

Teacher Education Activity in International
Agriculture: A National Assessment

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If you give a man a fish, he will have a meal.
If you teach him to fish, he will have a living.

If you are thinking a year ahead, sow seed.
If you are thinking ten years ahead, plant a tree.
If you are thinking one hundred years ahead, educate
the people.

By sowing seed, you will harvest once.
By planting a tree, you will harvest tenfold.
By educating people,
you will harvest one hundred fold.

Kuan-tzu, Chinese sage

A general agreement exists among professional agriculturalists, educators, and scientists that agricultural and rural development problems must be solved through international cooperation. Former Secretary of Agriculture, Bob Bergland, in addressing the 20th Food and Agriculture Organization Conference in Rome (1979), stated, "A principal U.S. goal is to help developing countries improve their own food production and distribution" (p. 8). During the past two decades, United States agricultural colleges and land-grant universities have become increasingly involved in international development activities. Title XII of the International Development and Food Assistance Act of 1975 (P.L. 94-161) has provided further incentive for expanding United States involvement abroad, especially among the developing or less-developed countries (LDCs). This legislation strengthens the capacities of eligible universities (many of which have agricultural education faculties) to participate with the United States Agency for International Development (USAID) as equal partners in their foreign and rural development efforts.

Agricultural educators, because of their basic knowledge of agricultural science, pedagogical skills, and vocational orientation, have much to contribute as professionals to international agriculture and rural development. However, prior to this study very little information was available regarding the extent to which United States agricultural teacher and extension educators were involved, or even interested, in international activities. To assess the present state of the art and to acquire data for a new chapter in the book entitled

Teacher Education in Agriculture (Berkey, 1982), the authors conducted a nationwide assessment of teacher education activity in international agriculture. The survey was conducted on behalf of the American Association of Teacher Educators in Agriculture (hereafter referred to as the AATEA Survey).

The content of the new chapter, entitled "The Role of Teacher Education in International Agriculture," was broader in scope than the survey instrumentation. This, consequently, prevented the inclusion and analysis of some data. The researchers therefore decided to share the major survey results, with appropriate national implications, by means of a separate article as presented herein. The reader should note, however, that some survey data which were published in Teacher Education in Agriculture (Berkey, 1982) were excluded from this article because of restrictions on length of manuscript. References are made in this regard in those sections where appropriate.

Objectives

The primary purpose of the study was to assess the involvement of agricultural teacher education personnel (including both vocational and extension education) and programs in international activities. A secondary purpose was to begin the 1980s with some benchmark data on the international commitment and involvement of the agricultural education profession. Three specific objectives were identified as being essential to the development and conduct of the study: (a) to assess the extent to which agricultural education programs were involved in international activities on home campuses and at overseas locations during the decades of the 1960s and 1970s; (b) to determine the amount of experience and interest in international activities among agricultural teacher educators; and (c) to analyze the data on both a regional and national basis, drawing implications for agricultural teacher educators in the United States.

Methods and Data Sources

Data for the study were obtained from a nationwide mailed survey of agricultural teacher education personnel and programs in February 1979. The survey data were collected by AATEA region (Central, Eastern, Southern, and Western) with two separate questionnaires. One instrument, Form A, sought institutional information and was mailed to each head agricultural teacher educator (N=84) in the United States. Data requested on Form A included the following categories: institutional involvement in international activities since 1960; international curricula/program offerings; international (foreign) students; and instructional materials in international agricultural education.

A second questionnaire, Form B, was designed to individually assess the experience and interest in international agricultural activities of each (N=348) agricultural education faculty member listed in

the 1978-79 Directory of Agricultural Teacher Educators (Trotter, 1978-79). Data requested on Form B included the following items: experience or interest in international activities, international experience abroad, publications in international agricultural education, foreign language proficiency, interest in future overseas assignments, kind of foreign service preferred; country or continental preferences, length of assignment preferred, and unacceptable geographical areas for assignment.

Mailings to each head teacher educator included one copy of Form A, one copy of Form B for each faculty member, and a cover letter to explain the data collection and mailing procedures. A second mailing with a follow-up letter was sent to institutions where it was needed. Form A responses were received from 80% (67 of 84) of the agricultural teacher education institutions. However, individual response rates to Form B were somewhat lower with slightly less than three-quarters (74.1%) of the teacher educators responding.

Appropriate data were summarized by AATEA region and presented in tabular form. Where regional comparisons were of lesser importance, data were summarized nationally and presented in both narrative and tabular form. Several implications were drawn regarding international activity in agricultural education during the past two decades.

Major Findings

Institutional Involvement

It is generally assumed that most United States universities have been involved in international activities during the past two decades. However, according to the AATEA Survey data, only one-half (50%) of the agricultural teacher education programs in the nation were reported to have been involved in international activities, either at home or abroad, during the 1960s and 1970s. International involvement was greatest among departments or programs in the Central Region (72%) and the Eastern Region (69%) and lowest among the Western Region (29%).

Involvement on United States campuses. Nearly one-half (48%) of the 84 agricultural education programs that responded indicated they had been involved with international activities between 1960 and 1979. Three times as many on-campus international activities were reported for the 1970s as for the 1960s. During the past 20 years, those activities were reported to have involved the part-time services and expertise of nearly 100 different teacher educators.

The nature of international activities involving agricultural teacher education faculties varied greatly among universities. On most campuses (70% of those reporting international involvement) international activities were limited to advising and teaching foreign students enrolled in domestically oriented agricultural education programs and courses. However, a rich variety of activities was offered

on some campuses. Examples of the latter included programs in international agricultural education, Peace Corps training, and summer exchange programs.

Involvement abroad. If on-campus advising and teaching of foreign students are excluded as criteria for "international involvement," then agricultural education faculties were more likely to have been involved in international activities abroad than on their own campuses. Nearly one-third (31%) of the agricultural education programs that responded to the survey reported overseas involvement during the 1960s and 1970s. International activities overseas were most common with those agricultural education programs located in the Central Region (56%) and the Eastern Region (54%); while, less than one-quarter (21%) of the programs in the Southern Region and only one department (7%) in the Western Region were similarly involved. Departmental overseas activity (the number of institutions involved) was somewhat (16%) greater during the 1970s than during the 1960s.

The data revealed that 26 agricultural education departments were engaged in a total of 54 overseas projects in 36 countries during the twenty years covered by the study. Nearly all of those activities were conducted in the LDCs. Of those, 23 projects (43%) involved countries in Africa, 15 (28%) in Latin America, and 14 (26%) in Asia. Overseas projects also included two European countries. A list of the countries involved with United States agricultural education departmental overseas projects can be seen in Table 1.

Agricultural teacher education international projects usually involved one or more faculty members from a United States university. Those faculty members typically engaged in curricular, institutional, or pedagogical research and development activities with an overseas institution of higher education. Activities carried out by agricultural teacher educators usually were conducted in coordination with the Ministry of Agriculture and/or the Ministry of Education of the host country, often under USAID sponsorship. Responses from institutions participating in the study indicated that 80 different teacher educators were involved abroad in departmental/program projects and activities at some time between 1960 and 1979. About one-half (39) of those individuals were still serving as active members of agricultural education faculties during the 1979-80 academic year (Trotter, 1979-80). These figures included only those teacher educators who had acquired overseas experience on projects involving their universities. In spite of this cadre of experienced professionals, most agricultural teacher education programs in the United States have been institutionally uninvolved overseas in international agricultural education.

Curriculum and Program Offerings

Survey respondents were asked to identify the curricula, programs, and courses in international agricultural education which were offered by their institutions. Program titles were identified at both the undergraduate and graduate levels. Those titles were published

Table 1

Countries Involved with United States Agricultural Education
Departmental Overseas Projects, by Continent, 1960-1979

Africa (n=23)	Latin America (n=15)	Asia (n=14)	Europe (n=2)
Botswana	Brazil (4)	Bangladesh	Azores
*Chad	Colombia	Indonesia	England
*Gambia, The	Costa Rica	Korea (2)	
Kenya (4)	Dominican Republic (2)	Malaysia	
Liberia	Jamaica (3)	Nepal (2)	
*Mali	Mexico (2)	Philippines	
*Mauritania	Panama	Saudi Arabia	
Nigeria (5)	Venezuela	Taiwan (3)	
*Senegal		Thailand	
Sierra Leone		Viet Nam	
Sudan			
Tanzania (2)			
Tunisia			
Uganda (4)			
*Upper Volta (2)			
Zambia			

Note. Parentheses contain the number of projects if more than one.
(* Asterisk identifies each of six countries involved in one Sahel project.

in Teacher Education in Agriculture (Berkey, 1982). Most institutions included in the study reported no program offerings in international agricultural education; however, several identified one or more internationally oriented courses in agriculture as being offered at their university. Agricultural educators also indicated that some of their traditional preservice and inservice courses have an international orientation.

International Students

Many students from a wide variety of countries are enrolled each year in agricultural education programs at United States universities. According to the survey data, at least 245 students from 44 other nations were enrolled in agricultural education programs during 1978-79. Approximately two-thirds of those reported were enrolled at the graduate level. Nearly one-half (45%) of the foreign students were enrolled in universities located in the Southern Region, while an additional one-third (34%) were attending universities in Central Region states. Foreign student enrollments at universities in the Eastern Region (15%) and the Western Region (6%) were relatively small. A regional distribution of foreign student enrollments in agricultural education is presented in Table 2.

Table 2

Number of Foreign Students Enrolled in Agricultural Education
at United States Universities during 1978-79

Level	Number by AATEA region				Total enrolled
	Eastern	Central	Southern	Western	
Undergraduate	5	17	59	4	85
Graduate	32	67	51	10	160
Total	37	84	110	14	245

As would be expected, almost all of the foreign students enrolled in agricultural education in the United States were from the LDCs. The countries of origin identified with the largest numbers of agricultural education students in the United States in 1978-79 were as follows: Nigeria, 38; Iran, 29; Malaysia, 20; and Thailand, 12. A large majority (79%) of the total enrollees were from countries in Africa and Asia. A distribution of foreign agricultural education students by continental origin is presented in Table 3.

Faculty members with international experience or interest were usually assigned to serve as academic advisors for foreign students. However, many agricultural education faculties were devoid of teacher educators with international experience or even interest.

Table 3

Continental Origin of Foreign Students Enrolled in Agricultural Education at United States Universities in 1978-79

Continent	Number by AATEA region								Total enrolled
	Eastern		Central		Southern		Western		
	UG ^b	G ^c	UG	G	UG	G	UG	G	
Africa (13) ^a	4	11	13	29	7 ^d	8 ^d	0	1	73 ^e
Asia (15)	0	8	2	28	18 ^d	28 ^d	2	4	90 ^e
Europe (2)	1	3	0	0	0	0	0	0	4
Latin America (10) ^f	0	7	0	6	9	8	0	1	31
North America (1)	0	1	0	0	0	0	0	0	1
Oceania (3)	0	2	0	1	0	1	0	0	4
Origin not reported	0	0	2	3	25	6	2	4	42 ^e
Total (44)	5	32	17	67	59	51	4	10	245 ^e

^aNumber of countries represented.

^bUndergraduate students.

^cGraduate students.

^dCountries were identified and numbers of students were reported, but the number of students by country was not specified by at least one respondent

^eSurvey respondents reported 245 foreign students enrolled in their institutions (see Table 2), but only 193 could be identified by country of origin. Of those so unidentified, 10 were identified by continent of origin, 31 were thought to be from African or Asian countries, and 11 were untraceable

^fIncludes the Caribbean region; Central and South America.

Teacher Education Experience and Interest

The key to agricultural education institutional involvement, program development, and student recruitment with regard to teacher education activities in international agriculture rests with the teacher educators. However, only a relatively small portion of United States teacher educators (approximately 72 or 348 or about one in five) serving on agricultural education faculties in 1979-80 (Trotter, 1979-80) had overseas experience in international agriculture education. As was noted previously, 39 of those individuals had acquired international experience abroad on projects involving their university and were still serving on those faculties at the time of survey. Sev-

enteen (44%) of those individuals were on faculties in the Eastern Region and thirteen (33%) were faculty members in the Central Region. An additional 33 agricultural teacher educators in the United States were experienced in international agriculture; however, those individuals had acquired their overseas experience on projects not directly involved with the agricultural education departments where they were employed at the time of survey.

Many agricultural teacher educators without overseas experience expressed interest in becoming involved in international activities. This group was larger than those with experience in the Southern and the Western regions. In response to an AATEA Survey question, 140 of the teacher educators (40%) indicated they had experience and/or interest in international work. This number included those "with experience," who were assumed to also "be interested." The Eastern Region had the highest percentage (62.9%) of teacher educators with experience and/or interest in international activities. It was also the only region where interest in international activities was reported by a majority of the agricultural teacher educators. A percentage distribution of teacher educator international experience and/or interest is shown in Table 4. The data indicate that two-fifths (about 140 out of 348) of the agricultural teacher educators in the United States are experienced or interested in international activities.

Table 4
Percentage Distribution of Teacher Educators with Experience and/or Interest in International Activities in Agriculture, by Region, 1978-79

Experience and/or interest	Percentage by region				Total (n=348)
	Eastern (n=54)	Central (n=99)	Southern (n=149)	Western (n=46)	
Experienced	40.7	27.3	15.4	4.3	21.3
Interested	22.2	22.2	18.1	10.9	19.0
Not interested	11.1	17.2	36.2	8.7	23.3
No response	25.9	33.3	30.2	76.1	36.5

Amount of international experience acquired. Agricultural teacher educators who had completed assignments abroad in international agriculture prior to 1979 were requested to indicate the number of months served for each assignment. A cumulative total of 103 years of international experience abroad was reported by those (62 of 72) who responded to this item. Total international experience per respondent averaged approximately 20 months. Eleven (15.3%) of the respondents reported over 48 months of international experience and

eight (11.1%) indicated their accumulated experience totaled one month or less. A percentage distribution of total months of teacher educator experience in international activities is presented by region in Table 5.

Table 5
Percentage Distribution of Teacher Educators by Total Months of Experience Acquired in International Activities in Agriculture Prior to 1979, by Region

Total months of international experience acquired abroad	Number with international experience by region				Total (n=72)
	Eastern (n=22)	Central (n=27)	Southern (n=21)	Western (n=2)	
1 month or less	4.5	3.7	28.6	0	11.1
2-3 months	22.7	18.5	14.3	50.0	19.4
4-12 months	9.1	14.8	9.5	0	11.1
13-24 months	13.6	18.5	23.8	0	18.1
25-48 months	9.1	14.8	9.5	0	11.1
More than 48 months	22.7	14.8	4.8	50.0	15.3
Number of months unknown	18.2	14.8	9.5	0	13.9

Nature of assignments. Agricultural teacher educators with overseas experience were asked to identify the kind of service associated with their international work. Their widely varied responses were summarized by using a classification system similar to one used in a National Association of Colleges and Teachers of Agriculture Study by Rawlins and Foutch (1977). The following categories were used: consulting, research and development, teaching, administrative, extension, and other. Some respondents reported only one type of service, while others indicated several. The extent of service in each category is presented in Table 6.

Selected variables summarized. Data obtained from agricultural teacher educators who had completed overseas assignments prior to 1979 suggested a broad range of experience in international agriculture. Seventy-two teacher educators indicated foreign service in 67 countries, with international assignments concentrated more heavily in the western hemisphere.

The United States Government (specifically the USAID) was the international assignment employer identified most frequently by the survey respondents. The Ford Foundation was the largest employer among the private firms and/or foundations cited.

Table 6
Nature of International Assignments Experienced by
Agricultural Educators

Type of service	Number of teacher educator assignments
Consulting	68
Research and development	22
Teaching	17
Administrative	16
Extension	2
Other ^a	7
Total	131

^aIncludes conference participation, farming, sabbatic visit, trade mission representative, and work study assignments.

Approximately one-third (47) of the teacher educators with experience or interest in international activities claimed some knowledge of a language other than English. Respondents reported various degrees of proficiency in 11 foreign languages, with Spanish, French, Portuguese, and German cited most frequently.

A fuller presentation and discussion of survey results regarding where international experience was acquired, employing agencies, sponsors of on-campus international activities, and language proficiency was published in Teacher Education in Agriculture (Berkey, 1982).

Interest in future assignments. Most (86%) of the respondents with experience and/or interest in international activities also indicated interest in future assignments abroad in agricultural education. The same group of respondents checked consulting most frequently as the kind of service which they would prefer. Teaching was ranked second with research and development third. A summary of the kind of foreign service preferred is presented in Table 7.

Teacher educators reflected much variety in their first, second, and third choice locational preferences for overseas work. As requested, some responses named specific countries and others specified general areas such as regions or continents. When specific countries were identified, they were usually included among the choices of individuals who had completed previous assignments in those nations. No particular country was highly preferred over the others. Latin America (Central and South America and the Caribbean region) and Europe were the most popular continental choices. Country, regional, and continental preferences were consolidated into continental choices and are shown in Table 8.

Table 7
Kinds of Foreign Service Preferred by Agricultural
Teacher Educators

Kind of service	Number of preferences (n=121) ^a
Consulting	95
Teaching	77
Research and development	53
Administration	35
Extension	31
No special preference	13
Other	7
Total	311 ^b

^aNineteen of the 140 agricultural teacher educators with experience and/or interest in international activities did not respond to this item.

^bThe total exceeds the number of respondents because more than one choice was requested per individual.

Table 8
Continents Preferred by Agricultural Teacher Educators
for Overseas Assignments
(n=140)

Continent	Frequency of choice ^a		
	First	Second	Third
Latin America (including Caribbean area)	34	31	20
Europe	33	15	10
Africa	19	22	10
Asia	9	11	16
Oceania	3	11	7

^aNo preference was indicated by 23 respondents; 19 did not respond to this item.

Teacher educators exhibited a wide range of flexibility on their length of overseas assignment preferences. Thirteen of the 121 respondents failed to indicate a length of assignment preference. Their selections were as follows: short-term (3 months or less), 88; intermediate term (4-12 months), 25; and long-term (over 12 months), 17. In summary, although a majority (72%) preferred short-time assignments, most agricultural educators would look favorably on longer assignments as well.

Implications

An analysis of the major findings of this study has led to the following implications:

1. Given the federal goal of helping the developing countries to improve their own agriculture, the growing impact of Title XII, and the fact that most agricultural education programs in the United States reported having no program offerings in international agricultural education, one could logically assume that courses and programs in international agricultural education will become much more available on United States campuses during the next few years.
2. The needs and objectives of foreign students often differ from those of their host country classmates. The absence of teacher educators with international experience or interest from many agricultural education faculties suggested that some agricultural education programs will need to strengthen the international focus of their staff and curricula if all students enrolled are to acquire an education appropriate to their professional goals.
3. During the past two decades, the percentage of agricultural education programs that were institutionally involved in international activities was highest in the Central Region (on-campus, 72%; abroad, 56%) and in the Eastern Region (on-campus, 69%; abroad, 54%). This factor, plus the relatively high percentage of internationally experienced and interested faculty members in those institutions (Eastern, 62.9%; Central, 49.5%), suggested that activity in international agricultural education will remain high in the Central and the Eastern regions during the 1980s.
4. The universities in the Eastern Region enrolled only 15% of the total foreign student agricultural education enrollment in the United States during 1978-79. However, the Eastern Region had the highest percentage of agricultural teacher educators with overseas experience (40.7%). In absolute terms, this total (22 in 1979-80) was one more than the number (21) reported for the Southern Region, a region with nearly three times as many agricultural teacher educators. Similar contrasts were observed in comparing Eastern Region data with comparable data from the Central and the Western regions. Agricultural education programs

in the Eastern Region, therefore, appeared to have a greater faculty potential for sustaining and perhaps increasing their foreign student enrollments than did programs in other regions.

5. Agricultural teacher education programs in the Southern Region seemed to hold the greatest overall potential for increased involvement in international activities. That region's relatively large number of teacher education programs, climatic and agronomic similarities with many developing countries, and strong economic growth are all positive factors toward international program expansion in agricultural education during the 1980s.

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