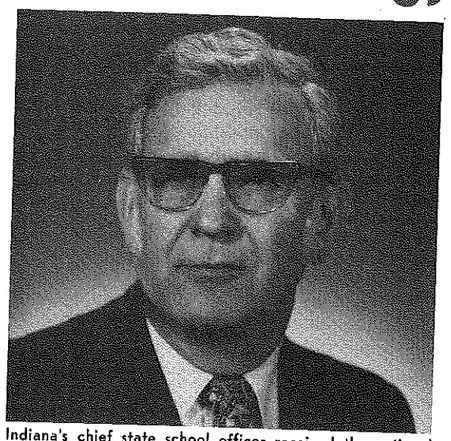
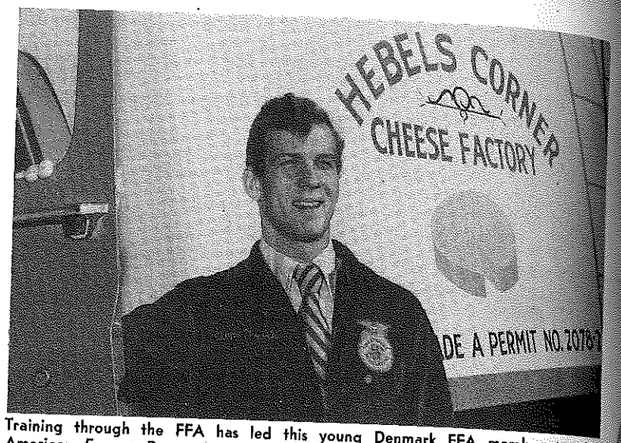
# STORIES IN PICTURES

by Paul W. Newlin

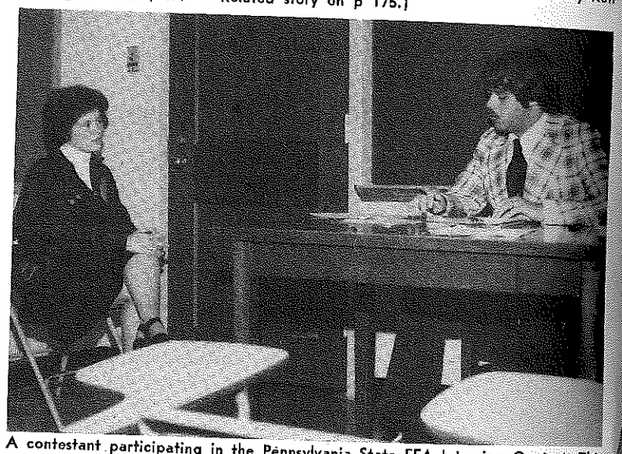


Indiana's chief state school officer received the national Future Farmers of America's Distinguished Service Award of the 1977 National Convention in Kansas City. He has greatly aided in improvement of the quality of vocational agri-business education in the state. (Photo courtesy Indiana State Dept.)

The FFA offers numerous opportunities of developing leadership abilities through training in activities such as on-the-farm safety surveys. Above are Denmark FFA members Larry Staats and Ron Skaleski visiting with dairy farmer Richard LaCourt. (Photo courtesy Ken Seering, Denmark, WI — Related story on page 175)

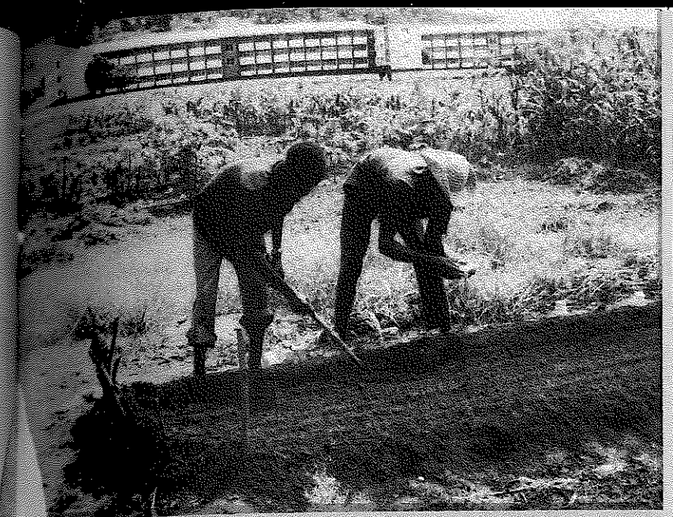


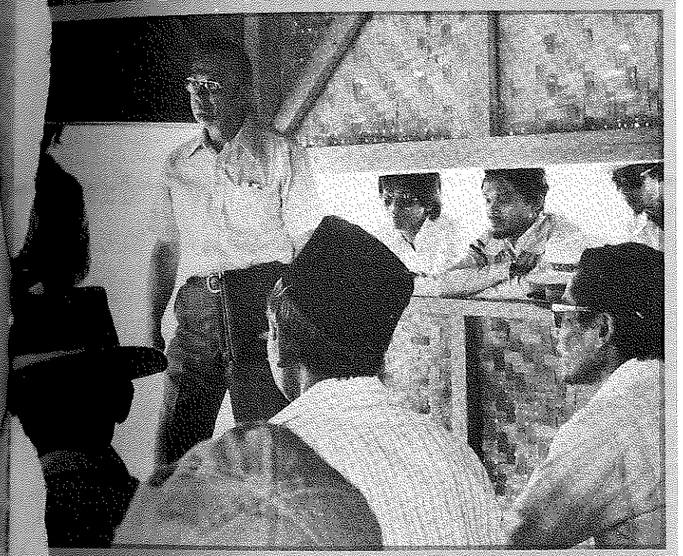

Training through the FFA has led this young Denmark FFA member to the American Farmer Degree and the nation's winner in the Proficiency area of Placement in Agricultural Processing. Tim Novak has taken advantage of the opportunities through the FFA leadership training program. (Photo courtesy Ken Seering, Denmark, WI — Related story on p 175.)

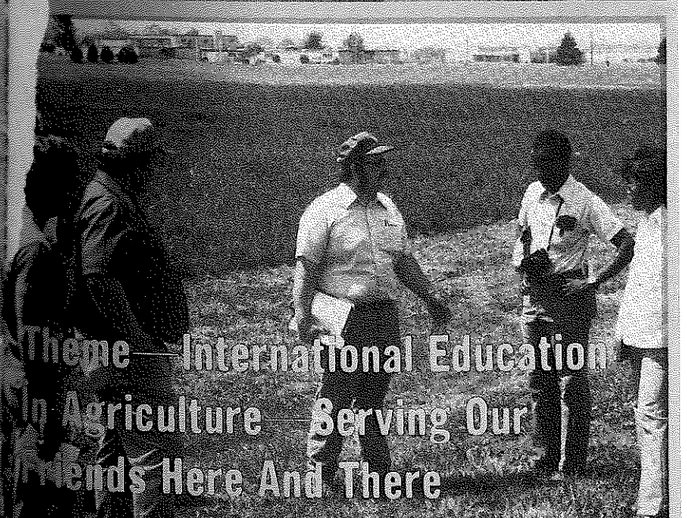


A contestant participating in the Pennsylvania State FFA Interview Contest. This contest consists of three parts: 1. Writing a letter applying for a job, 2. Completing an application for employment form, and 3. Being interviewed for the job for which application was made. (Courtesy Photograph Committee; FFA Activities Week; made available by James H. Mortensen, Penn State.)


Capacity audiences of over 1,000 FFA members attended each of the leadership seminars sponsored by the FFA Alumni Association during the National FFA Convention. (Photo courtesy Dan Reuwee, National FFA Center)







Theme—International Education In Agriculture Serving Our Friends Here And There

# AGRICULTURAL EDUCATION

Volume 50 Number 9

March 1978

EDPRESS

# AGRICULTURAL EDUCATION

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**Top Photo** — *Some Nigerian students of the Federal School of Agriculture plant seeds in a well composted and prepared bed. This is a part of their practical training program. (Photo courtesy J. U. Okorie, Univ. of Nigeria, N Sukka)* **Center Photo** — *Ray Agan visits with Javanese farmers in their rice paddy classroom. (Photo courtesy Ray Agan — Sam Houston State Univ. See Related Article on p. 198)* **Bottom Photo** — *John Rentfrow, Agriculture Instructor at Shelbyville, Illinois, High School (center) explains his land laboratory program to Sonny Tucker (second from right), Teacher Educator at Njala University College, Sierra Leone, and Jose Juego, Teacher Educator at Visayas State College of Agriculture, Philippines, while three other Illinois Agriculture Teachers look on. (Photo courtesy Burton Swanson and Sonny Tucker, Univ. of Ill. and Univ. of Sierra Leone — See Related Article on p. 199)*

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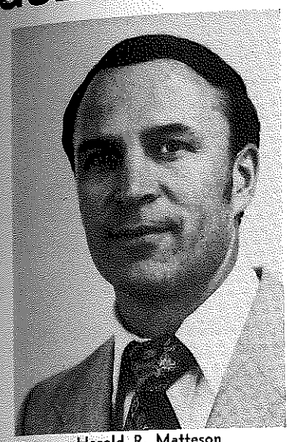
# GUEST EDITORIAL Involvement In International Agriculture—A Challenge For Agricultural Education



Harold R. Matteson

*by*
*Harold R. Matteson*
*Director of International Programs*
*New Mexico State University*
*Las Cruces, NM*

Although the United States has provided assistance to other countries for a number of years, our assistance program escalated greatly following World War II as we provided a tremendous amount of assistance to European countries for their post-war rehabilitation.

## POINT FOUR AND AID

In the early 50's (during the Truman Administration) the United States recognized the need to shift our assistance efforts to the less developed countries of Latin America, Africa and Asia. This recognition gave rise to the Point Four Program which provided resources in the form of commodities, money and technical assistance. In the early sixties all unilateral foreign assistance programs (including the Point Four Program) were brought together and a new federal agency, entitled the Agency for International Development (AID), was created and charged with the responsibility of administering these programs.

## NEEDS OF POOR MAJORITIES

Approximately four years ago, after reviewing nearly three decades of foreign assistance programs, the U.S. Congress concluded that the assistance programs funded by the U.S. had not met the needs of the poor majority. Congress concluded, if anything, that our foreign assistance efforts have increased the disparity between the "haves" and "have nots." Thus, in 1974, Congress gave AID a mandate to develop programs which would focus on the needs of poor majorities in developing countries.

## THE ROLES OF UNIVERSITIES

Another action taken by Congress which could have considerable impact on the United States Foreign Assistance Program is a recent change in the Foreign Assistance Act which gives universities in the U.S. a greater role in the planning and conducting of the foreign assistance programs. In the past, universities were seldom involved in the development and planning of projects they were asked to conduct in less developed countries. Title XII of the Foreign Assistance Act provides a mechanism whereby AID and the universities are co-equal partners in the planning, conducting and evaluation of foreign assistance projects.

The 1974 mandate by Congress and the passage of Title XII have placed universities in a somewhat strange, if not awkward, position. Historically, the universities have not had extended involvement in the development and conduct of programs for the poor majorities of developing countries. In fact, it can be argued that universities have not done all that well in providing solutions to the problems of the poor in our own country. Thus, how do universities cope with their new role given by the 1974 Congressional Mandate?

## THE REAL RESOURCE—AG TEACHERS AND EXTENSION AGENTS

Admittedly, my perception is biased by my past experiences, but I believe the greatest reserve of personnel which have experience working with small farmers, and in many cases poor farmers, rests within the ranks of the Agricultural and Extension Education profession.

**Vocational agriculture teachers have historically worked with all farmers in a community, not just those with the greatest quantity of resources. Unlike their counterparts in the developing world, the classroom has not been just the four walls of the school building, but rather the entire geographic community in which their schools are located.**

Agricultural Extension has also been involved in programs for the rural and urban poor. The Expanded Nutrition Program where para-professionals are used extensively is an example of a recent effort in this area. Thus, if the university community wishes to successfully implement their new role with AID, they will need to draw upon the experience, talent and expertise of the Agricultural and Extension Education profession.

## THE CHALLENGE

I believe this opportunity is forthcoming and with it comes many challenges. It will provide a challenge to those responsible for pre-service and in-service professional preparation in the field of Agricultural and Extension Education.

It will provide a challenge and opportunity for those who do not have a Ph.D. degree and, thus, were precluded from most past foreign assistance programs. However, the question remains: Are we ready for and willing to accept this challenge? ◆◆◆

# FROM YOUR EDITOR

James P. Key

## "NO MAN IS AN ISLAND"

"No Man is an Island" is the title of a song which aptly expresses the position we hold in Agricultural Education in the United States. Perhaps we do have the most advanced agriculture in the world and produce food for ourselves and many other countries too. This simply makes it imperative that we share ideas and methods in agriculture with agriculturists in other countries—both ways.

First, simply because we have a most advanced system of agriculture does not mean we have all the answers. We can still learn from our friends in other countries. Second, just because some of our ideas and methods work very well here does not mean we can automatically transfer them to another country and expect them to work.

Therefore, when we exchange students of agriculture with another country, both of our countries gain. Not only do the students from both countries gain new ideas and methods; they gain an understanding of different cultures, philosophies and ways of living which in turn helps build a bridge of understanding between those countries.

When students, teachers, or farmers tour another country, they gain ideas and insights and see that there is not just one way to farm and carry out agri-business.

International students studying at the colleges and universities in this country learn not only advanced technologies in agriculture but the friendliness and sharing of farm people in the United States. Students from the U.S. studying in other countries likewise gain this insight.

The United States has shared much of its agricultural technology through specialists sent to other countries to aid through sharing agricultural expertise. It has also given agricultural commodities to countries in need.

As was indicated by a couple of articles in this issue, true international education in agriculture occurs during student exchange visits. When they live, work, and study with host families and host schools, the exchange students, host students and host people learn to appreciate the different ideas and methods which can be used to accomplish the same end—feed the world.

Several articles mentioned that the approach of the United States should be less giving of commodities and high level technical aid and more giving of basic aid to the small subsistence farmers that are the backbone of agriculture of many developing countries.

Overall, the articles in this issue should promote understanding of international education in agriculture and of ways each of us can have an important contribution in increasing the level of this education in agriculture, both here and abroad.—Ed.

## ★ Special Features ★

**Your contributions are needed for:**

—CENTER PAGES FEATURE • **Drawings, Sketches or Photos of Useful Ideas.**

—THIS WORKED FOR ME • **Methods you would like to share that might help other teachers.**

—LETTERS TO THE EDITOR • **Your concern, support or rebuttal of vital issues.**

—FROM THE TEACHER'S DESK • **Sayings, jokes, stories to help spice speeches, talks or teaching.**

—COUNTRY STORE • **Sources of inexpensive or free teaching aids.**

## COMING ISSUES COMING ISSUES COMING ISSUES

COMING ISSUES

**APRIL** — Serving Adults — Young Farmers, Adult Farmers, Agribusinessmen

**MAY** — Post-Secondary Education in Agriculture — An Emerging Partner

**JUNE** — Cooperative Education in Agriculture — Learning on the Job

**JULY** — Careers in Agriculture — Summer Employment Opportunities

**AUGUST** — Teacher Education in Agriculture — Laying the Foundation for Good Teaching

**SEPTEMBER** — Student Competition — An Incentive Approach

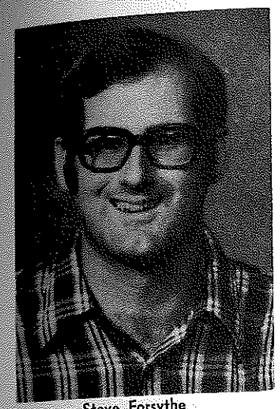
**OCTOBER** — Supervisors and Consultants — Important Members of the Team

**NOVEMBER** — Effective Teaching — What's the Basis?

**DECEMBER** — Professionalism—That's The Name of the Game

COMING ISSUES





Steve Forsythe

# INTERNATIONAL STUDENT IN A TEXAS AG PROGRAM

*by*
*Steve Forsythe*
*Vo. Ag. Instructor*
*Ysleta High School*
*El Paso, TX*

Mads Michael Nielsen is not your ordinary Vocational Agriculture II student and member of the Ysleta Future Farmers of America Chapter. Mads is the first foreign exchange student to participate and be active in the vocational agriculture program in the Ysleta Independent School District of El Paso, Texas.

### YOUTH EXCHANGE PROGRAM

Mads is a participant in the school district's Youth Exchange Program and is from Sventrup, Denmark, a town of 4,000 villagers. His host family in the exchange program is the Thurl Pope family and Mad's "host brother," Kevin Pope, is also a member and an officer of Ysleta F.F.A. program.

Mads arrived in El Paso in August of this year and quickly became active in vocational agriculture. His agriculture background in Denmark included working on a dairy farm in tiny Svenstrup and raising horses.

"I wanted to learn about American and El Paso agriculture as a participant in F.F.A.," says Mads. "My school permit expires in May of 1978 and I hope to carry back to Denmark various materials and knowledge learned while participating in Ysleta's agriculture program."

### NEW AWARENESS

Many Ysleta F.F.A. members have been able to learn and appreciate the varied agriculture practices used in Denmark in a society that is efficient, but whose agriculture practices are behind the United States in output. Through Mads' conversation and class reports, the Ysleta Chapter has discovered that dairying and swine are the major agriculture products raised by Danish agriculturists. Mads is also proud of the many green acres of pastureland in Denmark and his country's contribution to food production through the production of "Danish hams and bacons," a real consumers' delight.

According to Ysleta Agriculture Department chairman, J. B. Farrell, Mads' participation in vocational agriculture through the foreign exchange program has brought a new awareness to the Ysleta F.F.A. members. "Our kids now know that there is more than just cotton, pecans, and irrigated farming on the local level. Several thousand miles away, a Danish farmer hopes for a good year with his dairy or swine operation. Mads has helped us to learn and appreciate a total world effort of feeding the world's population."

### PROJECTS AND ACTIVITIES

Mads, who is eighteen, and a graduate of a Svenstrup public school that would be the equivalent of a U.S. junior high school, has a medium wool fat lamb as an agriculture project. Along with his "host brother," Kevin, who has a Hereford steer; Mads keeps his lamb at the Ysleta F.F.A. school farm. Twice a day, morning and night, Mads and Kevin feed and care for their livestock. His big plans are to show and, hopefully, sell his lamb at the Southwestern International Livestock Show in February or the Ysleta F.F.A.'s Chapter Show in March.

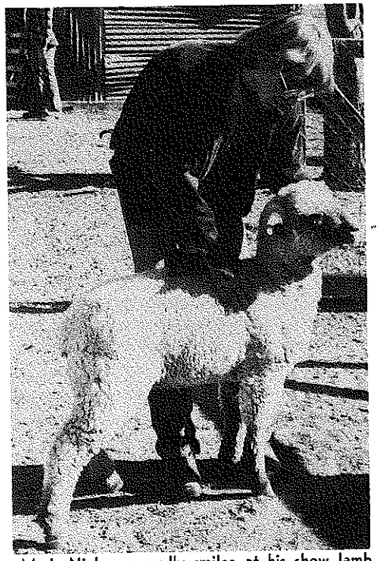
In addition to his lamb project, Mads is active in the Ysleta F.F.A.'s many activities and takes part in the overall agriculture program.

Mads says, "We have no agriculture youth organization in Denmark like the F.F.A. and I have been lucky and glad to have learned and participated in an agriculture program. I hope I have shown people what a Dane is like and how different our agriculture is. I certainly have grown to appreciate America's agriculture and also the economic benefits."

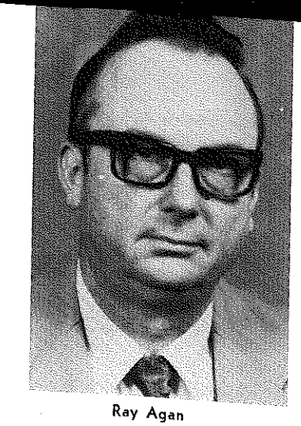
Nielsen's future plans include continuing his education at a Hajere Forberedelse Eksamen (a Junior College) in his native Denmark. Although the agriculture opportunities and economics are somewhat frightening and challenging to him, he plans to try and stay involved in some form of agriculture.

### INTERNATIONAL EDUCATION IN AGRICULTURE

To the Ysleta chapter's advisors and members, the foreign exchange program that allows for a youth from another country to participate in the agriculture program is very rewarding. New ideas and concepts are exchanged and lasting friendships formed. A Danish agriculture student in America certainly is International Education in agriculture that serves our friends there and here. ◆◆◆



Mads Nielsen proudly smiles at his show lamb at the Ysleta FFA school farm, El Paso, TX. Mads is a foreign exchange student member and has the lamb as his project.



Ray Agan

# INTERNATIONAL EDUCATION A TWO-WAY PROCESS

*by*
*Ray Agan*
*Teacher Education*
*Sam Houston*
*State University*
*Huntsville, TX*

In this country, we frequently classify ourselves as experts in preparing educators in other parts of the world for the teaching of agriculture. And so we *have* made an impact in several other nations in the improvement of their programs of agricultural education. We may point with pride to the Future Farmer organization in some nations, school farm based project programs in other nations, agricultural school instructional programs in still other nations and so on and so on. Are we able, however, to receive from our association with these world-wide programs of agricultural education in the other countries improvements in the agricultural education programs in the United States? We should not ignore this valuable resource.

## INDONESIAN AGRICULTURAL EDUCATION

In October, 1977, this writer made a study-tour of the programs of agricultural education in Indonesia, the islands of Java and Bali. This followed the direction of a program of short term and Master's Degree programs for 34 agricultural teachers from Indonesia. After the completion of the study-hour, the government of Indonesia proposed to send 31 more teachers of agriculture on graduate degree level programs of training. All of the teachers of agriculture from that nation are well prepared and are given continuous opportunities for upgrading and improvement on a regular basis under the sponsorship of their government, both abroad and at national training centers for teachers of agriculture. Opportunities are provided in their schools of vocational agriculture for both theoretical and practical instruction for all agricultural students in school facilities—classroom, laboratories and farms. Innovations in cooperative training programs with community based "key farmers" are practiced. Graduates in vocational agriculture are given opportunities to teach others through the village-level agricultural extension programs. A cluster-of-schools concept was used where the staff of vocational agricultural programs in different communities worked together to the advantage of each one in the cluster. Farmer classrooms were located away from the campus in the rice fields. The teachers met with the farmers there on schedule.

## BRIGADE SYSTEM

A few years ago, teachers of vocational agriculture who visited the agricultural education program in Mexico saw a "brigade system" at work where groups of five to six teachers of agriculture worked one day per week in different agricultural villages teaching agricultural classes to youth and adults there. They worked with six villages at a time, "graduating" a village and selecting a different one when the agricultural instruction work in the village had progressed to its limit.

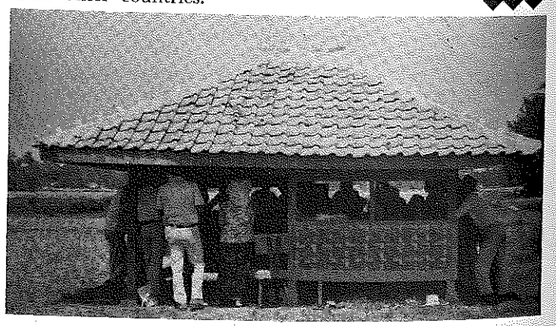
## TRANSFERABILITY

Ideas such as these are not usually directly transferable to programs in this country, but should "spark" new ideas for program improvement here which should be both creative and worthwhile for us. Innovations frequently arise from a study of several other related ideas at work.

## IDEA SWAPPING COURSE

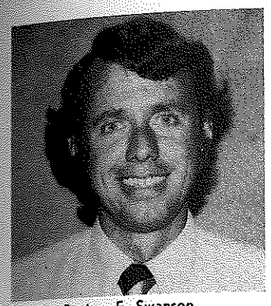
An exceptionally good opportunity exists for teachers of vocational agriculture from around the world to have an experience of "idea swapping" next July 31-August 17. On these dates the *Eleventh International Course on Vocational Education and Teaching in Agriculture* will be held in Switzerland. Usually the participation in this course comes from as many as 120 to 130 nations, and involves the people actively teaching vocational agriculture in those nations. There are formal sessions given in French, German and English through simultaneous translations. However, a really valuable outcome of the course is the opportunity for informal visitations among the teachers of vocational agriculture from different countries between the formal classes.

The National FFA Center, under the direction of Lennie Gamage, is arranging group-transportation (lower fares) for a group of teachers from the United States who want to go. Among many others, our national leader, Mr. Neville Hunsicker, has indicated he will be in the group from this country. Spouses are welcome as participants or observers. Graduate university credit may be arranged for this learning experience, if desired. You may plan now to make international education a two-way process for you by letting Lennie Gammage or this writer know of your interest in "swapping ideas" with teachers of vocational agriculture from other countries. ◆◆◆



"Ricefield Classroom"

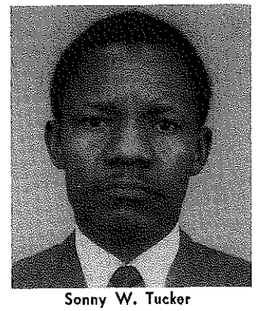




Burton E. Swanson

# LAND LAB EXPERIENCES IN SIERRA LEONE AND ILLINOIS

*by*
*Burton E. Swanson*
*International Agricultural Education*
*University of Illinois*
*and*
*Sonny W. Tucker*
*Agricultural Education*
*Njala University College*
*University of Sierra Leone*



Sonny W. Tucker

The concept and importance of experience programs in education is neither new nor specific to any culture. Around 400 BC, the ancient Greek philosopher, Sophocles, said, "One must learn by doing the thing; for though you think you know it — you have no certainty, until you try." In China there is an old proverb which denotes a similar theme: "I hear and I forget; I do and I understand." In agricultural education today we simply say "learning by doing."

One type of school based experience program is the school farm or land laboratory. Land labs are becoming increasingly important in both Illinois and Sierra Leone. A recent study[1] by the authors found that more than half of the agricultural departments in Illinois currently have some type of land laboratory. This number is expected to increase and the quality of experiences provided by these land laboratories is expected to improve as teachers acquire additional skills and knowledge about how to incorporate this resource into the instructional program.

In Sierra Leone most schools have a school garden, but because of an inherited educational system, students have traditionally worked in these gardens as a form of punishment. This negative use of the school garden tends to associate farming and manual labor with undesirable behavior in the minds of students. The agricultural education faculty at Njala University College, University of Sierra Leone, are working to change this traditional use of school gardens. They are preparing new agricultural teachers who understand how to use this school land as an effective educational tool.

## SIERRA LEONE

In Sierra Leone, as in many developing countries, farms are relatively small and the resources of farm families are very limited. Many farm families operate at the subsistence level. Because of these limitations, it has been very difficult to introduce on-farm supervised experience programs within poor nations. Seldom is sufficient land and other resources available to allow students to "learn by doing" at home.

The negative use of school gardens in the past has further complicated the problem. Students go through school gaining little practical experience in agriculture and what experience they do get is forced upon them in a negative context. Furthermore, the examinations given by the West African Education Council stress theoretical rather than practical knowledge and skills. Rather than preparing rural students to return to the land and increase agricultural production, schools in many developing countries are effective in turning young people away from agriculture.

In Sierra Leone, efforts are now underway to provide positive, school based agricultural experience programs for rural students. The use of school gardens is being changed to emphasize entrepreneurship and improved farming methods. Under this new approach students grow, harvest and market crops on school land and keep the money earned. For most students who have had little money to spend in the past, this new income from agriculture is an attractive reward. Students try to maximize production on their small plots to increase profits. In the process they learn practical farm skills and improved methods of farming; more important, they are learning positive attitudes about agriculture.

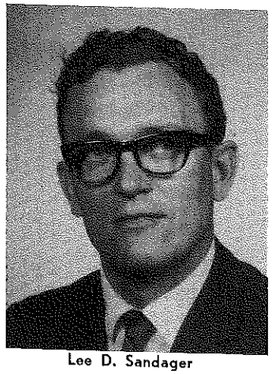
This transformation in the use of school land is being brought about by stressing practical skill training within the agricultural education curriculum at Njala University College. All students who are preparing to teach agriculture are required to have a farm plot throughout their studies at Njala and must learn firsthand how to grow different crops. Peer pressure helps keep the weeds out of student plots; competition for high yields among students encourages the use of improved methods to maximize production; and being able to market the produce and keep the profit is a material reward for students. Also, these farm plots are evaluated by the faculty, therefore, students receive academic credit and grades for this field experience. After completing their degree program at Njala, beginning teachers essentially duplicate this approach by using the school garden as the means of providing practical experience to primary or secondary students, and generally achieve similar results. The prospects for further utilizing school land laboratories as a means of introducing and demonstrating new agricultural technology appear very promising.

## ILLINOIS

In the past, school land has been utilized by some agricultural departments in Illinois as a means of teaching farm skills and to demonstrate the effect of different agricultural practices. Until recently, however, supervised farming programs were emphasized since most students had the opportunity to gain this experience on their home farms. However, many agricultural students today do not live on farms. They do not have the opportunity to learn firsthand many agricultural skills or to observe modern farming practices.

To serve the needs of the non-farm agricultural student, the trend has been to emphasize off-farm agricultural

*(Continued on page 203)*



Lee D. Sandager

# PLAIN AS THE NOSE ON YOUR FACE

*by*
*Lee D. Sandager*
*Vocational Agricultural Instructor*
*Forest Lake, MN*

A few years ago I had the opportunity to be a part of a team of educators who were recruited and assigned to a USAID project of teacher education in East Africa. My assignment was to a teacher training college in Kenya. My duties and responsibilities were to serve as a staff member working with other African tutors to train students to teach in rural primary schools. An additional responsibility was to develop a curriculum for teaching agriculture in the teacher training institutions of Kenya. The program was administered by Teachers College, Columbia University, and involved educators of several disciplines. I was, however, the only member of the team with a background in vocational agriculture. This quickly gave a reference point different from others that I would have the pleasure of working with.

## IDENTIFYING NEEDS

My training and years of experience provided an opportunity to quickly identify the problems in rural education. I learned that what was obvious to me may not have been so obvious to others on our American team without the benefit of a vocational education experience. An old adage used by Dr. A. M. Field, professor of Agricultural Education at the University of Minnesota, during my college days became apparent: "We must take the student from where he is to where he ought to be."

**It appeared obvious to me that the African students who were to become teachers must be taught how to identify the needs of their students and of the homes and the villages from which they came.**

Studies revealed that 85-90% of the people in East Africa would continue to live in the rural sector for the next 35-40 years. If education is to have meaning and purpose to the lives of these rural families, it must be directed with an application to improve their lives and their daily living conditions. The science, math, and the language skills that they learned must be plugged into their life on the land and in the village where they are now and where they will be for the next generation. Education must be relevant!

One of my first experiences in teaching a unit on electricity revealed, through testing, that students had academic knowledge of the principles of electricity, but when confronted with ten electrical appliances, they had little knowledge of how the principles of volts, conductors, resistance, and transformers applied to the use of electricity. Something in the educational process was lacking when the student obtained knowledge for passing the examinations but failed to find application to improve their living. I witnessed examinations given at the end of primary school (seventh grade) that returned twenty-seven out of thirty students to their rural homes while only three were permitted to continue their education. I concluded that the value of those seven years of training must be evaluated on the basis of what it did for the twenty-seven as well as the three who went on for secondary schooling.

## PRACTICAL TRAINING PROGRAM

We developed a practical training program for East Africans who were training to become teachers that emphasized the "why, what, and how approach" to teaching science and agriculture. Students were taught how to question information and how to analyze data using the scientific method, so common to agricultural education in America. Students, training to become teachers, learned how to teach using direct experience rather than abstract verbalization, and their students "learned by doing," so traditional to vocational agriculture.

Probably the most spectacular learning experience of the "doing" type was the development of model agricultural plots developed at the college. Every primary school had an acre or two of land that could be developed as a learning laboratory for science and agriculture classes. The model established by the students at the teacher's college became the guide for establishing similar plots at the primary schools. Here each student prepared the land and conducted his or her trials or experiments from which to learn. These plots became the pride of the students shared by the whole community. Science was taught with sticks and stones, tin cans and bottles, plants and seeds, insects and animals, sun and stars, all common and significant to the students' environment. The learning that occurred was then transferred into knowledge usable for improving their life on that shamba (small self-sufficing farm).

*It was interesting for me to see the reactions of people in the Ministry of Education and from our own American AID and Columbia University project leaders. Their frequent visits to observe and to approve of the vocational approach confirmed that education, if it is to be of value to the rural leader, must incorporate innovative, imaginative, and resourceful ideas that will "take the student from where he is to where he ought to be" with experiences that are relevant to his life. It's as plain as the nose on your face—that is, to any 'ag man'!*

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# PROBLEM SOLVING WITH THE "SELECT 50"

*by*
*Harold Engelking*
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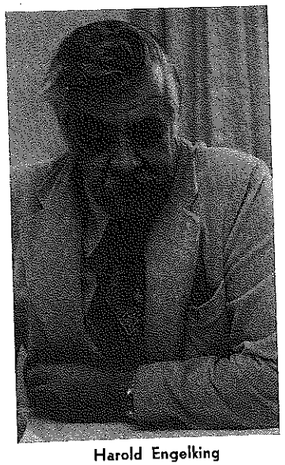

Harold Engelking

In assisting educational leaders in foreign countries to develop viable agricultural education programs, two phrases come to mind: "While in Rome, do as the Romans do," and "If you can't lick 'em, join 'em." This was brought to my attention frequently as I helped my Brazilian counterparts develop an adult education program for the farmers in one area in the southern most state of Brazil. The cornerstone of a good adult education program is an effective advisory council, but "problem solving with the select 50" became the successful implementation of the advisory council principle.

## ORGANIZING

In each county in Brazil (called municipios) we find three people who are recognized leaders of the farmers, i.e., the Prefeito (Mayor or County Manager, in most cases an elected official), the Priest, and the highest ranking military officer of the county. In the implementation of "problem solving with the select 50" we were working in a five county area surrounding the Federal University of Santa Maria. We asked each Prefeito in the five county area to recommend ten good farmers in his county to work with us to select demonstration plots, help plan adult education programs for the farmers and help get their neighbors to enroll in and attend adult evening classes in agriculture. Interest mounted as the Prefeitos became involved. This in turn involved to a lesser degree, but of no less importance, the church leader and military leader in each county. "Nothing succeeds like success," and as enthusiasm mounted among farmers and the leaders in each county, attendance at adult evening classes kept going up. In fact, an attendance of less than 30 was a very poor attendance and an attendance of 60 or 70 was just average.

Does all this sound like an ADVISORY COUNCIL? Yes, but to use the words advisory council would have been self defeating. However, working within the social structure and culture of Brazil, "problem solving with the select 50" became highly successful.

Within a year, nearby County Managers were requesting the same programs in their counties and, thus, "problem solving with the select 50" expanded to "problem solving with the select 70."

## SUPERVISED WORK EXPERIENCE PROGRAM

The need for practical, on-the-job work experience programs for freshman agriculture college students became evident since less than half of the agriculture students have farm experience. Thus, "problem solving with the select 50" developed into the nucleus of a supervised work experience program with these farmers serving as cooperators. Here again, enthusiasm created more enthusiasm and upper-class agriculture students were saying, "Why can't we be in this program?" or "Why didn't you start it when we were freshmen?" The upperclassmen had heard the freshmen talk about learning to drive a tractor, castrating pigs, adjusting farm machinery, as well as the excellent meals provided in the farm homes, i.e., complete "churrasco com bastante vinho."

## BASIC PRINCIPLES

In my opinion, a person contemplating working with agriculture teachers and farmers in a foreign country should keep certain basic principles in mind. Principles such as:

1. The principle of demonstration is not the only effective method in motivating people to accept new ideas. It is only when the demonstration method (seeing is believing) is combined with "learning by doing" that the zenith of the transfer of knowledge is reached. To accomplish this, farmers need to help select the demonstration plot, apply the fertilizer, plant the seed, apply the herbicides, and harvest the crop. As the farmers give of their time and effort, the crop becomes their crop and learning and understanding is increased many times over that of the farmers who only observe and have no part in planning, planting or harvesting of the crop.
2. Let local people (the Prefeito, local agriculture leaders and farmers) help plan the demonstration plot. This will result in a different plan in each county, but this is good. Programs should not be standardized because standardized programs limit initiative, curb ideas, and sometimes result in a lock step, sterile approach to the solution of agriculture problems.
3. Never underestimate the intelligence of farmers. Look to them for ideas and suggestions. If a farmer has an idea and receives recognition for it, he will work for it. Getting and using farmers' ideas is most important.
4. Never treat farmers as inferior. Treat them with courtesy and respect. Your own success will depend upon the cooperation you receive from farmers.
5. The farmer's family is most important to him and you should include them in your plans. To ignore them is foolish; to include them is wise. Treat the farmer's wife as you would the Queen of England and his children as the most precious individuals you have ever met.

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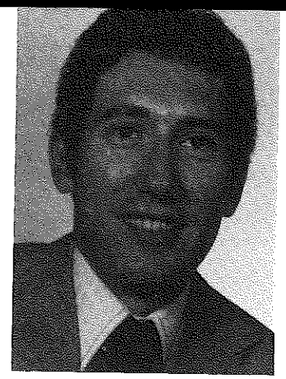

Robert A. Martin

# "KYAUTATA ZAMAN KAUYE" IS NIGERIAN STYLE VO-AG

*by*
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"Kyautata Zaman Kauye"—(Improvements to the local situation) fully expresses attempts being made to "vocationalize" agricultural education in Nigeria and much of Africa today. This West African country and indeed most of the world community has come to the realization that the agricultural industry demands very high priority.

## THE CHALLENGES

One cannot speak of Africa as a whole or Nigeria in particular without thinking about its agricultural potential and the great challenges that have come about in recent years. These challenges will by no means go away by playing a bit of black magic. The situation is ever-changing and one only needs to look at population increases to know full well that the demand for increased efficiency and production in Nigerian agriculture is needed now. Nigeria has a population of about 70 million people. By 1985 this is expected to reach to over 102 million people. Nigeria is the most populous country in Africa and has enormous resources in land, materials and people to progress substantially in the future.

## THE ANSWER

How can these challenges be met? The answer seems to lie in education. The Nigerian government and educators have urged people to go back to the land and produce the food necessary for her people. Coupled with this is an energetic plan in the secondary school system to promote the agricultural industry.

To help meet this need for people to return to the land, secondary schools have broadened their offerings by introducing agricultural science into their curriculum. Until recently only a small number of schools had a course in agricultural science. Now many schools are offering this course to their students in an effort to emphasize the dignity of work and the importance of agriculture. The introduction of agriculture in schools across this great country is based on the following principles. The first principle is certainly the guiding one; the others are incidental to the first.

## GUIDING PRINCIPLES

1. The education of boys and girls in purely academic subjects without moral and spiritual education at the same time is dangerous, inasmuch as it is liable to create proud individuals who like to disassociate themselves from common uneducated people and so, instead of becoming useful to society, they become mere parasites. Moral and spiritual values are best instilled by laying emphasis in the school curriculum on practical work of every kind. In this agricultural curriculum maintained throughout the entire course of five years, there is more opportunity for practical work than in any other subject. There has been evidence of well-developed character in former students of schools having offered agriculture for several years. These students have shown not only a willingness but a positive enthusiasm to continue in a life (a career) devoted to helping other people. This is particularly clear when some students could have chosen a more lucrative career. Many former students of the author are now in careers in agriculture. They indicate not only a deep appreciation of their practical training but also an enthusiasm to use that training in helping others.

2. The manpower needs of the country should be a guiding principle in the choice of a career, particularly for those who are concerned to serve rather than to fulfill selfish ambitions. General education is, of course, not intended to be a professional training for a career, but an important principle behind agriculture on the syllabus is to point boys and girls in the direction of the many opportunities in the main career for people in this land—agriculture.

Nigeria's greatest needs are in agriculture, and in this field an almost indefinite number can be absorbed. Secondary students given an entirely academic training are not likely to turn their attention to agriculture. Agriculture maintained throughout the school course keeps up an interest in this field which often develops into a genuine career interest.

3. It is too easy for a secondary school student in this country to live in two completely different worlds: the world of the school with its high standard of living, and the world of the "home" with its simplicity and hardships. The activities of farming and associated activities in a school having agriculture science help keep the balance between homelife and school life. There is probably less tendency for students to drift aimlessly in towns with this sort of background.

Nigerian educators have come to the realization that if secondary schooling succeeds in creating a class of people who regard themselves as superior to their parents and others in their village, then the finest academic training in any of the school subjects has achieved nothing; indeed it has spoiled what might have been a gentleman or a lady. There is no subject better than agriculture, maintained throughout the entire secondary school course of five years, which can instill into a student the right attitudes to life. There is one condition to this, however; that is that agriculture must be treated as a subject with the same status value as that of other high-rated subjects in the school curriculum.

## SUCCESSFUL AGRICULTURE PROGRAMS

Over the past few years the agriculture programs that have functioned successfully in Nigerian schools have developed upon the kind of things that:

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(1) maintain the interest of the student in this subject up to and beyond the time he leaves the school;
(2) build up character: the kind of character which is aware of the main needs of the country and is humble enough to want to help those who form the majority—the farming folk.
(3) keep the course practical and regulated to everyday life.

## PROGRAM PROJECTS

In order to achieve this, the following projects have been worked into the course at several of the secondary schools:

1. Student Farms — Each student has a farm plot to produce guinea corn, groundnuts, cotton and mucuna beans planted on the farms on a rotational basis.
2. Student Gardens — Each student raises tomatoes, squash, rosselle, carrots and cucumbers.

These students of Waka Secondary School carefully care for their gardens and enjoy a brief rest as the camera catches them.

3. Livestock Projects — These are class projects handled by individuals on a rotational basis. The livestock include chickens, cattle, pigs and rabbits.
4. Experiments for Local Agricultural Authority — These include fruit and vegetable trials.
5. Student Experiments—These include fertilizer trials, pesticide trials, and various soil tests.
6. Helping and Teaching the Local People — Selling chickens to the local people and teaching them how to raise them.
7. Lectures by Local and Visiting Agriculturalists — This exposes young people to the agriculturalists in the field.
8. Visits to Local Authority Gardens and Orchards — Gives students the opportunity to get firsthand knowledge on growth of fruits and vegetables.
9. Annual Visits to District Agricultural Shows — Students are exposed to many different aspects of agriculture from all over the district.
10. Annual School Agricultural Fair — Students conduct their own fair and show.
11. Visits to Large Irrigated Government Farms — Gives students the opportunity to see large farms and their managers in action.
12. Visits to Veterinary Schools — Students have an opportunity to see higher educational institutions in action.
13. Visits to Homes of Students when Boarding School is on Holiday — Acquaints the teacher with the local situation.
14. Young Farm Club Projects — Participating in leadership and social activities.

## RESULTS?

More complete results of this endeavor to encourage young people to join hands in service to agriculture remain to be seen. If the majority of secondary school boys and girls in this country learn to despise manual work and consider themselves in another category, surely an important part of character training in education lies in the development of right attitudes to manual work. This cannot be better achieved than by closely associating school subjects with activities involving manual dexterity.

It is interesting to note that we are indeed at the threshold of a great opportunity worldwide to grasp hold of the challenge to produce the food and fiber we all so desire. In this regard the need for educators in agriculture has even broadened. Our challenge is then two-fold: to get enough teachers of agriculture and to help more people develop skills necessary for the tasks ahead.

If it is true that the real secret to the world food crisis is the small farmer and what he is able to do, all educators must do all they can to help young people educate themselves to positions of service to these small farmers so that food production can be increased and standards of living can be improved. "Kyautata Zaman Kauye" is what it is all about. ◆◆◆

CONTINUED

## *LAND LAB EXPERIENCES . . .*

occupations and to provide experience through cooperative education programs. Some schools in Illinois are moving to supplement this off-farm agricultural training with firsthand knowledge and experience in production agriculture.[2] The land laboratory or school farm is the critical element in this approach, since students do not have the opportunity for "production" experience programs at home. Through school farms, students can get "hands on" experience operating and adjusting farm equipment, overhauling and repairing machinery, and planting, cultivating and harvesting crops. In addition, in some schools students negotiate loans on behalf of the FFA Chapter, study and purchase crop insurance, sell commodity contracts and analyze production records to determine how efficiently the chapter utilized labor and capital.

Unlike Sierra Leone, the majority of agricultural students in Illinois and the U.S. will not be directly engaged in agricultural production. However, in both countries young people are needed who understand and are positive about agriculture. Persons working in agri-business must know and appreciate the problems faced by the farmer they are attempting to serve.

## SUMMARY

One criticism frequently made by American agricultural specialists working abroad is that agricultural personnel in developing countries generally lack practical experience. In many parts of the U.S. today, a majority of

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# SUBSISTENCE TECHNOLOGY FOR FARMERS IN LESSER DEVELOPED COUNTRIES

*by*
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John Loret

Today we are constantly reminded of the exploding world population and the much slower progress in increasing food production. Information collected by organizations such as the Food and Agriculture Organization (FAO) of the United Nations, World Health Organization (WHO), and U.S. Department of Agriculture (USDA) all indicate that the world is rapidly approaching a point when it will be unable to feed itself. The most immediate pressing problems exist in the lesser developed countries (LDC's), where in some cases more than 60 percent of the population are suffering from protein-calorie malnutrition."

## PROBLEMS

(1) Shortages of food supplies have prompted the United States and other aid-donor countries to develop international agricultural programs in LDC's. However, many of these attempts involved the exportation of western technologies which are oriented towards the problems of highly industrialized countries using modern intensive agricultural practices. Such programs had little or no effect on the productivity or increase in the standard of living for populations in rural areas of LDC's.

(2) Many of these programs were preoccupied with production for commercial markets employing 20th century technology that requires advanced knowledge and skills, high capital investment, and equipment dependent on industrial support systems and services. This emphasis on sophisticated intensive technology has proved to be too cumbersome and, in some cases, not adaptable to environments of the host country, hence they were wasteful of capital and natural resources.

In some cases governments and wealthy business entrepreneurs have developed programs in LDC's that have been directed to short-term exploitation rather than toward a more sustained-yield agriculture. Such programs would obtain capital from areas at a cost much less than its value.

(3) People living in rural areas of most LDC's are poor. They are usually family farmers who lack capital, have an insufficient infra-structure, are uneducated and have little or no organization. Economist, Dr. E. F. Schumacher, in his book, *Small is Beautiful,* states the problem so:

> "In many places in the world today the poor are getting poorer while the rich are getting richer, and the established processes of foreign aid and development planning appear to be unable to overcome this tendency. In fact, they often seem to promote it, for it is always easier to help those who can help themselves than to help the helpless. . . . ."

He further states:

> "The new thinking that is required for aid and development will be different from the old because it will take poverty seriously. It will not go on mechanically saying: 'What is good for the rich must also be good for the poor.' It will care for people."

(4) If improving the nutritional intake and well-being of the rural disadvantaged populations of LDC's is to be one of our goals, then we must obviously plan to carry out development in such a way that the benefits are widely shared. Family farmers in rural areas of LDC's are large in number; however, the potential of their labor force has not been fully developed. With this group as a focus, the author has proposed a scheme to train change agent teams in a comprehensive program in simple subsistence, labor-intensive and appropriate technology to work with family farmers in rural areas of LDC's.

## PROPOSING A PROGRAM

Because of their small size, many of these family farm enterprises could be the most efficient users of the land if sound basic ecological agricultural practices were employed and by using a technology requiring simple hand and animal powered tools and hardware. This could result in an increase in productivity in terms of food supply and afford a gain in the standard of living for this segment of the population.

In many rural areas of LDC's the existing technology is at a level more primitive than the self-sufficient systems which were used in many of the developing countries in the 19th century. Further, many of these rural agricultural areas have never been introduced to the many efficient hand and animal tools and hardware technology of this last period.

## ADVANTAGES

The following are some of the advantages which could be realized by introducing a simple hand and animal powered technology into rural and remote areas of LDC's:

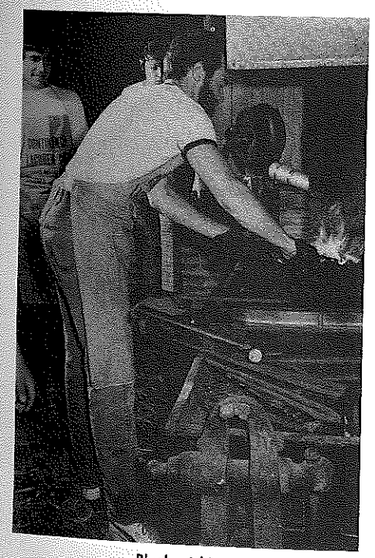
1. This simple technology can be introduced at a low capital investment.
2. Tools and hardware of this technology are not cumbersome and can be transported without difficulty to remote areas on existing roads and trails, even using animal or man power.
3. The users of this technology can be self-sufficient, as the facilities and resources for producing and repairing the tools and hardware can be almost wholly indigenous.
4. The technology is dependent on hand labor and thus can be used by the broadest segment of these rural populations.
5. The simplicity of this technology has the capability for immediate implementation into many rural areas and family farm enterprises.

The main purpose of this proposal is to seek assistance in developing a program to train young people as change agents to work in LDC's, with the knowledge and skills of basic subsistence agriculture, using simple hand and animal powered tools and hardware.

## ORGANIZATION

Such a training program organization must require multi-disciplinary approaches and should include:

1. An understanding of the intellect, energy and abilities of the people living in specific remote areas of LDC's, as well as their social structure and cultural patterns.
2. Proficiency in the skills and techniques required to make a general assessment of the physical environment in terms of land use potential and the ability to design and apply the most appropriate technology to an area.
3. Knowledge and skills in the use of the tools and hardware of simple hand and animal powered technology.
4. The ability to develop a program of technological priorities for individual, group, or family needs.



Blacksmithing

## BACKGROUND

Many rural communities and farm families in LDC's are living at a primitive, poor, or less than subsistence level which results in high incidents of disease, malnutrition and possible retardation. Motivation for such groups and families is, as expected, low. Thus, in designing a program in such situations, it is important that the well-being of the group be given first consideration and attempts be made to improve the general health situation and thus stimulate their internal motivation to work.

It is contended that the establishment of new simple technologies will improve the productivity of existing technologies using the same infrastructure and other features of the economy and social structure. Further, a program as proposed will develop greater internal motivation and pride in the family farm enterprise.

It is not the intent of this program to replace any existing technology with a technology proposed to be "correct" but rather that the existing technologies be complemented and supplemented in a course of improvement.

Current agricultural curriculum in modern universities in developed countries is not suited for application in LDC's. Many hungry nations are located in tropical or sub-tropical environments. Agricultural assistance to these areas has been in terms of introducing technologies which were developed for temperate zones and not designed for the carrying capacity of tropical regional resources, i.e., mono agriculture, crops dependent on mechanization, irrigation and intensive fertilization. In addition, research in tropical agro-ecosystems have in the past been parochial and discipline oriented. Holistic approaches are not common and little work has been done to adapt technological findings to tropical systems.

Family farmers in rural areas of LDC's do not need modern intensive agricultural technological systems but, rather, assistance to show them how hand care technology can be better used and how to integrate what is already known into developing a greater sustained yield.

The major objective of this proposal will therefore be to develop a scientific farmer for small system agriculture, with the broadest possible knowledge and skills in simple appropriate subsistence technology.

## THE PROPOSED PROGRAM

The proposed program will be divided into two phases. Phase I will include twelve months of intensive resident training in general background content concerned with environmental and cultural aspects of a specific underdeveloped region or country, as well as the learning of appropriate skills and technologies for use in these areas. The general program will be designed to acquaint participants with the physical and biological environment of the host LDC, its people, their language, customs, contributions to civilization, history, education, economic and political problems and relations to other states.

Training in appropriate technology studies will include the development of skills using the basic hardware of simple subsistence technology, employing current agricultural ecological concepts, i.e., nutrition, ecosystem management, soil genesis, crop ecology, insect and pest management, small farm systems, food utilization, simple agricultural technology, livestock science and energy alternatives.

Upon completion of Phase I, participants will enter the second phase of the program and be required to fulfill a field practicum in a rural community of a LDC for a minimum of

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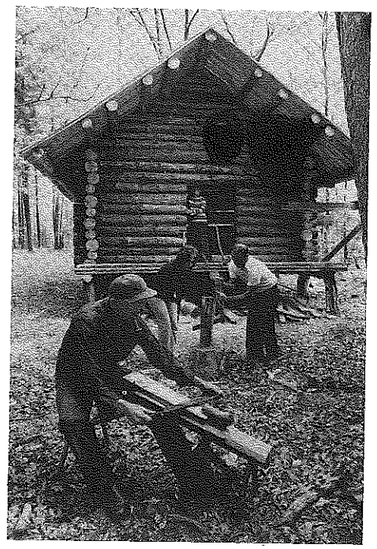

Homesteading

# A FIVE-YEAR PLAN

*by*
*William H. Kelly*
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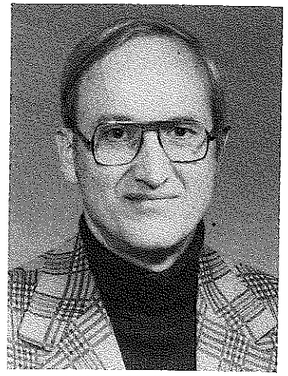
*University of Vermont*
*Burlington, VT*



William H. Kelly

## EDUCATION FOR WHAT?

While each developing country is certainly unique, there are often many striking similarities and common problems. One frequent area of common ground is the educational system which is usually assumed to be vital and necessary in any forward looking society. But is traditional education per se the answer to underdevelopment and a sluggish economy? The author suggests it is not, and any proposed program in agricultural education must start by examining, and perhaps challenging, the basic tenets of the educational system.

Dr. Norman Miller, an anthropologist and film maker, summarized the situation in many developing countries very nicely with the following statements:[1]

—EDUCATION for UNEMPLOYMENT. For a great many primary and secondary students there is simply no place in the marketplace. There are no jobs and their local economies are growing too slowly to accommodate even those students with higher educational attainment.

— EDUCATION for DISAPPOINTMENT. The process of enlightening gives students hopes that can never be fulfilled and conditions them to expect a way of life that in fact is impossible.

— EDUCATION for INEQUALITY. Discrimination against girls, against nomadic groups, against poorer students, and against some ethnic groups for political reasons is found in most educational systems.

In some nations, more elite elements can use education as a means of maintaining privileges and legitimizing continued high status for themselves and their children.

— EDUCATION for INCOMPETENCE. Even for those who complete set courses there is a growing realization that much of their "learning" has been by rote and there is little competence developed in the areas of creative thinking, initiative, problem solving or even basic technical know-how. This relates directly to the practice of cramming for the exams that determine the gates through which the individual must pass and the type of curriculum imposed on him.

— EDUCATION COSTS. Expenditures on education are increasingly beyond the nation's ability to cope. This includes costs in terms of the proportion of government funds and costs in terms of unrest and social discontent.

The author agrees with Norman Miller's assessment of the situation as long as education is defined as traditionally cognitive in nature. Miller goes on to list three main factors that must change in order to reorient the purpose of education.

1. Government policy and assumptions on education
2. What happens in school
3. The amount of education given

The remainder of this article will attempt to outline the author's concept of a comprehensive and realistic program in agricultural education that will address the factors listed above, plus hopefully avoid the educational pitfalls outlined by Miller.

## BASIC ASSUMPTIONS FOR MODEL

The model for agricultural education suggested in this article is based upon the following six assumptions.

1. The educational problems and assumptions described by Miller are real, and exist to varying degrees in most developing countries. Host countries must recognize this and be receptive to the implementation of innovative programs that will attempt to reverse these trends.
2. The host government is truly interested in the project and willing to participate as a cooperative partner.
3. The minimum time required for the project is five years (but could be slightly longer depending upon the assessment phase).
4. Curriculum development for the intended level(s) should proceed simultaneously with a program in teacher education.
5. Any secondary or other level curriculum developed should be able to stand as a self-contained program. In other words, it should not be developed on the assumption that the students will have sufficient prerequisite academic background in any specific area.
6. The program will be built around what is available locally and within the capacity of the country to financially support it. U.S. funds should only be used to support Americans involved in the project and pay for participant training in this country.

## ASSESSMENT PHASE

The first step is to determine realistic broad goals and objectives for the project. As obvious as this seems, many U.S. funded projects have either overlooked this point or accepted totally unrealistic goals previously determined by the host government. For example, in many settings it would be entirely incorrect to assume that the U.S. model for vocational agriculture would be the best one for a particular less developed country.

If the contemplated program is directed at the secondary school level population, then a student selection process via examinations has probably already taken place. Everyone involved in agricultural education should thoroughly understand this process and realize its influence on the students they will be working with; and also the kind of student who has been left behind with his/her formal education terminated. In many countries it might make much more sense to adapt our concept of vocational agriculture training and education to those students who, for whatever reason, are not able to enter secondary school. For many children agriculture is something to escape from and each level of education is seen as one more step away from traditional village life.

Therefore, the difficulty with any truly vocational program is to convince the students of its intent and make them realize this is not an alternate route to formal secondary level education and the subsequent perceived benefits. This problem of instilled expectations is very strong and very real, and must be fully recognized by anyone planning and implementing a comprehensive program of agricultural education.

Since this assessment phase is so important, it should be conducted by a team of two or three American agricultural educators (with international experience) working with a similar team from the host country. This phase could take three to six months, depending upon the scope of the intended project, and a formal long-term contract should not be signed unless this is a "positive" assessment. Positive implies that the six assumptions above are met and the following model stands a realistic chance of implementation.

## FIRST YEAR

1. An experienced American educator works with two or more local educators in the selected teaching-learning setting to develop experimental curriculum. This could be a secondary school, primary school, or an out-of-school setting in a village.
2. The U.S. educator should actually teach a part of the day to become familiar with the prior learning experiences (both formal and informal) of the students. This is also the quickest way to learn about all aspects of the particular culture.
3. The U.S. educator should also be outlining a program in teacher education based upon observation and first-hand experience with his/her counterparts.
4. Any curriculum should also be based upon the education and experience of the local teachers. This could mean that each lesson will have to contain background material for the teachers to raise their level of self-confidence. If they're not comfortable with the resultant curriculum materials, they certainly will not use them.
5. Any curriculum developed should include as many incentives as possible for the students. The overall approach should be positive in nature and attempt to dispel any negative attitudes toward agriculture.

## SECOND YEAR

1. A second year or level of curriculum should be developed based upon where the students actually are in knowledge and ability and where the system should take them.
2. A formal program of teacher education, involving additional teachers, should be implemented using the curriculum developed the first year as a basis for instruction.
3. Local teachers and teacher educators should be identified and enrolled for participant education in the U.S.
4. Curriculum developed for the first level should be used with a new group of students and taught by a local teacher from the original group. Frequent reviews and discussion involving all participating educators will be necessary to revise and refine curriculum.

## THIRD YEAR

1. Curriculum development proceeds to a third level (if required) in the original teaching-learning setting.
2. Second level curriculum materials will be used with a new group of students and taught by a local teacher from the original group.
3. The program in teacher education should continue introducing the second level curriculum materials.
4. A second round of individuals selected for participant training should be enrolled in the appropriate program.

## FOURTH YEAR

1. Program should be implemented in additional settings by teachers enrolled in the teacher education program.
2. If the program is truly vocational in nature, three years of a structured program is probably enough and a formal evaluation phase should be initiated based upon a follow-up study of the "graduates." The main questions to answer are:
   1) Did the participants stay actively engaged in agriculture?
   2) Are they implementing the skills and knowledge acquired in the program?
3. The teacher education program should be continued and even expanded if necessary.
4. Review and revision of all curriculum materials developed to date should be continued.
5. Additional individuals should be selected and enrolled in participant education.

## FIFTH YEAR

1. Approach the fifth year as though it is definitely the final year of the project. Even if this is not the case and funding is assured for one or more years, productivity seems to increase with the pressure of pending termination.
2. All curriculum materials should be printed in an economical format acceptable to the local educators. This applies equally to the student level materials and the curriculum for a teacher education program.
3. Another emphasis should be on fine tuning the administrative support structure for both the school programs as well as the teacher education program. The real evaluation of any program is whether the program will continue to operate efficiently and effectively once the external influence is removed.

One final comment regarding the length of the involvement for any American educator: The minimum time should be one year and two years is preferred. However, the author believes that one year of in-country involvement can be effective provided there is at least a three-month overlap with the individual being replaced.

New educational endeavors in any country can be both frustrating and rewarding. Hopefully, with realistic planning and the involvement of sincere individuals, the rewards will outweigh the frustrations. ◆◆◆

[1]Film Essay for "Kenya Boran", part of the film series "Faces of Change" produced by The American Universities Field Staff, Dr. Norman Miller, Director/Producer.

# WORK EXPERIENCE IS TAKING ROOTS IN INDIA TOO!

*by*
*Dr. D. K. Garg*
*Chairman, Dept. of Agriculture*
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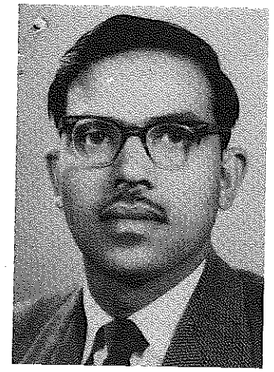


D. K. Garg

Since the achievement of independence in 1947, India has tried to change its educational system in order to meet the new challenges and needs of the society. Three Commissions on Education, the Radhakrishnan Commission on University Education in 1949, the Mudalliar Commission on School Education in 1952 and the Kothari Commission in 1964-66, have been appointed by the Government of India. The government has implemented most of the recommendations of these commissions.

Introduction of work experience in the schools up to the secondary stage is one of the important recommendations of the third commission. Efforts have been made and are being made to implement this recommendation also. In India, though work experience is supposed to be a term of recent origin, Mahatma Gandhi suggested a somewhat similar type of program in 1934 under the name of "Basic Education." Work experience in educational institutions is a method of integrating education with some productive work. In a broader sense, work experience may be defined as the participation of students in some productive work in school, college or university, in the home, in a workshop, in a factory, on a farm or in any other productive situation. In fact, work experience seeks to produce responsible citizens by inculcating in the student values such as cooperation, honesty, sincerity, confidence, leadership, dignity and love of labor.

In the present educational system in India, most of the students' time is spent on "literacy," i.e., on the study of languages, humanities and social sciences. Some time is given to numeracy also, i.e., to the study of mathematics and natural sciences. But the work experience has been almost totally absent till recently. It needs to be highlighted since it enables the students to acquire skills to do some productive work in addition to "literacy" and "numeracy." Thus the Kothari Commission on Education (1964-66) in its report has greatly emphasized the introduction of work experience as an integral part of education at all levels. The Commission stated that "Agriculture can be made an important part of work experience which we regard as one of the essential components of a national system of education. This can be made exciting and stimulating to the young mind and should not be meaningless drudgery in the name of agricultural training, especially in the earlier years, leading to a life-long aversion to agriculture as a way of life."

In many advanced countries of the world, work experience has become an integral part of education. In the United States of America, work experience has been adopted in the school curriculum and agriculture has proved to be a very important and interesting area.

## CONCEPT OF WORK EXPERIENCE

Work experience has tremendous educational as well as economic implications. Work experience is designed to produce active individuals who take initiative in shaping the society.

The learning of skills should not be mechanical. The pupil should understand the "how" and "why" of the operations he performs. He should develop the habits of muscle coordination and keen observation. He should also develop consciousness regarding the correct use of tools and the methodical handling of materials. Work experience should help to inculcate qualities and attitudes such as self-confidence, dignity of labor, interaction with environment, problem identification and problem-solving, persistence and perseverance, initiative and team spirit, etc.

Work experience should help the pupil to explore the world of work and discover his vocational aptitude under the guidance of his parents and teachers. It is, therefore, necessary that he should be provided with a variety of experiences based on the present and future occupational needs in the surrounding area. Work experience should be provided under real productive situations. Experience thus gained should help the students to enter into the world of work.

In brief, the main objective of introducing work experience in the educational system is "linking of education with work." Thus the purpose of "doing" as part of the learning experience, i.e., "learning by doing" has been closely associated with the introduction of the work experience program in India. It is like a slogan in the United States of America, "learn to do by doing," for vocational education.

In an agricultural country like India, work experience in agriculture should play an important role in increasing the agricultural production of the country. It may later help students in self-employment also.

## ORGANIZATION OF WORK EXPERIENCE

For effective education, the proper organization is very essential. Good organization creates background against which work can proceed. It enables the teachers to utilize the facilities for the development of pupils. It harmonizes and unifies the various components of the school.

*(Concluded on next page)*



The organization should be flexible and dynamic. It should be most economical to manage, and should be productive and fruitful. What is best for one community may not be the best for another. While all human and material resources should be reduced to the barest minimum, buildings and grounds, homes, farms and factories, equipment and tools, courses of studies, community needs and desires, pupils, teachers, parents should be integrated into the "whole." In brief, organization of work experience is an essential instrument of human welfare for social growth. Any good organization should consist of planning, staffing, directing, coordinating, controlling, reporting and budgeting.

The Kothari Commission on Education (1964-66) recommended the introduction of work experience in agriculture right from the primary level to the university stage. At the higher secondary level, science and social studies syllabi should contain elements of agricultural and rural problems. In the undergraduate and postgraduate courses, and in the teacher training program, universities should give prominence to an orientation to rural and agricultural problems.

Though the Kothari Commission (1964-66) recommended the introduction of work experience from the primary to the university stages, steps so far have been taken to introduce work experience only up to the secondary stage.

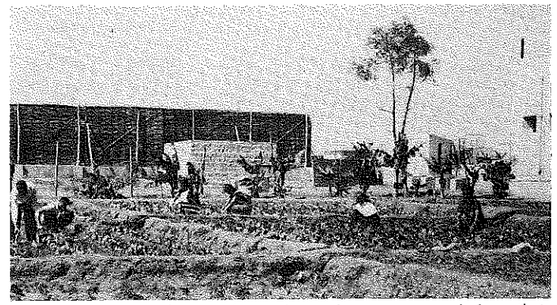
The working group on work experience (1966-67) formed by the Government of India agreed with the recommendations of the Education Commission that at the primary stage, work experience should take the form of simple hand work and the activities should be correlated with lessons in science, mathematics and other subjects. For the middle school stage, the group stressed that work experience should take the form of a project leading to (a) the acquisition of proper attitudes and (b) the production of useful articles. The group felt that work experience at the middle school stage should not aim at turning the pupil into a skilled worker. At the secondary stage, the group was of the view that the aim at this stage should be to impart one or two skills in a more intensive manner. The group emphasized that the work must be production oriented.

The level of maturity and individual interests and abilities determine the nature of work experience to be provided to the student at different levels as indicated below:

(a) At the lower classes of the primary schools, the children may develop an interest in growing plants and manipulating tools and materials of production. This experience may be gained at home, on the farm, in the production shops or in the schools under the supervision of the teacher. The parents can play a very important role in this program by cooperating with the schools by providing all the facilities required for these matters. They can also guide the children when they are working with them. Thus the children can develop an insight into agricultural processes and develop skills in using simple tools like khurpi, hoe, pegs, etc. This is a transitory stage from play to work.

(b) At the upper primary stage or the middle school stage, the students may be exposed to more tools, simple mechanical and electrical objects of daily use, materials and other aspects of production processes in the various fields.

(c) At the secondary stage, the aim should be to impart one or two skills in a more intensive manner. For this, the students could be introduced to project work. This will help them to do most of the activities independently and some of them in groups so that they may develop better insight into the process of planning and the decision-making aspects of what they are doing. They can also gain further experience by taking up "Home Projects" and by associating themselves with the nearby farms and factories. Such work experience will provide ample opportunities for understanding and appreciating the practical elements of science, agriculture, technology, the know-how of production and experience in the production processes.



Students in an agriculture work experience class remove weeds from their vegetable plots.

## AREAS OF WORK EXPERIENCE

Certain factors are considered while carrying on any work experience activity in the school. The factors are:

1. Nature of the activity.
2. Place or location of the school.
3. Facilities and resources available.
4. Number of pupils involved.
5. Sex of pupils.
6. Ability and integrity of the group.
7. Needs and cooperation of the community.

At the secondary stage, the following areas of work experience in agriculture have been introduced in various schools:

1. Crop Production
2. Fruit and Vegetable Production
3. Ornamental Gardening
4. Fruit and Vegetable Preservation
5. Fodder Production
6. Seed Production
7. Nursery Raising
8. Pot Culture and Kitchen Gardening
9. Poultry Production for Eggs and Meat
10. Goat and Sheep Rearing
11. Animal Rearing
12. Dairying, Including Preparation of Milk Products
13. Bee Keeping
14. Sericulture
15. Fisheries

In the last decade since the report of the Kothari Commission on Education (1964-66) came out, two types of work experience activities have emerged, namely (1) Learning by doing, and (2) Earn while you learn. In the first activity, development of skills in the students is the main objective, whereas in the second one, the objective is profit earning also. ◆◆◆

# A UNIQUE EDUCATIONAL EXPERIENCE

*by*
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*Vo. Ag. Instructor*
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Education — as many describe it, is the "sum total of all our experiences."

### TOURS

Serving our friends "there and here" through tours or actual on the job experiences in their country is not only an education, but also a matter of diplomacy, making new and lasting friendships, and then, in turn, using the knowledge gained in a practical way back home as much as possible. Each year groups of vocational agriculture students and a selected F.F.A. advisor are able to participate in a selected tour of foreign countries, studying the agriculture, culture and people of the countries visited. Through this method of education, current living education unfolds for each of the participants. However, this is a much too quick type of educational tour program to really learn and get to know the people or the country you have stopped in.

Escorting a tour group through Europe as a part of the "People to People" Cultural Exchange gives an insight into some quick problems one would encounter if he or she were to be a future Work Experience Abroad Program participant. Problems such as types and kinds of foods, beverages, currency, lodging, language barriers, clothing to wear, as well as many other factors, present themselves. The experience of overcoming these obstacles gives a real person to person approach in the educational process.

Thinking back over some years, it is amazing how quickly one could learn the correct currency and the rate of exchange, and how a pocket dictionary would always be most helpful. By friendly smiles and gestures, wants and needs were made known on a level we prefer to call true "People to People" diplomacy in operation. Other important factors that surfaced were the cultural aspects of food eaten, types of entertainment, and philosophy of life as evidenced by the working and playing together of those involved.

### WORK EXPERIENCE ABROAD

Perhaps the more effective method of international education that either American youth or foreign youth can participate in is the Future Farmers of America — Work Experience Abroad (F.F.A. - W.E.A.) Program as established by the National F.F.A. Association located in Alexandria, Virginia. For many, the F.F.A. - W.E.A. program means little or nothing until becoming involved either by having a young man or woman in your community for a designated period of time or by sending a local youth to a foreign country.

My first experience with the W.E.A. program was through a neighboring agriculture instructor who asked for help in locating a "host family" for a W.E.A. European participant. Obtaining the help of other agriculture instructors, the search began and a suitable host family was found.

Our first W.E.A. student was to arrive on June 2, so plans were made to journey to the airport and pick up the young man and take him to his host family.

From this point forward, seven years ago, this advisor has dealt with a dozen or more young men and women from foreign countries who arrived on the Work Experience Abroad Program. Also, two students from our chapter traveled to Europe under the F.F.A. - W.E.A. program.

From the time a student arrives until he leaves, the participant and host family learn from each other. Simple methods of how things are done, there or here, are learned as to family life, recreation, and sight-seeing while on the program. The host family has agreed in writing to provide room, board, and a salary as set forth by the national office guidelines. There is time allowed for travel to F.F.A. or other events which will help to give the exchange a better understanding of American culture.

If possible, a visit at least once a month is made to the host family and exchangee. This is important to give direction, suggestions, and advice in case of any misunderstanding on the part of the host family or the W.E.A. participant.

Once the language problems are ironed out and the participants can really express themselves, an educational exchange takes place which is fabulous for those concerned.

Mistaken ideas, false notions, ideas of wealth, and educational programs are compared. Types of farming, methods of operations, transportation, religious and moral values are presented. Through this medium of People to People exchanges, the F.F.A. - W.E.A. Program is democracy in action at its best.

The real educational exchange through this program allows participants to re-educate themselves, adjust their philosophies of life through the educational exchange of ideas, ways and thinking, and produce a more knowledgeable, useful citizen for both countries.

Education "There and Here" is a unique educational experience for those who accept the challenge to participate. ◆◆◆

**CONTINUED** *LAND LAB EXPERIENCES . . .*

secondary and university levels have not had practical farm experience. Is the day approaching when U.S. farmers will complain of agriculture teachers and extension agents who are unfamiliar with farm production skills and practices, who cannot diagnose farm problems or demonstrate new technology? Agricultural educators must recognize and respond to this challenge. In both Illinois and Sierra Leone, the land laboratory appears to be an effective means of providing practical training in production agriculture to students who cannot obtain these experiences in their home situations. ◆◆◆

1. Tucker, Sonny, B. E. Swanson and Paul E. Hemp, "A Survey of The Use of Land Laboratories and School Farms in The State of Illinois — A Preliminary Report," Agricultural Education Division, University of Illinois, 1977, 12 pages.

2. This approach will be described in a forthcoming article by Nelson I. Thorp and B. E. Swanson entitled: "Production Skills for Non-Farm Agriculture Students."



# Leader in Agricultural Education:

## GERALD H. MORRISON

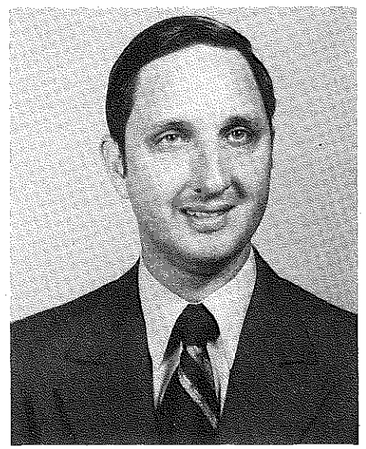
*by Herbert Schumann**

"If all leaders for vocational agriculture and the FFA in Texas were ranked, Mr. Morrison would certainly lead the list." This statement was recently made by a Collegiate FFA Officer at an Awards Banquet at which Professor Gerald Morrison was honored upon his retirement from Sam Houston State University (SHSU). Service to his fellow man has been foremost in Mr. Morrison's tenure as a vocational agriculture teacher and teacher trainer. He is recognized throughout the nation for his leadership and contributions to agricultural education, but many people whom he has influenced will remember most his high personal standards for moral conduct and ethical behavior.

The true value of a teacher is best measured by the behavioral changes that he effects in his students. Gerald Morrison has had a positive impact on countless students, not only in the classroom, but in all facets of their lives. The radiation of his warm personality and concern for others has been contagious to all those around him. He is known as an untiring taskmaster who first imposes the same standards on himself that he expects of others.

Mr. Morrison dedicated 42 years to agricultural education at various levels of leadership responsibility. During the time that he was a teacher trainer at Sam Houston State University, he taught more than 1500 student teachers, many of whom have assumed prominent leadership positions in agricultural education.

Gerald Morrison was born in a farm home June 23, 1906, the first of nine children. He attended rural elementary schools. Because of the lack of an accredited high school in his rural community, Gerald had to "board" with a family at a nearby larger town in order to complete a high school education. He attended Howard Payne College and began his professional career as a teacher and principal of rural schools. Mr. Morrison completed his B.S. degree in Agricultural Education from Sam Houston State University in 1931 and remained in college to obtain his "Smith-Hughes" certification in 1932. He obtained his first vocational agriculture teaching position in May, Texas. As a beginning vocational agriculture teacher he was required to tear down some of the existing school structures and build his own vocational agriculture facility.



**Herbert Schumann*
*Professor and Chairman*
*Vocational Education Department*
*Sam Houston State University*
*Huntsville, TX*

In 1937, Gerald accepted a vocational agriculture teaching position at Madisonville, Texas, where he supervised the local canning plant and food production projects at the beginning of World War II. He served in this capacity until the fall of 1942 when he became a teacher trainer at Sam Houston State University. During the remainder of World War II, Mr. Morrison served as an itinerant teacher trainer and traveled throughout the state of Texas, assisting non-certified teachers to develop professional teaching competencies.

For many years the name of Gerald Morrison was synonymous with the State FFA Leadership Contest in Texas. As a student at SHSU, he was chairman of the student committee which established this contest. In his vocational agriculture classes and also as a teacher trainer, Gerald emphasized that leadership development was of the highest priority. He was also chairman for the State Public Speaking Contest, and several area FFA judging contests for a number of years.

In addition to his academic preparation at Sam Houston State University, Mr. Morrison also studied at West Texas State University, Sul Ross University, University of Texas, University of Houston and Texas A & M University where he received the Master of Education degree in 1941.

Professor Morrison has been the recipient of numerous local, state and national awards. He received the Honorary American Farmer Degree and the Southern Regional Distinguished Service Award from the NVATA. He was honored three times for Distinguished Service from the Vocational Agriculture Teachers Association of Texas. He was recognized as the Outstanding Teacher Trainer in the State of Texas and received a Special Service Award for outstanding service from the State FFA Association.

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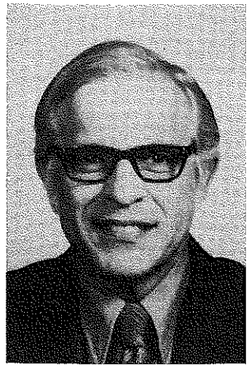
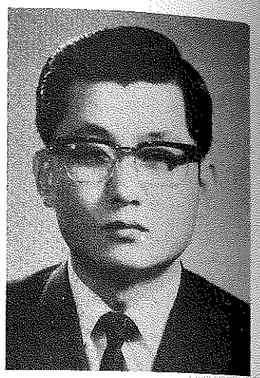
# THE APPLE TREE CURRICULUM APPROACH IN KOREA



Lloyd J. Phipps

*by*
*Mu Keun Lee*
*Asst. Prof., Ag. Ed.*
*Seoul University, Korea*
*and*
*Lloyd J. Phipps*
*Professor, Ag. Ed.*
*University of Illinois*



Mu Keun Lee

## BACKGROUND

Since the first systematic Agri-Trade-Industrial High School was established in 1904 and the first Agriculture and Forestry High School in 1906, agricultural education in Korea may be classified chronologically into three phases. The first stage (1904-1945) was the period under the Japanese control. The second stage (1946-1962) was promulgated by the Law of Education in 1949 and the first curriculum regulation for agricultural education in 1955. The third stage (1963-to date), a developmental stage, resulted in the establishment of the Department of Agricultural Education at Seoul National University, the revision of the curriculum regulation, the development of the educational objectives for agricultural high schools in 1963, the implementation of national skill contests in 1966, the third revision of curriculum regulation in 1971, the organization of Future Farmers of Korea and the provision for the cooperative vocational education program in 1972.

Educational objectives of agricultural high schools which were specified in the second curriculum regulation in 1963, were (1) to educate prospective and present farmers and (2) to develop leadership to contribute to rural community development. The objective, to educate individuals who were planning to engage in agri-business, was added in 1971.

To achieve these educational objectives, agricultural high schools established such departments as agronomy, forestry, livestock management, agricultural mechanics, agricultural civil engineering, agricultural products, horticulture, agricultural cooperatives, sericulture, agricultural extension, and agricultural home economics. Depending on the local situation and program needs, at present there are four to six departments and ten to twelve occupational agriculture teachers at each agricultural high school. The curriculum for each department involves 30 to 50 percent of the student's time in general education and 50 to 70 percent of their time in the study of agriculture. By the Law of Education, thirteen model agricultural high schools, in 1972, out of 115 agricultural high schools were required to provide 30 percent general education and 70 percent agricultural education.

## APPLE TREE CURRICULUM APPROACH

The educational objectives of agricultural high schools in The Republic of Korea may be divided into two categories: (1) to develop effective citizens for society and (2) to develop effective citizens for the world of work. To become productive citizens in society, students should develop abilities and understandings in such fields as health, emotional life, mental functions, values, and social life. In becoming citizens in the world of work, students need to develop abilities to engage in applied biological and agricultural occupations.

The curriculum in Korea is considered to have a system and subsystems of elements much like that of an apple tree (model 1). The relationships of all elements and subsystems to the overall curriculum system are both contributory and critical. The root system of an apple tree may be compared to the agricultural education curriculum objectives related to the development of citizens in the society (general education). The portion of the tree above the ground may be compared to the objectives to develop citizens for the world of work (occupational agriculture education). The trunk may be compared to the common abilities which are needed for all agricultural occupations. The limbs may be compared to the common abilities which are needed for each agricultural occupational cluster: agricultural production, agricultural supply and service, agricultural mechanics, agricultural products, forestry, ornamental horticulture, and natural resources. The branches may be compared to the abilities needed for each agricultural occupation. The twigs may be compared to the abilities needed for each occupational task. The fruit may be compared to the entering level competencies needed for each agricultural occupation.

If the apple tree model is used to illustrate career education, some parts of the root system and some parts of the trunk may be compared to career exploration. Some parts of the trunk, limbs, branches, twigs, stems, and buds may be compared to career preparation.

A combination of the subject matter approach and the integrated curriculum development approach is used in the development of the curriculums in the agricultural high

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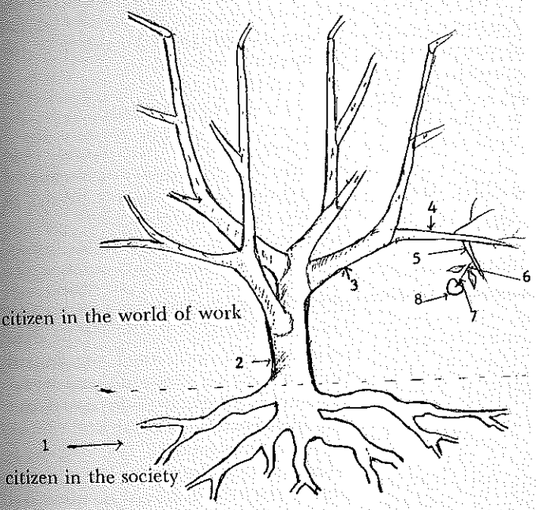
CONTINUED ## THE APPLE TREE . . .

schools in Korea. According to the apple tree curriculum illustration, the present curriculum approach in agricultural education in Korea, and other curriculum approaches such as occupational analysis, job analysis, task analysis, occupational clusters approach, and functional approach will fulfill only a certain portion of the total educational objectives of the agricultural high schools. In the case of the task analysis approach, skills and knowledge learned this year may not be adequate for jobs of the future because knowledge and skills needed for jobs are changing very rapidly. Although new knowledge and skills may be supplied through in-service education, it will be very difficult to learn up-to-date knowledge and skills without a strong background in general education. In other words, there would be a lack of background understanding necessary for the transfer of learning. This kind of situation may be compared to that of an apple tree. Even though the apple tree bears a lot of fruit, if the trunk and root system are weak, the fruit will fall or the branches will wither before harvesting. When the apple tree needs fertilizer, we usually apply the necessary fertilizers so that the root system will be able to absorb the nutrients needed to nourish the buds. In this situation, new stems and buds of the apple tree may be compared to the new knowledge and skills needed by changing job situations. Fertilizers may be compared to in-service education. When we think of the process of photosynthesis, the root system, leaves, and air work together to make carbohydrate in an apple tree. Similarly, some part of general education and some parts of vocational education must be combined to maximize certain knowledge and skills. Therefore, there are close relationships between general and vocational education.

Model I. Relationship Between an Apple Tree and Agricultural Education Objectives




1. Roots: Citizens in the society (general education)
2. - 8: Citizens in the world of work (occupational agriculture education)
2. Trunk: Common abilities needed for all agricultural occupations
3. Limb: Common abilities needed for each occupational cluster
4. Branch: Common abilities needed for each agricultural occupation
5. Twig: Common abilities needed for each agricultural job
6. Stem
7. Bud : Abilities needed for each task
8. Fruit: Entering level competencies for each occupation

## CONCLUSION

When the apple tree curriculum approach is used, the following outcomes will result:

1. There will be a close relationship between general education and occupational agriculture education.
2. Transfer of learning will be maximized through emphasis on the structures of knowledge.
3. Curriculum approaches—subject matter, job analysis, and functional approaches—may be combined.

If the apple tree curriculum development approach is used, the abilities that will be equivalent to each part of the apple tree should be identified and new curriculum material should be developed to achieve these abilities. General education should be emphasized as well as vocational education or occupational education at the agricultural high schools in Korea. Therefore, the ratio of general education to agricultural education, 30 percent general education and 70 percent agricultural education, should be reconsidered. The departmental system used in agricultural high schools, starting at the beginning of tenth grade, should also be reconsidered. On entering the agricultural high school, without any agricultural experience, tenth grade students are often too immature to choose their specific agricultural occupations or their major fields. Finally the teachers who are teaching academic courses should be certain that the content of their academic courses are closely related to the vocational education in agriculture which is being provided. Vocational teachers should also understand the importance of academic courses not only for developing citizens in society but also as a part of the preparation for the world of work ◆◆◆

CONTINUED ## SUBSISTENCE TECHNOLOGY . . .

eighteen months. Individuals will be placed in teams consisting of four to five persons per team. Although all participants will receive the same training education, individuals will be encouraged to develop strengths and proficiencies in an area of their choice, i.e., social or cultural science, nutrition, technological skills, farming, etc. Teams will be selected by placing individuals with varied competencies and skills on each team. Each team will function as a unit and work in a community in a rural area of a LDC.

Implementation of this program in rural areas of LDC's will make a long-lasting contribution to family farmers in these areas. Expectations of the program are realistic and get to the heart of the problem through education and demonstration. With such a program, rural farmers will be better able to evaluate the resources they have and learn how to organize social systems that will increase their standard of living using those resources. ◆◆◆

# DUAL DEGREE—A NEW CONCEPT FOR "THIRD WORLD" DEVELOPMENT

*by*
*Dwight Wiebe*
*Kansas State University*
*Manhattan, KS*

In January, 1976, the need for a new cooperative educational program between interested Kansas private liberal arts colleges and Kansas State University, College of Agriculture, began to emerge. This need awareness grew out of a common concern for hungry people facing malnutrition and starvation around the world. Lack of available finances to feed the world and inadequate logistics ruled out most other alternative solutions.

**Emergency Relief was seen as an essential short term answer but self-help education was generally accepted as the most realistic long range solution.**

## BACKGROUND

Through research and analysis, it became apparent that the private liberal arts colleges in Kansas were doing an excellent job of educating their students in the liberal arts, including a sensitive world view of mankind. At the same time, the tax supported land-grant university was providing high quality competency based occupationally oriented education leading to a Bachelor of Science degree for its students.

Out of many discussions between representatives of the Kansas private colleges and Kansas State University emerged the possibility of combining the best of these two worlds in order to help the 'Third World.' This meant bringing together the 'world view' of the liberal arts colleges and the occupational competencies of the land-grant university. This untried possibility laid the foundation for the first cooperative Dual-Degree Program of its kind in America after more than 100 years of co-existence between the two educational systems.

## THE GERM OF THE IDEA

A request from Iran to Kansas State University Associate Professor, Dr. James Albracht, for a Vocational Agriculture Education curriculum was assigned to graduate student Dwight Wiebe for exploration and development. Mr. Wiebe's overseas administrative experience suggested that the most effective curriculum would maximize the educational possibility of the foreign institution and minimize the time span at the U.S. land-grant university. This principle resulted in a model curriculum that combined three years of liberal arts education in an overseas institution and one year plus a summer school at the land-grant university which could lead to a Bachelor of Science at K.S.U. or a Bachelor of Arts degree at the overseas institution.

## GERMINATION OF THE IDEA

Dr. Albracht shared this curriculum model for Vocational Agriculture Education with Dean Carroll Hess, College of Agriculture, who recognized in it the potential for educating a 'new breed' of 'Third World' volunteers by applying this concept of a cooperative Agriculture Education program to Kansas.

Under the direction of Dean Hess, meetings were held in the spring and summer of 1976 with 15 of the 16 Kansas private colleges participating. All agreed that it would be desirable for Kansas State University to pursue the development of a Dual-Degree Program. After receiving written requests for participation from 9 of the 16 private colleges in Kansas, Dean Hess, KSU, College of Agriculture, submitted a proposal to the Kansas Board of Regents for a Cooperative Dual-Degree Program in Agriculture which was approved in January, 1977. The fact that there were many domestic employment opportunities for these potential Dual-Degree graduates added merit and urgency to the development of the Dual-Degree Program.

## THE BASIC PRINCIPLE

The basic innovative principle behind the development of the cooperative Dual-Degree program was the commitment to encourage the private liberal arts colleges to teach the maximum number of required and elective courses that make up the curriculum of any cooperative program. These courses taught in the liberal arts colleges are individually evaluated for content plus the educational qualifications of the instructor before approving them for transfer credit to Kansas State University. The primary advantage of this procedure is the fact that the student knows prior to taking the course whether or not the credit hours will transfer to KSU. Those courses not offered or approved for transfer at the private colleges must be taken at the land-grant university.

## DEVELOPMENT

Because of the 'Third World' need and the domestic need for vocational agriculture teachers, it was agreed to develop this curriculum model for the first cooperative program. This proved to be a very appropriate decision because most of the private liberal arts colleges were involved in a state approved Secondary Teacher Education program and understood the importance of meeting state requirements for Vocational certification. It also meant that many of their liberal arts courses required for Secondary Teaching certification would also meet the state's requirements for Vocational certification.

Due to the fact that 5 Kansas liberal arts colleges had already requested a similar Dual-Degree Cooperative Program in Home Economics, a model curriculum in Home Economics Education, which mirrored the Vocational Agriculture Curriculum was developed for consideration and approval.

Students wishing to specialize in any one of the other 21 options in the College of Agriculture or 18 options in Home Economics could do so by meeting the curriculum requirements of their chosen option.

Students return to their private colleges for the last semester of the senior year in order to complete the liberal arts requirements for a Bachelor of Arts degree. Twelve hours of intersession courses are not included in this cooperative program curriculum in order to allow the liberal arts colleges ample time to meet their independent hourly requirements for graduation.

*(Concluded on page 215)*



CONTINUED *DUAL DEGREE . . .*

## ADVANTAGES

Why is the program feasible and desirable from the institutional point of view? *First,* it requires no new courses or faculty at either institution. *Second* it encourages each institution to focus on their course specialties. *Third,* it provides the private colleges with a plan for offering additional curriculum majors without added expense. *Fourth,* it builds a bridge of relationship with the students and Kansas State University for future graduate study. *Fifth,* it opens the door to many more cooperative curriculum programs, such as: Adult Education, Computer Science, etc. *Sixth,* it provides the much needed applied sciences curriculums for many liberal arts colleges interested in preparing graduates for international 'Third World' service. *Seventh,* it enhances the mission of the Kansas State Board of Regents by offering on a cooperative basis tax supported education in non-duplicating areas to approximately 10,000 students attending private colleges in Kansas.

The crisis oriented society in which we live today forces every educator and student to reassess their responsibility and opportunity to contribute to the solution instead of the cause of the problem. The sensitive leaders of tomorrow must learn the required educational tools today. World Hunger, Population Stabilization, Energy Conservation, Balanced Economics, etc., are a few of the urgent obvious issues crying for answers in the next two decades. Escalation of education costs, together with projected drops in college and university enrollments, reinforce the need for cooperation instead of competition in higher education. Combining commitment with competency through the Dual-Degree program may in fact provide an educational experience that will result in a 'new breed' of graduates eager and prepared to respond to the call for educators in the troubled spots of the world at home as well as abroad. ◆◆◆

CONTINUED *LEADER . . .*

He is the recipient of numerous Chapter Farmer Degrees.

Mr. Morrison's family life is a reflection of his personal and professional philosophy. He and his wife, Estelle, were blessed with three fine children who were reared in a Christian atmosphere.

Mr. Morrison has led a vigorous life since his retirement in 1974. Although he has officially retired from the SHSU Agricultural Education Department, Mr. Morrison has continued to assist with departmental responsibilities such as leadership contests, judging contests and in-service programs for vocational agriculture. He has been quite active in church and civic activities, having served as President of the local Chamber of Commerce, and as a Sunday School teacher for many years. He has served actively as an ordained deacon in the local Baptist church. Gerald has been on numerous church committees and has found little time for his hobbies of fishing and squirrel hunting since his retirement. Other recent retirees will appreciate a remark made by one of his fellow church members regarding who should do some of the church tasks — "Let Gerald do it; he's retired now!" ◆◆◆

CONTINUED *PROBLEM SOLVING . . .*

6. Be a problem solver — not a problem creator. If you fail in one endeavor, don't pass the buck, complain or quit. Start working on the ten or twenty other problems that are awaiting your attention.

7. When a farmer asks you a question, don't be afraid to say, "I don't know." Then say, "I'll do my best to find the answer for you." Don't be satisfied until you find the answer for him. You should be very grateful that the farmer asked you a question you couldn't answer because now both you and the farmer have learned something new.

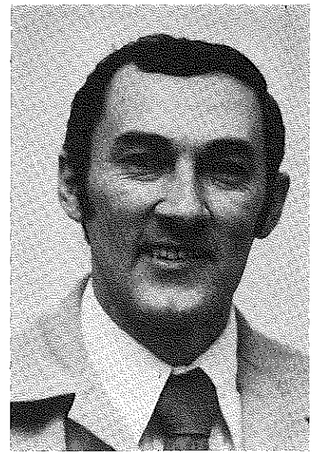
8. Work hard and don't give up. Thomas Edison said that success is 98% perspiration and 2% inspiration.

9. Share your ideas and discoveries with other faculty members. An unknown poet has written —

"It is only as you give do you have
It is only as you share do you possess
And it's only when you put more into
life than you expect to get out of it
That you really start living."

It has been said that Brazil is a "sleeping giant." Fertilizer use is increasing at the rate of two- or three-fold a year. Oxen are being replaced by tractors and farm machinery is replacing the "man with the hoe." No longer can we call Brazil a "sleeping giant." A better description would be a "Youthful Giant" with an increasing agricultural production that will be an important factor in eliminating hunger in the world. ◆◆◆

# NEW REGIONAL EDITOR "WELCOME"



Marvin Cepica

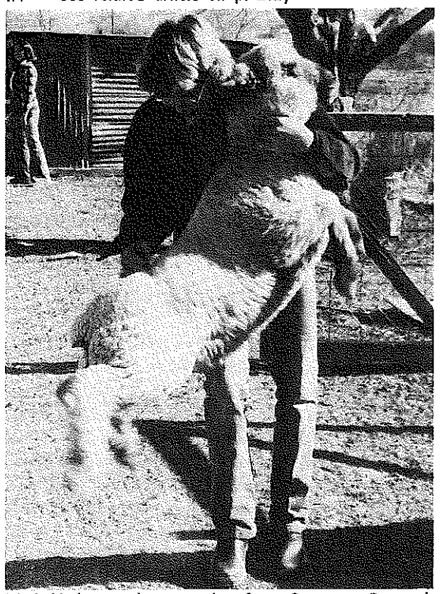
The new regional editor for the state of Texas is Marvin J. Cepica, of the Department of Agricultural Engineering and Technology at Texas Tech University. Cepica holds the B.S. Degree and M.S. Degree from Texas Tech University and an Ed.D. Degree from Oklahoma State University. He taught vocational agriculture in Texas for eight years. We welcome Marvin to the *Agricultural Education Magazine* editorial family.

Marvin replaces Herb Schumann of Sam Houston State University. We would like to say a "well done!" to Herb for a very outstanding job as regional editor and wish him well in his new position as department chairman. — Ed.

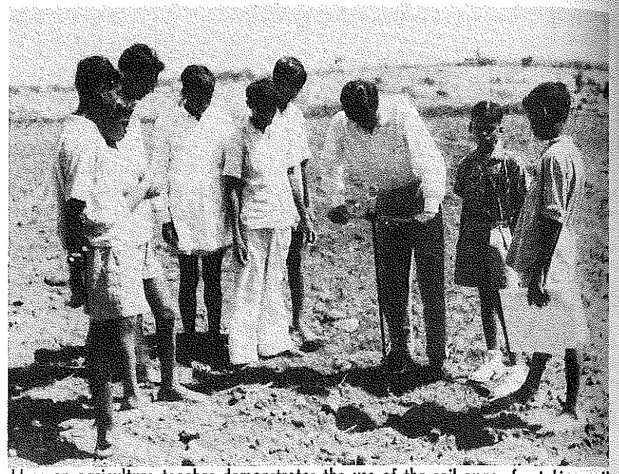
# STORIES IN PICTURES

by Paul W. Newlin

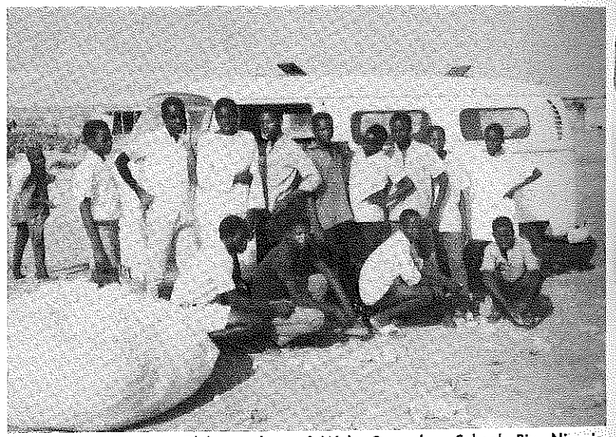
Sajo Balami waters his dry-season garden as a part of his agricultural experience at Waka Teacher's College, Biu Nigeria. (Photo courtesy Robert A. Martin, Bremen, IN — See related article on p. 202)



Mads Nielsen, exchange student from Svenstrup, Denmark exercises his medium wool lamb at the Ysleta FFA School Farm at El Paso, TX. He is the first foreign exchange student member of the chapter. (Photo courtesy Steve Forsythe, Ysleta H.S. — See related article on p. 197)

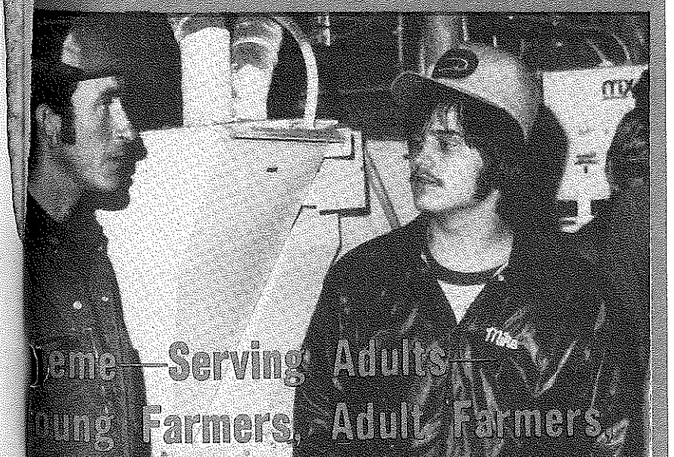


Here an agriculture teacher demonstrates the use of the soil auger for taking soil samples in a work experience class in India. (Photo courtesy D. K. Garg, Regional College of Education, Ajmer, India — See related story on page 208)



These Young Farmer's Club members of Waka Secondary School, Biu, Nigeria, prepare to deliver their cotton crop to the market. (Photo courtesy Robert A. Martin, Bremen, IN — See related article on p. 202)

Young men and women in Kenya, East Africa, preparing experimental trial plots as part of their teacher preparation. Learning by doing experience is perpetuated when they become teachers in the rural schools of Kenya. (Photo courtesy Lee D. Sandager, Forest Lake, MN — See related article p. 200)

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