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**THEME: Agriculture  
In A Global Perspective**

# THE AGRICULTURAL EDUCATION MAGAZINE



March, 1987

Volume 59

Number 9

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## ARTICLE SUBMISSION

Articles and photographs should be submitted to the Editor, Regional Editors, or Special Editors. Items to be considered for publication should be submitted at least 90 days prior to the date of issue intended for the article or photograph. All submissions will be acknowledged by the Editor. No items are returned unless accompanied by a written request. Articles should be typed, double-spaced, and include information about the author(s). Two copies of articles should be submitted. A recent photograph should accompany an article unless one is on file with the Editor.

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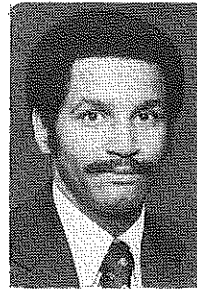
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# A Proposal: An International Society of Agricultural Educators

A small group of agricultural educators organized the Association for International Agricultural Education (AIAE) in 1984 to formally give an international dimension to agricultural education. As Richard Welton explains in this issue, AIAE provides educational assistance to developing countries. Most members are professors and other educators and the group meets regularly to share knowledge. It also does many other activities to enlighten the profession. Even though this group is growing in numbers and importance, laggards in the profession respond in a laissez faire manner to the call for an international dimension. Most in the profession want the international dimension, but not by sacrificing current duties and responsibilities.

Disenchantment to adding such a dimension results for the usual reason, i.e. a failure to adequately communicate consistent definitions. All too often, an international experience is described in terms of a professional dropping what is being done in the U.S. and traveling to another country for one to two months or as long as two to three years. Many in the profession, particularly new college faculty members building a record of scholarly productivity, cannot devote such time to international activities. Likewise, few school districts will fund a substitute teacher so a vocational agriculture teacher can have a sabbatical to teach secondary students and adults in another country. Extension personnel are in similar situations. However, two reasons are offered for expanding our involvement.



By BLANNIE E. BOWEN, EDITOR

(Dr. Bowen is an Associate Professor in the Department of Agricultural Education at The Ohio State University.)

## A Rationale for International Involvement

First, the Live Aid Concert, the mass media, and personal testimonials enlightened the world to hunger around the globe. Second, Farm Aid, the mass media, and personal observations have informed all agricultural educators of the plight of American agriculture. Table 1 shows a picture in terms of the world's major crops and what percentage of each the U.S. produces and exports.

Data in Table 1 shows U.S. farmers *can* still produce crops. But, if Americans can't eat them and other nations can't or won't buy them, we have two problems. First, American agriculture is and will probably continue to be in serious trouble! Second, guilt should move Americans to eliminate the world's hunger. This scenario suggests a dire need for global agricultural education. The responsibility rests with more than a few committed souls. We must educate ourselves and involve agricultural education professionals from around the globe. AIAE's efforts are laudable, but too limited. Those around the globe most affected must help plan and deliver educational programs.

Table 1  
Primary Agricultural Crops  
Produced and Exported by the U.S.

Commodity	Production (U.S. %)			Exports (U.S. %)		
	83-84	84-85	85-86	83-84	84-85	85-86
Wheat	13.5	13.7	13.1	35.4	36.1	26.0
Oats	15.0	16.6	15.9	2.4	1.1	2.1
Corn	30.5	43.0	46.9	72.4	71.4	49.9
Barley	6.5	7.5	7.2	10.6	6.9	2.9
Rice	1.0	1.4	1.4	16.8	16.0	15.3
Sorghum	19.9	32.8	39.1	45.6	57.4	48.9
Soybeans	53.4	55.7	59.4	85.2	66.3	78.1
Tobacco	10.8	12.4	10.1	17.2	17.9	17.9
(Unmanufactured)						
Edible, Veg. Oils	13.0	13.7	13.4	14.5	7.9	7.7
Cotton	11.5	15.2	17.2	28.6	30.7	10.4

(Sources: THE WORLD ALMANAC AND BOOK OF FACTS — 1987, p. 176; 1986 p. 158; and 1985, p. 206.)

## The International Society of Agricultural Educators

An essential piece of the puzzle is missing because a viable society to serve agricultural education professionals around the globe is not in place. Thus, the International Society of Agricultural Educators (ISAE) is proposed. ISAE would provide a forum and channels for educators and students from both developing and developed countries and dialogue about critical problems and issues. Strategies could be thoroughly planned and conducted.

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# A Proposal: An International Society of Agricultural Educators

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**Membership.** An international society such as ISAE must encompass all of agricultural education. Extension and vocational agriculture are treated collectively by many departments of agricultural education in the U.S. Nationally and internationally, the two entities do not cross paths as often as they should and could. For instance, vocational agriculture teachers, supervisors, and professors meet with the American Vocational Association. Meanwhile, Extension agents (agriculture and 4-H youth), specialists, and related professionals have their meetings. ISAE bridges the gap since both deal with similar audiences and concerns around the globe. Membership in ISAE would not replace existing national organizations.

Further, students planning careers requiring vocational training, technical education, bachelor's degrees, or graduate study in agricultural education could become members. The students section would be the Federation of Future Agriculturalists (FFA). The Federation should meet concurrently with the society.

Figure 1 lists U.S. organizations whose memberships would most likely join the Society.

Professional Organizations	
American Association of Teacher Educators in Agriculture	
National Association of Supervisors of Agricultural Education	
National Association of County Agricultural Agents	
National Association of Extension 4-H Agents	
National Vocational Agriculture Teachers Association (NVATA)	
Student Organizations	
Alpha Tau Alpha	
Collegiate FFA	
4-H (Members of at least high school age)	
Future Farmers of America	
Postsecondary Agriculture Students	

Figure 1: Member Organizations of the International Society of Agricultural Educators.

**Meetings.** The international meeting (the Biennial Forum) should be held every two years. National meetings of the above professional organizations should be held in alternate years. Few matters presented at national meetings of the agricultural education professional organizations would perish by waiting a year (State and regional meetings could still be held annually). Besides, this arrangement allows significant global matters to be discussed in a true international rather than a U.S. forum. Money saved by deleting a national meeting and excellent yet reasonably priced air service make an international meeting feasible. Meeting sites could be rotated among nations or a permanent site chosen by the Society.

**Implementation.** AIAE, the professional agricultural education organizations, and youth organizations in the U.S. should take the initiative to form the Society. The U.S. has a vested interest in such an organization. The "help them" as well as "help ourselves" mentality must pervade. One-way and big brother approaches to international agricultural education must cease. Those in the U.S. and abroad who have vested interests must accept the challenge of helping themselves.

Eddie Moore, this month's theme editor, is to be commended for selecting a diverse and experienced group to share their thoughts about this increasingly popular yet complex topic.

## About the Cover

David Isoh (left), Nigeria, and Elly Miron, Kenya, inspect a head of grain sorghum during an educational tour of a farm. Both are graduate students in Agricultural and Extension Education at Mississippi State University. (Photo by Jasper S. Lee, Mississippi State University)

## BOOK REVIEW

**RENEWING AMERICAN INDUSTRY**, By Paul R. Lawrence and Davis Dyer, New York, New York: Collier Macmillan Publishers, 1983, 416 pp. \$22.95.

The purpose of this book is to examine seven basic industries in the United States. The industries are transportation (automobile); material (steel); health (hospitals); food (agriculture); shelter (residential construction); energy (coal); and communication (telecommunication). The discussion of the industries includes an examination of each with a review of its history, problems encountered, and how the problems can be overcome by

an appropriate adaptation process. The authors draw an analogy between the industries' ability to adapt and adaptation in the biological world.

The chapter on agriculture emphasizes its significance as the largest and most successful industry in the United States. The chapter emphasizes a history of agriculture, including the crisis years of 1920 to 1933. It also includes the American miracle — the agricultural revolution which describes the decreasing farm population, but increasing productivity per farmer. The authors credit the New Deal politicians with inspiring the agricultural revolu-

tion. They recommend that today's policymakers need to use the same strategies as the New Dealers.

The book is recommended as a reference for advanced high school or postsecondary classes.

The book is written by Paul Lawrence who is a Professor of Organizational Behavior at the Harvard Business School and Davis Dyer who is an Assistant Professor of Management at Boston College.

John Hillison  
Virginia Tech  
Blacksburg, Virginia

# Setting the Record Straight and Increasing Our Involvement in International Agricultural Education

The economy of the U.S. will remain strong if we are willing to remain competitive in a world market. The food and agriculture industry has played a very significant role in our ability to remain competitive. Needless to say, the food and agriculture industry will probably be asked to play a more significant role in the future. This key role will have many implications as we attempt to improve ourselves economically, politically, and from a national defense perspective.

The economic problems of American and developing country farmers have reached a point whereby their causes and solutions have much in common. Developing country farmers have difficulty feeding their people because of various internal and external reasons. Meanwhile, American farmers have the capabilities and to some extent the incentives to produce an abundance of agricultural products. Brady (1986) reported that U.S. exports of agricultural products tripled between 1961 and 1984. Most of the increase was not to traditional customers, the industrialized nations, but to developing countries whose economies had improved and whose populations were increasing. In light of agricultural exports, food aid to developing countries continues to be an issue in the minds of many Americans. However, food aid as a percentage of U.S. agricultural exports has basically been declining over the years. This decline reached an all time low of less than 4% in the 1980s. In essence, the developing countries have been paying for their products.

Developing countries are rapidly becoming our principal customers for agricultural products. A significant reason why developing countries are in need of agricultural products relates to population increases. Population increases in developing countries are occurring at a faster rate than population increases in the industrialized countries. (See Figure 3 on back cover.)

## Food Production and U.S. Exports

Figure 4 (on the back cover) shows the proportion of income spent on food in selected countries. The data presented in that figure indicates that a major portion of income in developing countries is spent on food purchases. Several implications may be drawn from this figure and the three others on the back cover:

1. Food aid as a percentage of U.S. agricultural exports declined the last 20 or more years. The decline was less than 4% in the early 1980s. This low percentage indicates that the economies of developing countries have improved and they are paying in cash for U.S. agricultural products.



BY EDDIE A. MOORE, THEME EDITOR

(Dr. Moore is a Professor in the Department of Agricultural and Extension Education at Michigan State University, East Lansing, Michigan 48824-1039.)

2. Developing countries are rapidly becoming our principal overseas customers for U.S. agricultural products which are exported.
3. The demands for agricultural products will be greater in developing countries than in industrialized countries because of large population increases in developing countries.
4. Developing countries will probably continue to spend a major portion of their income on food. Therefore, it would seem that Americans, including agricultural educators, would want to continue assisting developing countries in improving their economies. Improving the economies of the developing countries would provide a rapidly growing population with additional dollars to purchase more and better foods. Because Americans are involved in improving their economies, this provides a golden opportunity for selling more agricultural products. A major benefit from a U.S. economic perspective would be the American farmer.

Our assistance to Third World countries will also yield tremendous benefits to other major U.S. industries. With respect to some of the U.S. benefits, Brady (1986) stated:

*From developing regions of the world we obtain 100 percent of the natural rubber for our auto industry; 97 percent of the bauxite for our aircraft industry; 91 percent of the cobalt for our steel and nuclear industries; and substantial amounts of columbium, tin, cobalt, aluminum and other non-renewable resources. Without access to these essential materials, our industrial edifice would collapse.*

## Expanded Roles

The role of agricultural education in international education has been limited until recent years. This role has expanded and we will have an even more vital role to play in the future — at home and abroad. This issue has been prepared to strengthen our involvement in international agricultural education. Some of the first articles in this issue

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## Setting the Record Straight and Increasing Our Involvement in International Agricultural Education

(Continued from page 5)

focus on agricultural education — a global perspective, contributions, and developing a philosophy for international involvement. They are followed by some ideas on expanding our undergraduate and graduate program to include more in the area of international agricultural education.

One key area at home related to this topic is the extent we are able to have an impact on local vocational agriculture programs. Policy issues and ideas regarding the integration of international concepts into local vocational agriculture programs are presented. It is at this level whereby we have an enormous amount of work to do. Helping set the record straight in terms of U.S. involvement in international agriculture related matters would be a start in the right direction because of so many misconceptions.

The demand for university personnel to take international assignments will be greater than any other time in our history. This demand has surfaced because of very complex problems in many parts of the world. Solving many of the problems abroad will require the most talented university personnel to design and implement inter-multidisciplinary approaches. Some ideas on preparing university personnel for international assignments are included. An additional article discusses some of the contributions we have made and are making around the world.

It appears that the food and agricultural industries are increasing their efforts in the international area. As agricultural educators, we are in excellent positions to contribute to this trend. Perhaps our greatest impact could be to assist in setting the record straight and increasing our own involvement in international education.

### Reference

Brady, N.C., "The Food and Agriculture Dilemma: A Second Look at A.I.D." *THE PEANUT FARMER*, July 1986, pp. 14-17.

## THEME

# Undergraduate and Graduate Programs: The Need for an Expanded International Dimension

Within recent years, agricultural educators have become increasingly aware of a necessity to view the profession from a global perspective. We are beginning to perceive ourselves as teachers in a world community. International dependence on agricultural products and technical expertise, satellites, television, jet travel, employment opportunities abroad, the Work Experience Abroad program, and the importance of international export markets have all served to create a better understanding of the globe beyond the boundaries of our states and nation.

The global dimension of agricultural education has evolved from "only teaching prospective teachers those pedagogical skills needed to plan, teach, and evaluate local vocational agriculture programs" to include a thrust in international education. A review of the history of teacher education in agriculture development reveals no formal reference to international education until the early 1970s. At that time, future responsibilities of the agricultural teacher educator were examined. In the document *AGRICULTURAL EDUCATION FOR THE SEVENTIES AND BEYOND*, a curriculum designed for "agricultural educators who will be entering international education programs" was identified as an emerging responsibility.

### A Global Agricultural Education

In the decade since agricultural education moved onto the



BY RICHARD F. WELTON

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global stage, a number of noteworthy events have occurred. In 1979, Bill Thuemmel and this author conducted a nationwide assessment of teacher education activities in international agriculture. This study was conducted on behalf of the AATEA and served as a basis for Chapter 15 in *TEACHER EDUCATION IN AGRICULTURE*. The AATEA recently modified its purposes to include the promotion of "international agricultural education as a basic function of international agricultural development." The Association for International Agricultural Education (AIAE) was established in 1984 to provide a professional association and network of agricultural educators concerned with the advancement of agricultural education programs in developing countries. These and other events have served to bring a new meaning and emphasis to international agricultural education.

The AATEA survey of teacher education programs in 1979 found programs of an international agriculture nature were being offered; however, the availability of program offerings in international agricultural education were available with less frequency. Currently, there appears to be some movement in providing training for students with an interest in the global dimensions of agricultural education. It follows that if we are to fulfill this emerging dimension of program responsibility, much remains to be done.

### New Roles

As the agricultural education profession examines this new role, it may be helpful to see how teacher educators in other disciplines view their responsibility toward international education. A recent Task Force on International Education of the American Association of Colleges for Teacher Education (AACTE) broadened its traditional definition of international education and recommended that teacher education should:

- be considered a fundamental part of basic education.
- become more global in character, more concerned with issues and problems that affect large numbers of persons, and . . . needs that humans share.
- increase the global perspective in the development of knowledge, skills, and attitudes in a world of limited resources, ethnic diversity . . . , and increasing interdependence of nations, institutions, and people.
- be viewed from a global perspective that requires the preparation of teachers and teacher educators whose knowledge about the world and attitudes toward diversity . . . reflect global realities.

In March 1986, guidelines for international teacher education were adopted by the AACTE. Implications for agricultural education can be found in these guidelines. As a means of expediting this information, each is examined in the context of agricultural education. The questions that follow may be helpful in revitalizing or redirecting efforts to internationalize our undergraduate and graduate programs.

### Program Modifications

**Administrative Leadership** — The departmental governance structure in agricultural education is committed to internationalization of the curriculum.

1. Does the official mission statement include a reference to international education?
2. Has the governance mechanism examined the international mission of the department in a review of goals and priorities?
3. Do faculty participate in associations which emphasize international education?
4. Are steps taken to reward faculty members who participate in international activities?

**Curriculum Development** — International education is a fundamental part of the general and professional studies in agricultural education.

1. Are provisions made for a systematic analysis and review of international content in general and professional education?

2. Are students provided an opportunity to study, live or work in an international setting?
3. Do students have an opportunity to student teach abroad?
4. Are the services of American and foreign experts, students, and visitors utilized to enrich curricular and extra-curricular offerings?

**Faculty Development** — The department recruits and supports faculty whose teaching, research, and service will enhance the international dimensions in the program.

1. Are faculty members encouraged to review their courses in order to assure the incorporation of an international aspect?
2. Are faculty members encouraged to deepen their international awareness, understanding, and expertise by seeking off-campus opportunities?
3. Are faculty members encouraged to seek international fellowships?
4. Does the department make use of non-agricultural education faculty with international expertise?

**Student Awareness** — Agricultural education students are provided an opportunity to develop knowledge, skills, and attitudes that are consistent with the modern world.

1. Are students encouraged to view international education as an important part of their training?
2. Has the department developed a process to determine the international knowledge students bring into the program?
3. Does the department recruit, retain, and educate foreign students with the intent to encourage diversity and interaction between foreign and American students?
4. Are attempts made to recognize and reward exemplary student activities that are international in character?

**Resources** — The department provides personnel, materials, curricular, and organizational resources to support the infusion of an international dimension into its program.

1. Has the department made an assessment of resources that describes its commitment to international education?
2. Does the department have a designated person to coordinate, administer, and promote international education?
3. Does the department commit resources to promote student interest and involvement in international education?
4. Do faculty and students have easy access to timely information about study and work abroad?

**Services** — The department has an on-going commitment to provide service to vocational agriculture programs, community college agriculture programs, and agribusinesses in the area of international education.

1. Do faculty members with international expertise share their knowledge and understanding with on and off-campus groups?
2. Does the department maintain contact with graduates who have been involved in international education related activities?
3. Does the department maintain an active list of public and private institutions and organizations that are supportive of funding and promoting international education related projects?
4. Are faculty members publishing articles and research findings that have an international focus?

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## Undergraduate and Graduate Programs: The Need for an Expanded International Dimension

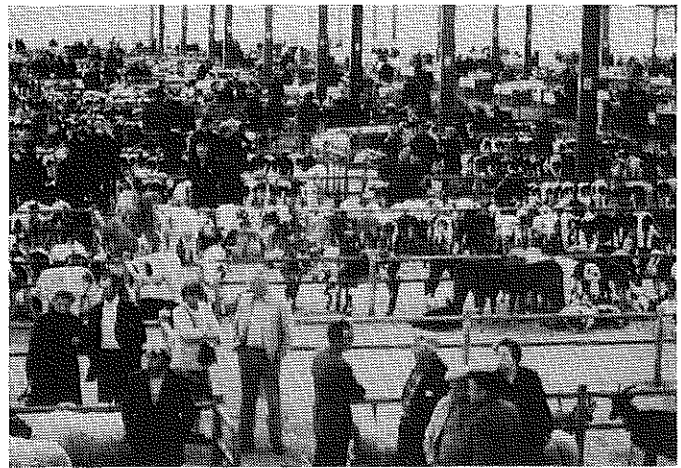
(Continued from page 7)

**Research** — The department is committed to adding an international dimension to its research function and to using international and comparative research in its curriculum and faculty development activities.

1. Does the department encourage and/or provide support for faculty involved in research that has a global perspective?
2. Does the department assign faculty with international experience as research and/or dissertation advisors?
3. Does the department cooperate in research with faculty in other departments and colleges who have an interest in international affairs?
4. Does the department cooperate with other faculty to pursue research in internationalizing agricultural education?

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Illinois State University faculty and students attending the calf auction at Chateau Goutier, France which markets over 200,000 calves per year. Most of the calves are sold to French buyers, but 20% of the stock goes to Italy. (Photo courtesy of Chris Townsend, Texas A&M University.)



International students are taught the establishment of a fungus free fescue pasture by David Kittrell of Noxubee County, Mississippi. The on-farm observations provide real world application of classroom theory. (Photo by Jasper S. Lee, Mississippi State University.)

## BOOK REVIEW

*GROWTH IN ANIMALS*, by T.L.J. Lawrence, Reader in Animal Husbandry in the University of Liverpool, Published by Butterworths, 10 Tower Office Park, Woburn, MA 01801, 1980, 308 pp. \$52.95.

This is a very technical publication on the effects of growth on species of animals. The text is a series of studies from a symposium on the growth in animals. To quote from the preface by T.L.J. Lawrence, "the programme of the symposium was chosen to allow a natural progression from basic concepts of growth to a consideration of some of the more applied aspects. A bridge between these two extremes was

formed by the papers which presented aspects of immunity and the gut microflora relative to growth and those which considered the mechanisms of growth promoters in single-stomached and ruminant animals."

The papers presented were by recognized experts in their own particular fields of study. They have done an excellent job of taking a subject and presenting it in great detail. The audience this book is directed to would be graduate level or an instructor's reference. Anyone studying the aspects of growth in animals certainly would use this text as a reference as the material is up-to-date. Much has been done in re-

cent years to study growth patterns and growth habits of animals. I believe that with a text of this nature, one would certainly have a basis to start and proceed with his or her research.

Research topics include: DNA, enzyme and biochemistry, temperature and environment, immune systems, and malnutrition to name but a few of the inclusive chapters.

Charles W. Couture,  
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# Integrating International Concepts into Local Vocational Agriculture Programs

"U.S. Agriculture has always been characterized by change," said Joseph Havlicek, chairman of The Ohio State University Department of Agricultural Economics and Rural Sociology, in a research paper presented to the American Agricultural Economics Association. He went on to say, "No longer does agriculture have the luxury of operating in an isolated, self-sufficient system. The agricultural sector has become an integrated part of the U.S. economy, which in turn has become part of a larger global economy." There is no question but what today we are seeing changes taking place more rapidly in American agriculture than any other time in history.

But how does vocational agriculture enter the picture? If it is to continue to be a viable part of American education, it, too must adapt to the present and future needs of American agriculture. Since its beginning, vocational agriculture has emphasized the production aspects of agriculture. We have done such a good job that today we find surpluses in almost every commodity the farmer produces. Yet, economists like Havlicek continually tell us the necessity of understanding world markets, foreign economic policies, world supply and demand conditions, etc.

I believe that a local vocational agriculture program has an obligation to incorporate an international understanding of agriculture into its curriculum. I have found many ways to meet this need.

At the beginning of the study of every livestock and crop enterprise, time is spent learning the production areas of the world for the particular enterprise. Students research this material in the library. They have to determine the conditions that make these areas our competition: availability and use of land and water, weather and climate, and incentives to producers. By the time the student completes a high school career, she or he is acquainted with the 8-10 major production areas in the world and what influence they have on us as competitors. A good example is how South America has recently become a major exporter and competitor. It is certainly necessary for us to understand the reasons for that continent's success in the world marketplace and the short term and long term effect it has on the production in our home community.

The world is our marketplace. As we look to the future, marketing agricultural products is surfacing as a top priority in solving the world's agricultural problems. We have the ability to produce, but how to get it to the areas of the world that need it and in the form they can use it is the problem.

To address this topic, we spend a great deal of time learning about the marketing of commodities. Time is spent in learning the various avenues in marketing. When studying the futures market, the students own shares of stock in various commodities. As world situations unfold, they can



BY NORWIN BRAUN

(Mr. Braun is a retired Vocational Agriculture Instructor from Chesaning High School, Chesaning, Michigan 48616.)

see the effects they have on his or her contracts and in time the cash price received for the commodities off the farm.

While studying marketing, we become involved in our government's role in agriculture with local, federal, and international implications. The student more readily understands the dilemma by realizing the effects of embargoes and how various nations subsidize their agricultural programs. The student can better understand world trade and why it is sometimes necessary for us to import goods even though we may have a surplus in our country.

Eating habits of various nations are becoming factors in marketing. Two good examples in our area are black beans and white beans. A major food in the Mexican diet is the black bean. As a result, Mexico has become a major market for a specialty crop in our area. Also, through promotion we have found that England has become a consumer of the "splits" or broken white beans. By gaining a better understanding of what people desire in their diets, we can find special markets. Thus, not only are the students learning about marketing but are also learning about the production of these specialty crops.

Career education in agriculture has an international flavor. I said earlier that the world is our marketplace. It is also a place of employment. In our situation, a former student is employed by International Soya, lives in Greece, and services the Middle East and Northern Africa. I spent two years in Nigeria under contract with USAID (United States Agency for International Development). The Peace Corps has been an active agency for developing international agriculture understanding. The FFA WEA (Work Experience Abroad) program has been a vital tool in exposing students to the international scene. In our studies of career exploration, time is spent on career possibilities outside the U.S. This is done by inviting representatives of businesses with international officers, former WEA students, and foreign exchange students who have contacts in agribusiness in their home country.

Vocational agriculture must adapt to the changes taking place in agriculture. No longer can we develop programs to meet the needs of just our local community. The world is our laboratory and we must open our students' eyes to meeting the needs of the people of the world.

# U.S. Agricultural Education: A Global View

There is starvation in Africa, floods in Bangladesh, and early frosts in southern Brazil. What does this mean to the American farmer, the vocational agriculture teacher, or to vocational agriculture students?

Each of these world conditions have rapid and direct impact on the U.S. agricultural community. During 1986, imports of food to the U.S. exceeded exports. In 1985, we exported 2.5 billion dollars in agricultural products to Russia. A 55% cut in exports (1.4 billion) to the Soviet Union was anticipated in 1986. Prices of many agricultural products do not meet U.S. farm production costs and yet many U.S. commodities are not competitive on the world market and American farm products remain unsold.

Some American foreign aid in agriculture is being questioned. Why should U.S. taxpayers support programs that enable other countries to produce and sell agricultural products at lower costs than American farmers? These are among the critical problems facing the farm community today. Agricultural education is essential if we are to cope with these problems. No longer are Americans isolated from the effects of the world market. When European commodity exchanges open early in the morning, prices paid for the same products are immediately affected in the United States that same day at market opening.

The weather in South America and the Indian subcontinent is very important to the producing farmer. The need to have access to and be able to process and utilize information from the entire world is critical. The current world data being offered via the AgriData Computer Network and other information services clearly indicate this growing phenomenon. Education in agriculture can no longer focus on just the situation in the community, state, or nation.

Economic, humanitarian, and nationalistic reasons fuel our desire to aid developing countries in becoming self-sufficient in food production. A country with sufficient food can use foreign exchange to buy goods and technology from the United States. In addition, Western moral codes cannot abide the starvation and privation of peoples who thus do not have opportunity to develop to their fullest potential. This is a permanent loss to the family of man.

Pragmatic nationalistic reasons make it good business to have the populace well fed. People with enough to eat are less likely to tolerate totalitarian and undemocratic governments in their countries. Growth of a viable infrastructure in a developing country depends upon a strong agriculture so investment can be made in education, transportation, and industry.

## How Have We Done in the Past

Stephen S. Rosenfeld observes that "we have given flawed advice" to the developing world. At most times there are



BY CLIFFORD L. NELSON

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40,000 foreign experts working in Africa. Many of them are agricultural experts. A conservative estimate of the cost of supplying these experts is four billion dollars each year. Most agricultural advice has concentrated on developing cash crops for potential export and not on basic food crops for the nation's sustenance. Cash crops do well in developing nations until a time of drought or international commodity glut.

Timothy T. Palmer, writing the October, 1986 issue of *THE NEW AGE*, notes that when we tread heavily on the beliefs and cultural mores of other peoples with programs designed to "make life better for the people," we are doomed to failure from the onset. This is because many of our programs don't fit the general scheme of the local society.

The U.S. has also contributed to this problem. We have viewed agricultural development with the traditional mind set of the land grant tradition. University experts, usually deans or directors of experiment stations or extension services, have had the tendency to view foreign problems within the context of their own frame of reference: "The first thing to do is establish an agricultural college and research facilities and then an extension service must be established to disseminate information generated at the college."

These are very logical steps to take. The extension service is usually directly modeled after that of the U.S. or the system of some other highly developed country. What has been the success of this model? Extension has been most successful in the highly developed countries with a relatively sophisticated clientele. The results are mixed, at best, in the developing countries.

The extension method usually required literacy and/or some degree of facility in the use of new ideas. In many rural areas of the world, approximately 80% of the residents are functionally illiterate. The schools have been dedicated to selection of only the very best youth to continue their education. This selection process is so efficient that only 1-2% of the youth reach the university in some countries. Most developing nations cannot afford more university graduates. Those who graduate often seek city work and do not have the skills needed to do effective extension work.

## Future Predictions

By 1995, an effective malaria vaccine as well as an effective vaccine against leprosy are expected to be developed. In addition, widespread use of oral rehydration therapy to treat diarrhea is expected to be in use throughout the developing world. World-wide eradication of the guinea worm and mass immunization against measles, polio, diphtheria, whooping cough, tetanus, and tuberculosis is within reach. China has demonstrated a 99% success rate in treating filariasis (elephantiasis). Brazil, with a massive nationwide immunization campaign, reduced polio from 2,554 cases of disability and fatality to 10 confirmed cases between 1979 and 1983. Egyptian scientists have developed a radioactive serum that effectively treats internal parasites of man and animals such as Bilharzia.

The improvement of water quality and increased numbers of health professionals will also make major contributions to health in developing countries. It is then expected that life expectancy will increase significantly in the developing world and along with it the demand for agricultural products. Some type of effective education for agriculture must quickly become a high priority of all assistance programs for developing countries if these needs are to be met.

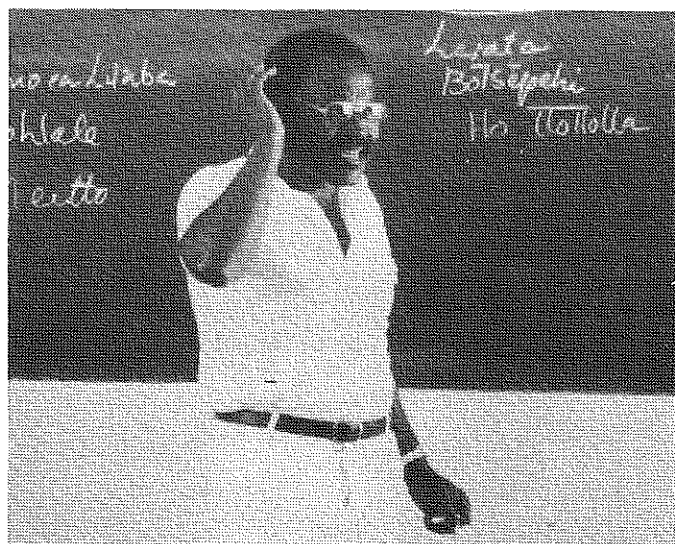
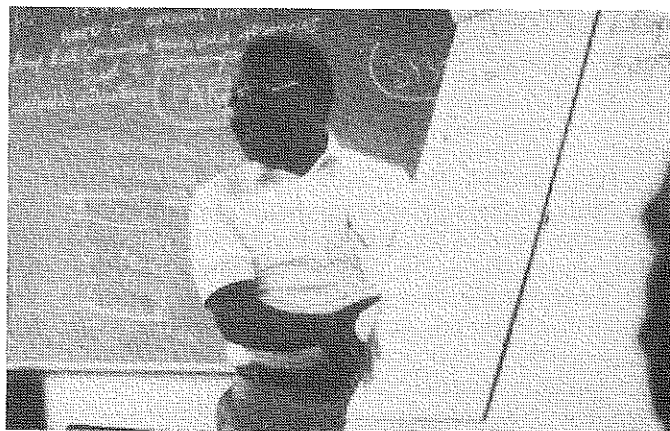
## An Agricultural Education to Export

Philosophically, agricultural educators have always been in the human resource development business. A.M. Field's direction to vocational agriculture teachers was to take students from where they are to where they ought to be. This is still the clear beacon to follow. The other mandate is to reach students who can profit from instruction. In the developing world, this will generally mean education for agriculture at the elementary school level. Some estimates of developing nation school attendance indicate that 50% of all children drop out of school before the end of the second grade and then only 25% complete elementary school.

The following activities that vocational agriculture does well in the U.S. can also be done well in developing countries.

1. Integrating agricultural subject matter with the latest scientific findings in the biological and physical sciences.
2. Relating subject matter to students' home situation and environment.
3. Relating theory to practice through the supervised occupational experience programs or "teaching from theory to application."
4. Teaching the whole family through the student, the adult program, and through home visitation.
5. Relating technical and academic education to manual skills that are necessary in modern agriculture.
6. Developing the leadership skills and capacity of young people.
7. Teaching the value of cooperation and use of community resources to solve individual and group problems.
8. Integrating theoretical and practical knowledge and skills for use in making management decisions.
9. Preparing youth and adults for entrepreneurial responsibilities in agricultural enterprises.

Agricultural education has a vast responsibility in preparing the developing world to become self-sufficient in agriculture. Administrative organization, location of instruction, or specific content of instruction will not be as important as the principle of reaching those who need instruction in the existing schools and carrying that instruction to the home and family. U.S. agricultural educators should play an important part in this thrust during the closing years of the 20th Century.



Washington State University faculty and staff assisted Lesotho agriculture faculty in organizing and presenting lectures and demonstrations. Many classroom situations do not have the audio-visual materials and references found in U.S. classrooms. (Photos courtesy of Seth Beckerman, Washington State University Extension News Editor.)

## Back Issue Wanted

A copy of the September 1946 issue of THE AGRICULTURAL EDUCATION MAGAZINE means Jim Knight would have every issue published through 59 volumes. If you have this issue, contact Dr. Knight at: 208 Ag. Administration Bldg., 2120 Fyffe Rd., The Ohio State University, Columbus, OH 43210-1099. (614) 292-6321.

# Policy Issues Relative to Integrating International Concepts into Local Vocational Agriculture Programs

Why are farmers in 1987 faced with prices so low a number of them cannot make enough profit to cover their costs? Why are people starving in Ethiopia? What has propelled countries like the USSR and the Peoples Republic of China into vastly expanded agricultural productivity? Of what interest is it to the American farmer that last year the Peoples Republic of China produced more wheat than any other country in the world? What effects will the weather in Brazil and Argentina have on the prices U.S. farmers will receive for their soybean crop? The answer to these and other questions related to international agriculture will have a significant impact on the future of farming and farmers in the U.S.

If the items raised in the opening paragraph are valid, and there are many who would agree that they are, the next question to be answered is what should be the role of secondary agricultural education in teaching international concepts? Second, what issues relative to international agriculture need to be integrated into the curriculum?

Is there a need for teaching international concepts in secondary agricultural education? The evidence clearly points to the acute need for our American farm community to have an understanding of the role events in the international arena have on their welfare. When our government applies "sanctions" on another government, it may be concurrently applying sanctions on some sector of the American economy. This certainly was the case when President Jimmy Carter reacted to the Russian invasion of Afghanistan by canceling the agreements to sell the Russians grain. The USSR was not denied the grain they wanted. They just shopped around and bought it from another source. The results of the "sanctions" were to stimulate other countries to expand their production and replace the American farmer as a supplier of grain to the Soviets.

Often folks are tempted to believe what turns out to be propaganda. Everyone is aware of the tremendous advances American agriculture has made over the years. However, not everyone may be as well informed as they could be on the pace of agricultural development in other countries and how this development will impact the American farmer. Currently, the newspapers of this country daily carry stories about famine in one part of the world or another. Strangely missing are the fantastic advances in food production that are being made in some countries. The government of the People's Republic of China, the most populous country in the world, has recently stimulated agricultural production in that country to the point it has become a nation that is exporting a number of crops it was importing just a

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By FRANK BOBBITT AND O. DONALD MEADERS

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few years ago. The PRC is currently the world's leading producer of swine, wheat, and rice among other commodities.

Another reason for American farmers to be concerned about understanding international concepts is the fact that U.S. capacity to produce far exceeds current domestic need and export demand. Decisions made that inhibit the selling of American farm produce in given countries can have a significant effect on farm prices. Just 10 years ago, one-third of the world exported agricultural commodities to two-thirds of the world; now two-thirds export agricultural commodities to one-third.

## Concepts for Secondary Agricultural Education

What international concepts need to be addressed in secondary agricultural education? A long list of topics can easily be generated, however, not everything can be taught. Therefore, a description of some topics that should be given high priority has been developed.

### Production of Key Commodities

Where commodities produced in the local area are produced around the world and why they are produced in the areas of greatest concentration? If, for instance, wheat is a crop grown in the local area, students should know that the USSR has long been the world leader in the production of wheat. However, in 1985 the Soviets were replaced by the PRC as the world's leading wheat producer. Students should also know that the European Economic Community (EEC) has increased its production of wheat to become the major competitor of the U.S. as an exporter of wheat.

Students should know that in all of these countries governments have instituted actions that have encouraged the production of wheat. In the USSR, farmers are paid twice as much for their wheat as the retail customer pays for bread. Thus, the government subsidizes the production of wheat. The PRC has recently instituted the "incentive system" which allows a somewhat freer market and higher prices for farmers. The result has been a tremendous increase in production. Farmers in the EEC have received as much as \$10 a bushel for wheat through government subsidies which again has encouraged production.

## Trends

What are the trends in the world production of commodities and *why* have the trends developed? Students should be aware of the trends in production of agricultural products grown in their area. To use the example of wheat again, students should know that the production of wheat is up in many places in the world. Students should also know that the biggest increases in production have come from the PRC, India, and the EEC.

## Production Practices

What are the differences in production practices in the developed world and the developing world on the income of the American farmer? Students should be able to differentiate the effects of production of agricultural products in different parts of the world. Production increases in some developing countries may actually mean expanded markets for American farm products, while expansion in some developed countries could easily be very competitive with American products.

## A World Economy

How is the economic welfare of American farmers and developing-country farmers interlocked? Of special importance is a clear understanding of American agriculture and the agriculture in developing countries. Not too many years ago developing countries were a minor market for U.S. farm products and a good part of that was as food aid. During the past 25 years, the situation has changed drastically. Since 1961 U.S. agricultural exports have tripled. Most of the increases in exports have been to developing countries. Less than five percent of exports went as food aid. Most went for cash.

The current decline in U.S. exports is related to the extremely difficult financial situation in which developing countries find themselves. If they don't have money, they can't buy American farm products. Most of the inhabitants of these countries are farmers and the only way to increase income is to increase farm production. Thus, there is the unusual situation where stimulation of farm production in a developing country can actually lead to increased demand for U.S. agricultural products.

## Benefits to American Agriculture

How has U.S. agriculture benefited or been harmed by events in international agriculture? Developments in international agriculture have had a two way effect on American farmers. As competitors have expanded their production levels, the opportunity for U.S. exports has declined and concurrently U.S. prices for agricultural products have declined. On the other hand, U.S. agriculture has benefited from the advances in plant and animal breeding research going on all over the world. The collection of specimens from all over the world has contributed to the development of the varieties and breeds that have increased production capability in the U.S.

## The Revised Curriculum

Where should international concepts be taught in a secondary agriculture curriculum? The international concepts need to be integrated into every facet of the curriculum. For instance, the fact that the USSR and the U.S. are the two

world leaders in the slaughter of beef animals should be taught in a unit on marketing beef. Students should know that the USSR is a more populous country than the U.S. and lacks the means to grow their cattle out in the U.S. manner which, in turn, leads to a deficit in meat production. Students should know that the Soviets are buying U.S. grain to increase their meat production. The Soviets have for years been the world leaders in production of wheat and in fact have been exporters to other countries in the Eastern trade bloc. However, they are limited in areas that can grow corn because of their Northern location. Meanwhile, their population is becoming more prosperous and demanding more meat in the diet. The Soviet leaders are heeding the aspirations of their people by spending foreign exchange for grain. The U.S. farmer hopes they will buy U.S. grain.

Teachers who are doing an effective job of teaching agriculture can't avoid teaching international concepts in their program. The effects of the weather or the political climate in other parts of the world will influence how much local farmers will be able to make on the products they produce.

When should international concepts be taught in the secondary agriculture program? The discussion of the international concepts should know no boundaries relative to time. Students should become familiar with the concepts in the very early stages of their agricultural study. The concepts naturally fit into many spheres of agricultural education and should be taught where they naturally fit in the curriculum.

## Summary

The agricultural education profession learned years ago that it was not enough to teach farm folks just "technical information." Early in its history, it made provision in the curriculum for leadership development. Early agricultural leaders knew that the plight of the farmer would not change significantly until the farmers developed the skill to provide effective leadership for the programs that were in their interest. Likewise, modern American farmers cannot expect to succeed unless they are freed from some of the unsubstantiated propaganda that revolves around international trade and international assistance.

Modern farmers will be as concerned about the crops in Brazil, the USSR, the PRC, and other countries as they are about the weather in their own region. In addition, they must be cognizant of the policies and potential policies of the U.S. and other related countries and be able to correctly forecast their effects on the products they produce.

The local community has been, and in the future should continue to be, the basic focal point for development of the local secondary agriculture curriculum. Effective agricultural education professionals will have to play a role in assisting the local community to understand the new realities that international decision making has on their future.

Secondary agricultural education is a logical place for these concepts to be introduced to future participants in the U.S. agricultural/agribusiness work force. Just as it played a key role in improving leadership skills in the rural farm

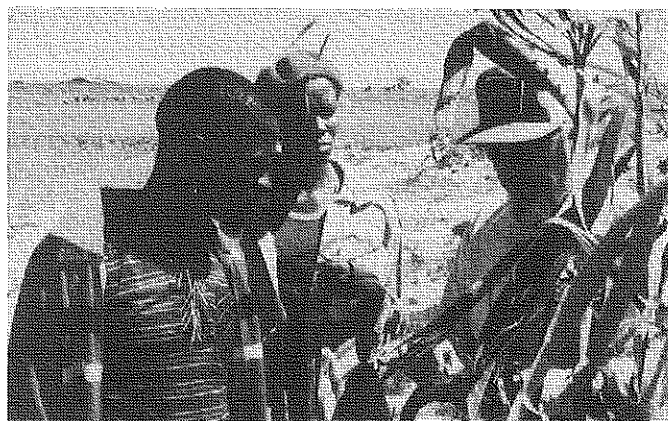
*(Continued on page 14)*

## Policy Issues Relative to Integrating International Concepts into Local Vocational Agriculture Programs

(Continued from page 13)

community of America, secondary agriculture must play a more prominent role in educating the agricultural industry of important international concepts.

In the immediate future, we may expect to see changes in the pre-service program to prepare secondary agriculture



How effectively farmers in Lesotho produce crops for their nation has a direct connection to American agriculture. Vocational agriculture programs can better equip students for careers in agriculture when such knowledge is integrated into local instructional programs. (Photo courtesy of Seth Beckerman, Washington State University.)

teachers as well as in the in-service program. The technical agriculture courses will reflect more of the global concepts which bring understanding to supply, demand, and market factors.

Although the examples given above are from production agriculture, namely farming, the international marketing of flowers and ornamental plant materials clearly indicates that all students in vocational agriculture should learn about the global economy, global marketing, and global impacts for the agricultural system.



Strawberries produced in European countries impact U.S. agriculture. These future teachers from Illinois State University and their faculty members observe strawberries being sold by a clock auction method. Such knowledge is needed to enhance local programs in the U.S. (Photo courtesy of Chris Townsend, Texas A&M University.)

### THEME

## Preparing University Faculty for International Assignments

For a long period of time, the number of agricultural education faculty that were involved in international assignments was very small. In recent years the situation has changed and we now learn of faculty from many universities who are involved or have had opportunities to accept international assignments. This reversal in trend should make this issue of *THE AGRICULTURAL EDUCATION MAGAZINE* relevant for today and tomorrow's agricultural education faculty.

There seems to be several reasons why there has been an increase in the involvement of agricultural education faculty in international assignments which infers that faculty members have a need to be better prepared for this type of work.

### Why the Increased Involvement?

First — In the 70s we observed the size of agricultural



BY HAROLD R. CRAWFORD

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education faculties increasing which brought about more specialization and a broader perspective for agricultural education.

Second — Agricultural education departments have been studying and broadening their mission to include international work.

Third — Travel is easier and quicker and more faculty have been exposed to the international scene. The opportunities are also much greater.

Fourth — Agencies such as USAID, FAO, and Developmental Banks see the need to include more people orientation along with the development of technology.

Fifth — The profession of agricultural education has been responsive to the interest and needs of faculty for international work by establishing in 1984 the newly formed organization AIAE (Association for International Agricultural Education) which is a subsidiary of the AATEA.

Sixth — We know that one of the basic principles of interest is that it flows from the interested to the uninterested. Faculty who have had international assignments seem to be motivating others to seek opportunities for participation in international assignments.

### Motivating Faculty

Before addressing the issue of how to prepare faculty for international assignments, one should determine what it is that motivates faculty to be involved in international activities. \*Dr. Steven Jones, a former doctoral student at Iowa State University, attempted to make an assessment of these motivational factors. He obtained data from 195 college of agriculture faculty members in five Midwest land grant universities. The three most important sources of original motivation for involvement in international agriculture development were:

1. A desire to gain a broader view and greater appreciation of other people, cultures, and countries.
2. Because it is important and interesting work.
3. It was viewed as an opportunity to expand their experience.

Dr. Jones also identified strategies to stimulate and sustain the motivation of faculty for international work. He lists the three most important strategies to be:

1. Serving as a short-term consultant in developing countries.
2. Identifying myself professionally as a member of my home university's group of development specialists.
3. Receiving details on university involvement in on-going development country projects.

### Faculty Preparation

Some basic assumptions should be stated about preparing faculty for international assignments:

1. Not all faculty members desire or should be expected to be involved in international work.
2. The preparation for and the identification of international assignments is primarily an individual effort.
3. It takes considerable time and several experiences to build a reputation so that a faculty member is called upon for international assignments.
4. Older and tenured faculty seem to be the ones who seek international assignments. The younger faculty want to become established in their home institutions before broadening their scope of work to include international assignments.
5. Few agricultural education faculty members received an education in their doctoral program on how to become involved and participate in international work.



Faculty members can deepen their international awareness by participating in travel abroad opportunities. This group traveled to Portugal to assist high school agriculture teachers. Their travel was possible because of a USAID project. (Photo courtesy of Richard Welton, Kansas State University.)

6. Many agricultural education faculty do not possess competence in a foreign language which is a prerequisite for many international assignments.
7. Most agricultural education faculty have heavy teaching loads and their schedules have limited flexibility which makes it difficult to be available for other assignments.
8. The number of faculty per agricultural education department is usually quite small as compared to other departments in colleges of agriculture, therefore, when a faculty member is gone for a period of time on an international assignment, there are relatively few faculty to absorb the work load.
9. Many chairpersons of agricultural education departments have not experienced international work themselves, thus they will not be as enthusiastic about preparing their faculty for international assignments.

One may surmise from the aforementioned statements that it is almost useless to exert effort to prepare university faculty for international assignments. On the contrary, there are many activities that can be done and which will enhance the international effort of faculty and departments of agricultural education.

### Incentives Needed

The author believes that the most important activity is for the department chairperson to seek ways to provide the incentive, opportunity, and encouragement for faculty to become involved in international assignments. This can be accomplished through such things as responding to proposals for contracts, arranging for faculty to join members from other departments on projects, or just having someone scanning the FEDERAL REGISTER OF COMMERCE BUSINESS DAILY to look for possible projects.

A departmental seminar in which both faculty and graduate students can learn from one another about international work could be very helpful. Possible topics for the seminar may be:

1. How can we identify international projects for which our department may be involved?
2. What is the funding mechanism for international projects?

*(Continued on page 16)*

## Preparing University Faculty for International Assignments

(Continued from page 15)

3. How can our department team with other departments to be included?
4. Developing an understanding of the agencies that provide for international work such as USAID, FAO, Development Banks, and Foundations.
5. Identifying and understanding the mission of the International Research Centers across the world.
6. Reports of projects from other departments within your university.
7. Understanding the procedures and problems for accomplishing tasks on international projects.
8. The role of BIFAD (Board of International Food and Agriculture Development) with USAID and Universities.

Sometimes the faculty have the interest and desire but just need outside assistance to serve as a catalyst for their thinking and planning for international education. The agricultural education faculty at the University of Florida, Gainesville, Florida, did this very thing in the spring of 1986 at which time they organized two seminars two days each in which outside resource persons were invited to assist in their study.

One of the most exciting activities and one that motivates faculty to learn and become involved is to have an international project in which the leadership comes from the agricultural education department. These projects are becoming more common because funding agencies are seeing the need to provide improved education in agriculture for the youth of developing countries. These types of projects have a multiplier effect and have impact upon the image of agriculture which is so important. Departments of Agricultural Education are particularly well prepared to provide assistance with institution building, evaluation of educational programs, adult education projects, youth organization development and transfer of technology. Usually projects are too large for agricultural education departments to conduct on their own, thus mechanizations need to be developed for cooperative efforts.

Taking advantage of graduates who have had international experiences is highly important. They can share with faculty about their experiences as a Peace Corps volunteer, a consultant to an irrigation project, or their experiences while on a travel tour. Too many times our graduates make an impromptu visit to the campus and visit with one or more faculty but little or no effort is exerted to permit them an opportunity to radiate their enthusiasm and share their experiences for a project which they have just completed.

The team approach may be one of the best in preparing faculty for international assignments. In this situation, a junior faculty member or one who desires to be better informed on opportunities and procedures becomes an understudy of an experienced faculty member. Many times faculty members are embarrassed to ask questions which may seem trivial but really are very important. Such questions as how to obtain a visa, how to go through immigration, what are the health requirements for immunization, and what are some hints when working in a developing

country. All of these and more can be answered by an experienced professor. Even better than answering the questions is an opportunity for the inexperienced faculty member to accompany another on a foreign assignment and to learn firsthand by experience. This same situation prevails when writing a response to proposals for international contracts. All universities have professors who would be willing to serve as a confidant and mentor for inexperienced faculty

### Summary

In summary, learning about and preparing for international assignments is like climbing a ladder. It is difficult to do in groups, but others can help hold and move the ladder. If faculty desire to be active in international work, they should read, listen and discuss with others about the opportunities, challenges and rewards in having an international assignment. They need to learn the terminology, geography, and political aspects of their assignment as well as being technically competent. This is more or less an individualized learning activity, yet the department can provide group activities to stimulate and enhance the knowledge base of faculty who desire an international assignment whether it be short or long term. From the author's point of view, an international assignment is well worth the effort it takes to stretch to obtain the assignment as well as the time needed to prepare for international work.

### Note

\*Jones, P. Stephen (1985). AN ASSESSMENT OF MOTIVATIONAL FACTORS AFFECTING COLLEGE OF AGRICULTURE FACULTY INVOLVEMENT IN INTERNATIONAL DEVELOPMENT ACTIVITIES. Ph.D. dissertation, Iowa State University, Ames, Iowa.

## New Product News

Many myths about the competencies of older workers are systematically refuted in a new publication, **Older Workers: What Voc Ed Can Do**. This monograph offers insights and suggestions for how vocational education can meet the training needs of older workers who will become increasingly important to the economy as the youth population shrinks. It recommends ways for vocational educators to cooperate with employers, government, community service agencies, and other groups to support legislation and training programs targeted to this neglected source of productive workers.

You may order **Older Workers: What Voc Ed Can Do** (IN 256, \$4.95), 53 pages, from the National Center for Research in Vocational Education, The Ohio State University, 1960 Kenny Road, Columbus, Ohio, 43210; 614/486-3655 or toll-free outside Ohio at 800/848-4815.



# Focus of the Jamaican Agricultural Education Project

The Jamaican Agricultural Education Project (JAEP) gained national attention when it was announced in 1985. The location of the Project prompted many inquiries and a great number of expressions of interest. Within the agricultural education community, the interest was equally high as the project focused on agricultural education in a general sense and contained a specific component for agricultural education as a discipline.

The JAEP is being implemented by Louisiana State University, Sam Houston State University, and Southern University. The JAEP has as its goal the improvement and modernization of the agricultural sector of the economy. Through the strengthening and expansion of existing Jamaican schools, the JAEP can facilitate the accomplishment of agricultural modernization by educating and training Jamaicans. Ultimately, the Project is to establish a comprehensive *agricultural education* system in Jamaica.

The JAEP has as its major component the construction of educational facilities, training for Jamaican faculty, curriculum development, and the development of an applied research program. There are two institutions in Jamaica that are to receive the focus of the upgrading resulting from this Project, the Jamaica College of Agriculture (COA) and Knockalva Agricultural School (KAS). The outcomes of the Project at COA are to:

1. Increase faculty from 18 to 25 in order to achieve a faculty-student ratio of 1 to 18.
2. Improve the agricultural training and skills of at least eight faculty through appropriate courses and programs at U.S. universities.
3. Implement an applied research program in cooperation with the Ministry of Agriculture (MOA), Agro 21 (a recent agricultural development thrust to encourage foreign investment in agriculture in Jamaica), and the private sector.
4. Establish a CURRICULUM DEVELOPMENT CENTER (CDC), at the COA for the development of relevant curricula, training aids and training modules; this will be through collaboration among the Ministry of Education, the Ministry of Agriculture, Agro 21, Technical Assistance Team Specialists and the Jamaican secondary schools.

At the Knockalva Agricultural School, the JAEP is to:

1. Improve the agricultural training and skills of at least 10 faculty through short- and long-term training at U.S. universities.
2. Improve the curriculum to insure relevance to the agricultural sector to Jamaica.
3. Upgrade the teachers through in-service training to improve their teaching performance and enable them to be active contributors of a dynamic curriculum development process in the Jamaica agricultural education system.

BY DAVID RILEY AND WILLIAM B. RICHARDSON

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## The Jamaican Agricultural Education System

The JAEP offers a perfect opportunity for an international agricultural educator to utilize one's skills, knowledge, and convictions to strengthen agricultural and extension education programs and institutions in a developing country. The following scenario of the Jamaica agricultural education situation will illustrate why.

Jamaica has approximately 280 agriculture teachers in all ages, primary, secondary, new secondary, high, and technical high schools. A majority of them, 60-70%, have less than an associate degree in agriculture. Most of them are high school or secondary school graduates with no formal teacher education. There has been no in-service training for the past 3-4 years to upgrade the teachers. This has led to a very serious teacher morale problem resulting in a low level of commitment and dedication to their teaching duties.<sup>3</sup>

The agriculture teachers are the only group of teachers in Jamaica that has no institutional backing to provide formal agriculture teacher education or provide the host of services required to maintain a dynamic process of professional development for individual teachers and advancement of the agricultural teaching profession generally. The former Jamaica School of Agriculture was providing these services until it was closed in 1980. Since that time, there has been no formal institutional linkage to support this group of teachers.

Fortunately, the Jamaica Agricultural Teachers Association has a dynamic president and executive board who are trying desperately to acquire teacher certification for its members. They presently have 50 members and are deliberately striving to increase membership and professional development of its members. They are interested in forming a linkage with the National Vocational Agriculture Teachers Association.

The agriculture extension service administered under the Ministry of Agriculture is suffering from a serious lack of funds. Recent budget cuts have decreased the number of extension agents from 400 to 200. In-service training for extension agents has also been minimal as a result of the severe budget cuts. Without internationally funded projects,

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## Jamaican Agricultural Education Project

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there would be little, if any, extension activities through the Ministry of Agriculture. The agricultural commodity boards have their own cadre of extension agents who deal with the problems of specific crops such as coffee, cocoa, banana, and pimento. This group of extension workers seems to be functioning fairly effectively with the support of the commodity boards.<sup>2</sup>

Another problem Jamaica is facing is decreasing agricultural student enrollments in the school system. The specific reasons for this trend are unknown, but informal discussions<sup>3</sup> reveal that it may be a result of the poor image of agriculture, the lack of a deliberate effort to promote agriculture nationally, and guidance counselors steering the best students away from agriculture into more prestigious professions.

Jamaica also has a serious lack of agricultural information to support the work of agriculture teachers, extension agents, 4-H leaders or just backyard gardeners. It seems to be a difficult task to encourage Jamaican agriculturalists to write about the work they are doing. The Ministry of Agriculture with its limited funds is publishing fewer bulletins than in the past. The library resources in the schools are nearly nonexistent for agricultural education purposes. Most of the publications are 20 years old with no current journals or publications to foster the interest of students interested in agriculture.

### The International Agricultural Educator

Based on the above scenario, an international agricultural educator working with the JAEP can make a real contribution in addressing the problems outlined above. Progress thus far include the launching of the Curriculum Development Center of the COA and efforts are also underway to establish an Agricultural Education Department at the COA. Through the leadership of the Agriculture Department, and the CDC, a formal teacher education program is being planned. An in-service training program is on the drawing board to address the problem of upgrading the teachers with less than an associate degree or without teacher certification. A professional development program has been proposed to the teachers and the Ministry of Education for their approval.

Linkages are being made with the Ministry of Agriculture, Agro 21 international agricultural development agencies, and the private sector to solicit input into the operations of the CDC; to access agricultural information to support the academic and applied research components of the COA; and to identify potential employers for the COA and Knockalva Agricultural School graduates.

Discussions are underway with the Training division of the Ministry of Agriculture to bring collaboration between the COA and the MOA in terms of assisting the MOA with its in-service training needs of the extension agents.

A four day curriculum development workshop was held in July, 1986 at the COA for Knockalva and Elim (a sister institution to Knockalva) Agricultural Schools to begin the process of normalizing the curricula of the two "feeder schools" to the COA. A very productive workshop resulted in establishing subject matter specialist task force groups to

continue developing the curricula of these two institutions as well as the other institutions teaching agriculture in Jamaica. This workshop formally launched the CDC and established a dynamic curriculum development process in the minds of the Elim and Knockalva Agricultural School teachers and the faculty of the COA.

In addition to the central role international agricultural educators play in tackling the agricultural education type challenges of the JAEP, they play a vital role in overall project implementation. The synergistic use of resources in Jamaica and the use of support from abroad is most important to the JAEP success. The agricultural educators are in a unique position to facilitate this process because they bridge the gap between education and agriculture; between the community and school; between the agriculture sector and the classroom; between the bricks and mortar and the human resource development; between the Jamaicans and the technical assistance team members. The crucial role of cohesiveness is potentially the most important aspect for insuring the success of this Project.

### The Excitement of the JAEP

In the words of the JAEP Chief of Party, LSU Associate Professor Dr. Arthur Heagler, "the pieces are in place" for the successful implementation of the JAEP. The Technical Assistance Team feels strongly that this Project is a "double" Project. There are many problems which, if perceived as challenges, can turn a high level of frustration into a high level of excitement. For an international agricultural educator, there can be no greater challenge than to facilitate the successful implementation of project resources to accomplish a goal which any developing country should aspire to, the establishment of a comprehensive agricultural education system.

The excitement of this project stems from several sources: The total satisfaction an international agricultural educator has in a situation which lends itself to fulfilling the unique role of his/her profession in an international agricultural development project. The international agricultural education thrust spearheaded by the Association for International Agricultural Education provides a necessary forum for professional development and motivation within the Jamaican agricultural education system specifically and in the Caribbean/Latin American region generally. The opportunity to work with people who are sincerely interested in moving ahead and most importantly, a people who are enjoyable to work with, and to possess a dream of what the final product should be when the Project has been successfully implemented — a fully functioning comprehensive agricultural education system designed to sustain perpetual growth and advancement of the individuals within the system.

The agricultural education dream in the JAEP is of a system where there is close collaboration between the Ministries of Education and Agriculture, articulation between the agricultural sector and the academic institutions which provide education and training to the cadre of agriculturalists, and linkages between extension agents and agricultural teachers. These collaborative ties will collectively mobilize the local, national and international resources for the evolution of a modern agriculture in Jamaica. The Project's ultimate success may be measured by the establishment of national policies to address the need for incentives,

particularly with higher wages, and support services to attract and maintain Jamaica's best human resources in the agricultural education and training system. Let us also not forget the goal of the agricultural education system — employability of its products in positions of gainful employment to fully utilize the human resources which are the recipients of this international resource mobilization effort known as the Jamaican Agricultural Education Project.

The challenge before the implementers of the JAEP is great. When this dream becomes reality, one can say with

pride concerning the Jamaican agriculture education system, the famous Jamaican saying, "Jamaica — No Problem."

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- <sup>2</sup>Personal Interview, Mr. Ramdatt, Director of Production and Extension, Ministry of Agriculture, Kingston, Jamaica, August 27, 1986.
- <sup>3</sup>Personal Interview, Mr. Errol Miller, President, Jamaica Agricultural Teachers Association, Mandeville, Jamaica; July 29, 1986.

## ARTICLE

# Helping International Students with Practical Experiences

Helping international students learn is a challenge agricultural educators are increasingly facing.

The emphasis on agricultural education in lesser developed countries has made it possible for many capable individuals to come to the United States to study. These individuals want to learn theory and practice. They want to be able to interpret their observations and learnings in terms appropriate to their homelands. They typically want formal classroom instruction and observation of real-world practice. They want to learn technology as well as methods of transferring the technology to others.

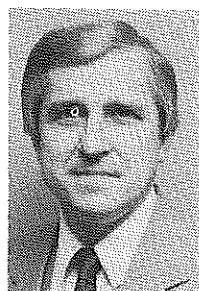
This article addresses general considerations as well as two specific approaches in working with international students from developing countries to provide them the opportunity to learn about the real "agricultural education world." It is based on the author's experience over a period of several years of advising international students. This enthusiasm did not come easy because the author lacked practical overseas experience. It developed because of the patience and assistance of international students with whom I have worked and continue to enjoy working.

### General Considerations

A high proportion of the international students who come to the United States to study are destined for leadership positions when they return to their homelands. Their experiences should include both theory and practice as well as technology and process, i.e., how to diffuse the technology. Several considerations are helpful in providing efficient, effective learning experiences.

### Get Input from Participants

A good way to learn what students want to know is to ask them. They will have good ideas but refinement will likely be needed to ensure appropriateness. A disadvantage of this approach is that international students are not fully



BY JASPER S. LEE

(Dr. Lee is a Professor and Head of the Department of Agricultural and Extension Education at Mississippi State University, Mississippi State, Mississippi 39762.)

aware of what is available to them. This is where the person supervising their experiences can be helpful.

Another source of input is that of the sponsors of students. Many international students rely on their sponsors for financial support. In some cases, sponsors have specific areas in which participants are to study. We are more accountable if these are considered.

### Help Internalize Classroom Theory

Reviewing lists of courses taken as part of curriculum requirements indicates areas in which undergirding theory and technology have been studied. Planning practical experiences around these gives meaning to theory and helps students internalize what they have learned.

Students from developing countries often cannot implement the latest technology. They implement technology appropriate to their homeland. Experiential activities should likely involve learnings observed in less sophisticated, state-of-the-art agricultural situations. Average farms in a community may be better learning situations than those with the highest level of technology. Further, economic systems may make the transfer of certain practices in the form used in the United States impractical. Some interpretation and adaptation may be essential.

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## Helping International Students

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### Consider Cultural Diversity

International students bring particular cultural backgrounds with them. Food preferences, religious practices, family traditions, educational experiences, and government policies shape how they respond to their study environment. There are benefits to exposing them to new experiences but cultural upbringing cannot be supplanted with new ways of thinking and doing. Educational programs need to accommodate these individual differences to the extent possible.

Providing the opportunity for international students to share their culture with classes, civic groups, and others provides a meaningful way to learn about various cultures as well as gives an appropriate avenue for enhancing the feeling of cultural acceptance among international students. As transportation and communication continue to make the earth smaller, the necessity of understanding all people continues to increase.

### Inform of Cultural Expectations

Conforming to certain practices is essential for good experiences. International students may be unfamiliar with the ways of doing things in the local community, yet they are expected to conform. If not, their experiences may be impaired.

One area is that of time. Strictly following a schedule might not be valued in their native culture. Working with them necessitates explaining that a time schedule is to be followed and individuals are expected to be on time. If not, others will be delayed or the individuals may be excluded from a particular activity of high educational benefit.

### Study Cultural Situations of Students

A good host will study the cultural situations existing in the native lands of students. This is enhanced by traveling to their homelands, reading materials on the countries involved, and spending time with exchange students allowing them to openly share their wealth of knowledge. Talk to other people who have traveled to the particular countries involved, immigrants, or other students to gain insights. Become familiar with life in their homelands.

Language differences may need to be reconciled. International students frequently have at least some skill in English. Learning something of the language of those from foreign lands can be most helpful even if speaking proficiency — a valuable asset — is not gained.

### Document Experiences and Observations

Evidence of participation in experiential and observation activities should be recorded. Written reports of experiences gained, photographs showing participants in various activities, and other documentation may prove helpful to you as well as to the individuals involved.

### Select Experiential Situations Carefully

Some people do not like to be involved with international students. Experiential situations should be selected to insure that the farmers, teachers, and others who will be involved with them are willing to take a little extra effort to provide a quality experience.

Many farmers express resentment over the competition



International students at Mississippi State University are shown in the office of plantation owner, Gus Evans during a break. Evans operates a 13,000 acre farm at Shuqualak, Mississippi. The students are from Indonesia, Kenya, and Nigeria. (Photo by Jasper S. Lee, Mississippi State University.)



Tanveer Ahmad (left), Pakistan, and Tatang Sofiana (right), Indonesia, discuss rice production and marketing with a representative of Riceland Rice at an exhibition at Agricenter International, Memphis, Tennessee. Ahmad and Sofiana are graduate students in Agricultural and Extension Education at Mississippi State University. (Photo by Jasper S. Lee, Mississippi State University.)

offered by foreign producers on the world market. They feel that their assistance to international students will be converted into increased farm productivity and lower market prices. Such individuals will not likely make good hosts or supervisors of experience. Those who are responsible for arranging learning experiences for international students should carefully select training situations so that hostility is at the minimum and low enthusiasm do not result in poor quality learning experiences. Of course, acceptance of such students can also be a big step toward eliminating outward prejudice toward them by reluctant farmers.

### Two Specific Approaches

At Mississippi State University, two specific approaches have been used in the Department of Agricultural and Extension Education to provide opportunities for international students to observe and experience the practical aspects of agriculture — supervised field experience and educational tours.

## Supervised Field Experience

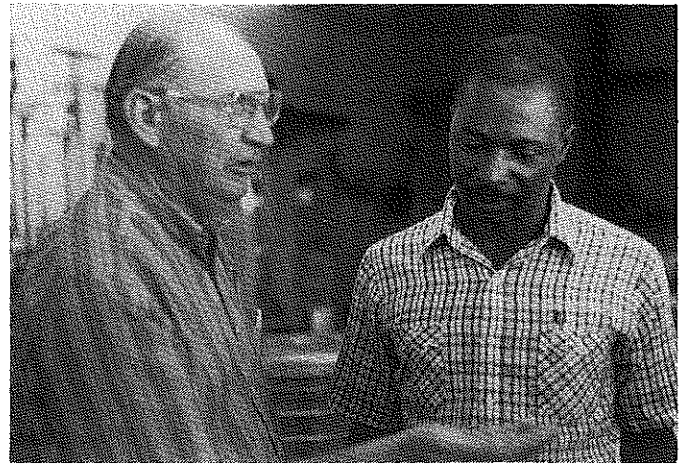
Supervised field experience is a carefully planned, credit generating opportunity for international students to work under the direction of a professional agricultural worker at the local level. The experience programs are individually developed on the basis of the needs and interests of international students. Specific goals and activities are identified. Students keep careful documentation of their experiences and submit a final report in considerable detail. The focus is on involving the students in a set of experiences that deal with product (agricultural technology) and process (educational program delivery). In addition, the management of the delivery process is analyzed and interpreted from several perspectives. (This is a valuable part of the training because of the earlier mentioned fact that many of these individuals will return to or move into administrative positions in their respective homelands.)

Quality supervised field experience involves several considerations:

- Competent local cooperators are essential. In most cases, the local cooperators are vocational agriculture teachers or cooperative extension service agents. These cooperators need insight into the purpose of supervised field experience and the nature of the work of managing international students in such experience. Cooperators need to be willing to help interpret experiences. They need to have respect for individuals of various cultural backgrounds.
- Quality in the local program is imperative. It is important the supervised field experience be obtained in a quality educational environment. The student needs to observe appropriate educational program delivery practices.
- Agriculture situations need to be relevant. The farms in a community where field experience is carried out need to have crops and/or livestock enterprises similar to those that may be found in the student's homeland. Further, technology that may possibly be transferred should be observed — not the most sophisticated farms in the community.
- Similarities of community characteristics may enhance relevance. Climate, level of living, ethnic groups, and other characteristics may help international students identify with the experiences they gain. One line of thought is that experiences are more nearly transferrable if observed in situations with similarities to the student's homeland.
- Documentation of experiences enhances quality of learning. Preparing reports helps students internalize what they have observed. Documentation includes narrative descriptions, checklists of experiences, photographs of the student at "work," samples of work (such as newspaper clippings), and daily itineraries.

## Educational Tours

Appropriately planned educational tours provide the opportunity for observations of many facets of agriculture and agricultural education. Tours to study local school programs of vocational agriculture or local cooperative extension programs should include observations on local farms and in agribusiness. The educational programming should be interpreted in terms of the local agricultural situation. In addition to tours to local educational programs, tours can also be made to field days, agricultural expositions, professional



Wellington Makunda (right) of Kenya observes a sample of seed during a tour to a farm supplies store. Makunda is a graduate student in Agricultural and Extension Education at Mississippi State University. (Photo by Jasper S. Lee, Mississippi State University.)

meetings, and other events relevant to the educational needs and interests of international students. A few considerations in using tours include:

- Carefully planned tours enhance observations. Just as other aspects of educational programs, tours should have specific educational objectives. Itineraries should be developed for efficient and effective use of time. A dry-run of the tour may be made ahead of time, if practical. Otherwise, careful calculations of distances and time requirements must be made to stay on schedule.
- Instruction prior to departure increases effectiveness. By informing tour participants of what they can expect to observe ahead of time they will be more likely to realize full benefits from the tour. Also, they can be prepared to ask questions and interact with various individuals involved with the tour.
- Select the most salient points of interest for the tour. Little benefit may come from a tour if the resource persons fail to help interpret observations. Again, the needs and interests of tour participants are most important.
- Consideration must be given to the safety of group members. International students may sometimes be unaware of the safety problems in various agricultural situations. These should be stressed to the group in oral and, preferably, written form before the tour begins.
- Consider individual comfort of the tour group. Instruction in how to dress, handle food and restroom needs, courtesy in conversations, and how to respond on farms or in offices may be needed.
- Documentation of tours can be handled by each member and by an individual designated to do so. Individuals may keep notes, while one person is the photographer for the group.

## Expanding Beyond the Classroom

International students need educational experiences beyond the classroom. Appropriately planned and delivered experiential opportunities can be meaningful experiences that provide relevance to classroom theory. In addition to experience involving the technology of agriculture, students

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## Helping International Students

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need educational programming experiences. The best experiences occur when the two are achieved simultaneously.

Individuals who work with international students can

derive considerable personal satisfaction from helping organize experiential learning opportunities. Personal experience suggests that the benefits to the organizer of such experiences may be as great as to the participants. Helping international students learn appropriate theory and practice helps all of mankind. Let's expand beyond the classroom!

## THEME

# A Philosophy of International Agricultural Education

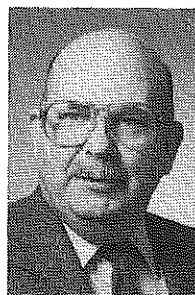
To those familiar with the American educational system, agricultural education generally refers to those activities directed at the preparation of vocational agriculture teachers. However, this is not the common definition as viewed from the perspective of international development. In the 1979 issue of *TRAINING FOR AGRICULTURE AND RURAL DEVELOPMENT*, author C.P. Habito, Agricultural Education Officer, Food and Agriculture Organization, Rome, suggested an all embracing explanation of this term by writing, "It consists of any and all organized programs whose purpose is education or training in agriculture subjects." Therefore, within the broad confines of this definition of agricultural education, the objectives of the article will be to describe the basis for a personal philosophy as it relates to international agricultural education.

### Operative and Cooperative Arts

Mortimer Adler (1942), a modern apostle of classical humanism, stated that "There are two categories into which all human endeavor can be placed: the *operative* arts and the *cooperative* arts." He refers to the operative arts as those activities where human beings operate on nature to bring about some desired effect that nature itself cannot achieve. An example would be a logger who cuts trees into logs. Another is a sawyer who saws the logs into lumber and a carpenter who takes the lumber and constructs a home. In each instance, logs, lumber, and home, the product would not have come into existence without the direct and active interventions of human intelligence.

The cooperative arts, on the other hand, according to Adler, are those activities where humans simply cooperate with nature, assisting it and facilitating its customary procedures by prudent attention and timely prodding. The practice of veterinary medicine is a good example. Veterinarians do not actually create health; they merely assist the natural physiological processes to restore health to the organism. Or consider grain farmers. They do not create an ear of corn. They simply cooperate with nature in growing an ear of corn. Through knowledge of the botanical processes and soil characteristics, the grain farmer oversees the cultural procedures that cause a kernel to naturally "evolve" into an ear of corn.

If all human endeavors can categorically be placed into one of these two arts, then I pose the questions, "In what category should international agricultural education fall,



BY JAMES E. DIAMOND

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operative or cooperative?"

Here is a theoretical question that makes a vital difference in practice. When agricultural educators are amongst the cooperative artists, they have the feeling they are performing a mission of the universe, a deputy in the service of cosmic forces. In practical terms, this means that agricultural educators do not consider themselves the actual creator of anything but merely a helper. They are assisting a pre-existing set of natural principles. Since nature is given and fixed, there is a standard and relatively stable methodology by which they cooperate with nature.

When agricultural educators stand with the operative artists, on the other hand, there is a feeling of producing something that nature by itself cannot produce. In this domain, they introduce to the pre-existent set of natural principles certain features that were not aboriginal. Agricultural educators consider themselves as actual creators of something. Since they draw this something from nature, there is a constant need to check to see if they are interpreting nature correctly or to make sure, that in altering nature, other natural principles are not violated.

### Theory and Philosophy

Every important human activity, whether cooperative or operative, can be shown to have a basis in theory, a centralizing idea of what it is all about, what it is trying to do, and how it functions. In international agriculture education endeavors, there are usually claims to a theory to the possibility of setting down general ideas that will explain and rationalize the phenomena occurring in the various domains of agriculture. And, generally speaking, the larger the range of phenomena accounted for, the better the theory. We might say, for instance, that one theory of preventing wind and soil erosion is to cease cutting trees indiscriminate-

ly. But, can ceasing to cut trees be considered a general theory of all types of wind and soil erosion? We may identify other theories that can help us to prevent wind and soil erosion: tree planting schemes; controlled grazing; cover cropping; or controlled harvesting of forests. We continue in search of theories until we feel we have exhausted all the options. The trouble with extended theory-building, according to Morris Van Cleve (1961), a distinguished educator and philosopher, ". . . is that some theories may be found to be incompatible with others." Van Cleve said we attempt to organize the theories into a meta- (-super-) theory which seeks to harmonize, integrate, rationalize, and explain all the different concepts one has established to this point. It is this activity he calls philosophy.

The philosopher seeks the single formula where all human acquisition of knowledge can be understood and managed. In this, philosophers are principally engaged in the process of unifying a master set of centralized ideas, so that when issues evolve that answers are not readily available, they can look to their theory for guides to a practical solution. It is in this sense that a good theory, according to Van Cleve, is the most practical thing a person can have. Consequently, having established a well-thought out theory or philosophy, people tend to know more about what they are doing and why. Now, with this background, let's now turn to my personal philosophy as it related to international agricultural education.

### A Philosophy

My philosophical viewpoints are somewhat eclectic as they relate to the operative versus cooperative arts question. I tend to believe that effective international agricultural educators should look upon the operative and cooperative arts as being symbiotic in the sense that one cooperates with both the established canons of a society and the existing natural laws of the environment.

When designing projects to introduce modern technology, "helping people help themselves" should be the basic underlying philosophical foundation. President Abraham Lincoln, on his views of our great nation, said, "One cannot help man permanently by doing for them what they could and should do for themselves." People in nations the world over tend to have in varying degrees an interwoven ethnic and national pride that is characterized by their cultural dignity and personal integrity. Hence, regardless of what stage of development a nation has reached, its people have their pride, dignity, and integrity. Constantly providing the populace in a nation with charitable bounties from donor nations can ultimately result in destroying these qualities. However, donor nations or agencies that design agricultural education projects and programs aimed at helping people help themselves can reinforce and instill pride, dignity, and integrity.

To achieve this end, there are three essential functions that need to be addressed. First is the identification of the indigenous talents and skills within a society. These talents and skills are being passed from one generation to another because they have helped the society survive for hundreds of years. These time-seasoned, inherent capabilities are an integral part of a culture and can often be readily incorporated into a well-planned educational program. By iden-

tifying and fusing such talents and skills into a plan of work, modern concepts can become more palatable to the populace.

Second is the identification of the natural resources that exist and are readily available. Regardless of the resources, whether they be water, soil, trees, people, animals, grass, rocks, or bamboo, agricultural education goals should be aimed at using these resources instead of relying on imported resources foreign to the populace. Such natural resources are already an integral part of the culture, honored by the populace, and will be available long after the funded projects by donor nations have been phased down. Dependence upon nonmanufactured or manufactured resources from outside the culture can seriously stifle or suppress the intended long term effectiveness of a well-designed agricultural education project.

The third function is to introduce modern agricultural concepts by using the indigenous talents, skills, and natural resources already in place. Such concepts should address the felt needs as expressed by a nation's populace.

Here is where the agricultural technicians, specialists, and educators from donor nations or agencies fit into the scenario. They will be more capable of transferring modern technology and concepts to people in a way that would reflect relevancy to their expressed needs. The probability of having an impact can be greater when indigenous skills, talents, and natural resources are manipulated into the agricultural education goals by both the host nation and donor nations or agencies.

### Summary

There are multitudes of international agriculture issues and opportunities that need to be addressed. We have the capability to make a difference toward the well-being of our fellow human beings. However, those who are interested in becoming involved in agricultural development endeavors should first ponder these three points: 1) Where do they stand on the operative-cooperative arts question? 2) Do they have a well thought-out theory or philosophy for guides to practical actions? and 3) Are they favorably inclined to help people help themselves so agricultural development endeavors can sustain the well-being of our fellow human beings?

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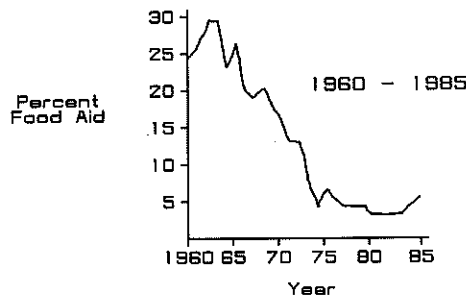
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# Stories in Pictures

## The Global Dimensions of Agriculture

Figure 1

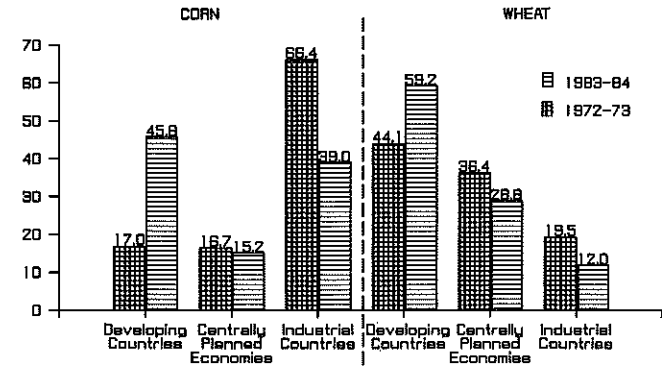
FOOD AID AS A PERCENTAGE OF U.S. AGRICULTURAL EXPORTS



Source: The Peanut Farmer, July 1986

Figure 2

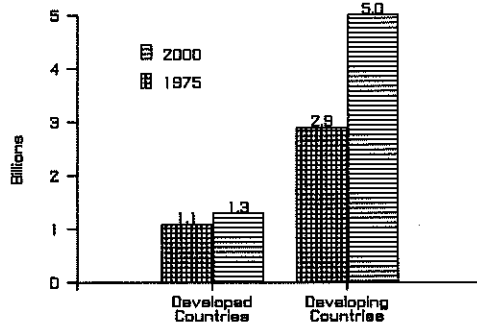
PERCENT OF U.S. EXPORTS OF CORN AND WHEAT TO THREE MAJOR GROUPS OF COUNTRIES, 1972-73 and 1983-84



Source: The Peanut Farmer, July 1986

Figure 3

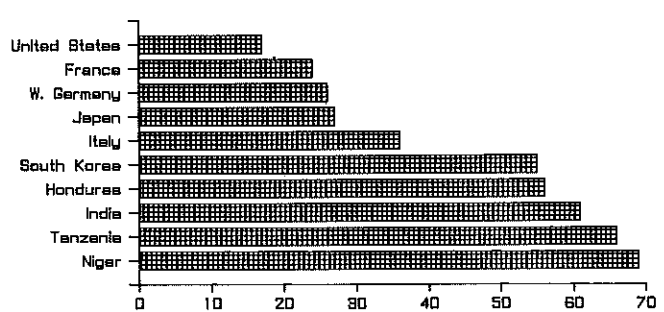
WORLD POPULATION DISTRIBUTION 1975 and 2000



Source: The Peanut Farmer, July 1986

Figure 4

PROPORTION OF INCOME SPENT ON FOOD IN SELECTED COUNTRIES (1979)\*



\*Includes food, beverages, and tobacco

Source: The Peanut Farmer, July 1986

(Figures courtesy of The Peanut Farmer — Reproduced with permission of Sidney R. Reynolds.)