of the independent nature of the items. A four point scale was used to quantify the students satisfaction with their academic program, perceived home country economic situation and reasons for attending The University of Georgia. A response framework consisting of multiple choice and dichotomous items was used to obtain personal, situation, financial and employment information.

The data for the study were collected from 72 students who completed and returned the instrument. A 10 percent random sample of non-respondents was

followed-up, and no significant differences were obtained between respondents and non-respondents on measures central to the problem being investigated. Of the 72 returned questionnaires 63 were deemed usable.

### Data Analysis

Percentages and means were used to analyze the data. The population data was nominal and ordinal levels; thus, chi-square was used in analyzing relationships between variables.

### Results

The average age of the foreign graduate student at the College of Agriculture was 30. Sixty-two percent of the students were married and 80 percent were male. Fifty percent of the population were from Asia and Africa. Sixty-six percent of the students were studying at the master's level with the three most popular fields of study being Agricultural Economics, Extension Education and Food Science. The average grade point was 3.57 and the average time spent at The University of Georgia was 24 months. The most important factor influencing the student's decision to study agriculture at The University of Georgia was curriculum, followed by scholarship and faculty reference (Table 1).

**Table 1. Reasons for Attending The University of Georgia**

Factor	x*
Curriculum	3.37
Scholarship	3.34
Faculty Reference	3.00
Geographical climate	2.98
Location	2.66
Student size and composition	2.06
Friends at UGA	1.87

\*N = 63 (1 = Not Important; 4 = Extremely Important)

Table 2 shows that students were satisfied with the academic advising they received, content of their programs of study and instructional quality of faculty. Students were dissatisfied with "core" program requirements, the amount of flexibility in their program of study and the cultural sensitivity of faculty. Students were most dissatisfied with the relevancy of their thesis or dissertation research.

Twenty-four percent of the students perceived their home country economic situation to be "poor" (Table 3), 16 percent indicated their home country economic situation to be "poor but improving", 30 percent in the "fair" category and 22 percent in the "good" category.

**Table 2. Student's Satisfaction with Academic Program**

Item Statement	x*
How satisfied are you with:	
Academic Advising	3.16
Content of program of study	3.09
Instructional quality of faculty	3.00
"Core" program requirements	2.95
Flexibility of program of study	2.93
Cultural sensitivity of faculty	2.80
Relevancy of thesis/dissertation research	2.19

\*N = 63, (1 = Dissatisfied, 4 = Very Satisfied)

**Table 3. Perceived Home Country Economic Situation**

Category	N	%
Poor	17	27.0
Poor but improving	10	15.9
Fair	22	34.9
Good	14	22.2
Total	63	100.0

Fifty two percent of the students in the study were guaranteed employment upon finishing their graduate work and returning home. Forty-eight percent were not (Table 4).

**Table 4. Future Employment Status**

Guaranteed Employment	N	%
Yes	32	51
No	30	48
Total	62	100.0

The three most frequently indicated sources of financial assistance cited were home country scholarships, university assistantships, and bi-lateral-aid organization funding (Table 5). Several other types of financial sources were also cited. These included family assistance, university grants or fellowships, personal savings, religious organization fellowships and part time employment.

**Table 5. Financial Assistance Sources**

Source	N	%
Home country scholarship	19	30.1
University assistantship	19	30.1
Bi-lateral-aid organization	17	27.0
Family assistance	4	6.4
University grant or fellowship	1	1.6
Savings	1	1.6
Religious organization fellowship	1	1.6
Part time employment	1	1.6
Total	63	100.0

Eighty-nine percent of the students perceived themselves as playing a role in the future development of their home countries (Table 6).

**Table 6. Role in Future Development of Home Country**

Role	N	%
Role	56	88.9
No Role	7	11.1
Total	63	100.0

To analyze the relationship between the dependent variable, perceived role in home country development, and academic program satisfaction, a composite score was computed from seven satisfaction items for each individual. These scores were then recorded into three categories of high, medium and low satisfaction levels.

Table 7. shows that those students who perceived themselves as playing a role in their home country development process were more likely to rate their programs in the medium or high satisfaction level categories. Seventy-six percent of the graduate students indicated they were satisfied with their

programs of study and perceived themselves as playing a role in their home countries' development process.

**Table 7. Relationship between Perceived Role in Home Country Development and Graduate Program Satisfaction**

Perceived Role	Low		Medium		High		Total	
	N	%	N	%	N	%	N	%
Role	11	17.5	37	58.7	8	12.7	56	88.9
No Role	4	6.3	3	4.8	0	0	7	11.1
Total	15	23.8	40	63.5	8	12.7	63	100.0

Chi Square value = 5.20\*\*

\*\*Fisher's Exact p = .0747

No significant relationships were found to exist between a student's perceived role in the home country development process and perceived home country economic situation, whether or not the student was guaranteed a job upon returning home or their source of financial assistance.

Students also responded to open-ended questions asking them to explain the least desirable features of their graduate program. The most frequently occurring responses concerned either their perceived relevancy of certain aspects of their programs or the cultural sensitivity of faculty or staff. Responses such as "Preliminary undergraduate courses are a waste of time and money," "No opportunity for practical experience," "Faculty teach with an American view rather than world view," "No one shows concern for me," and "Difficulty with relevancy of thesis or research topic" were common responses.

### Conclusions and Implications

Based on the data it was concluded that only perceived level of satisfaction with the academic program of study was associated with a foreign graduate student's perception of playing a role in their home country's development process. The higher the students' level of satisfaction with their academic program, the more likely they were to feel they would have an influence back in their home country.

Although foreign graduate students indicated that they are satisfied with several aspects of their graduate program such as advisement, program content and instructional quality, problems of cultural sensitivity of faculty and relevancy of their research occur.

As faculty, we can become more sensitive to the culture of foreign students and address the relevancy issue of research and of graduate study in general.

College of Agriculture faculty should:

- study the cultural situations existing in the native lands of foreign graduate students. Read materials on the countries involved, spend time with exchange students allowing them to openly share their wealth of knowledge.
- seek international travel to developing countries to deepen awareness and understanding.

- Encourage foreign students to share their culture with classes, civic groups and others as a means of providing a meaningful way to learn about such cultures and as an appropriate avenue for enhancing the feeling of cultural acceptance among foreign students.
- Support or encourage faculty and graduate students involved in research that has a global perspective.
- Assign faculty with international experiences as research and/or dissertation advisors.
- Plan experiential and practical experiences appropriate to the technology level of student's homeland. Students from developing countries often cannot implement the latest technology. Student activities

should involve teachings observed in less sophisticated, state-of-the-art agricultural situations.

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## Computerized Animal Science for Undergraduates

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### Introduction

Microcomputers are commonplace in all businesses, including agriculture. Computer knowledge is becoming increasingly important for competitiveness in business, education and research. Microcomputers in agriculture today are used to keep inventories, financial, and health records, production records, and budgets. All influence the management decision making process. Agriculture is also on the forefront of computerized information exchange among producers, researchers, extension personnel and other technology groups. Through computers, agriculturalists are able to reach more marketplaces, a larger clientele, and have direct access to large databases of information.

Many students in colleges of agriculture across the United States have limited experience in using microcomputer technology. Although grade schoolers are learning to use computers, current collegians have had little exposure to such technology. To function efficiently in the future agricultural world, today's student must obtain this technology.

### Rationale

A recent survey of graduating Animal Science seniors at the University of Kentucky revealed less than 10% of them had experience with microcomputers. An even smaller percentage knew how to apply this technology to animal production. Most Colleges of Agriculture, including the University of Kentucky, require undergraduates to take an introductory computer science class, largely dealing with programming in various computer languages. Some students will have an interest in programming and should be encouraged, but others do not. Requiring

completion of this type of course can affect the student's attitude towards computer technology in general, and can negatively affect their desire to learn to use microcomputers in the future. In the survey, the seniors also indicated a need for additional experience with microcomputers, especially in application to Animal Science. They believed this knowledge would make them more competitive in the job market.

Numerous colleges considered creating the ideal microcomputer science laboratory. Schlogin (1985) suggested such a lab be stocked with different makes and models of microcomputers, rather than with identical or similar units. In theory this approach is logical because it would acquaint students with a broader array of hardware. However, from a teaching point of view, it makes instruction extremely difficult if all students are working on different types of computers.

Students must learn the classroom theory, as well as application in the laboratory. Each graduating senior should have knowledge of existing software and hardware, and be able to use new developments in both areas.

Therefore, a special problems course, entitled **Computerized Animal Technology**, was developed to provide upper division students with microcomputer experience. This class was designed to accomplish the following objectives: 1) Computer Appreciation, so students can make logical decisions involving application of microcomputers in agriculture; 2) Computer Use in problem solving utilizing existing software without programming; 3) Software Literacy, to learn about software, its uses, limitations, and applications to animal production; 4) Computer Proficiency, to develop a broad understanding of hardware, computer operations, software, file structure, operating systems, and communication capabilities; and 5) Computer Phobias to help undergraduates overcome fear of computers.

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