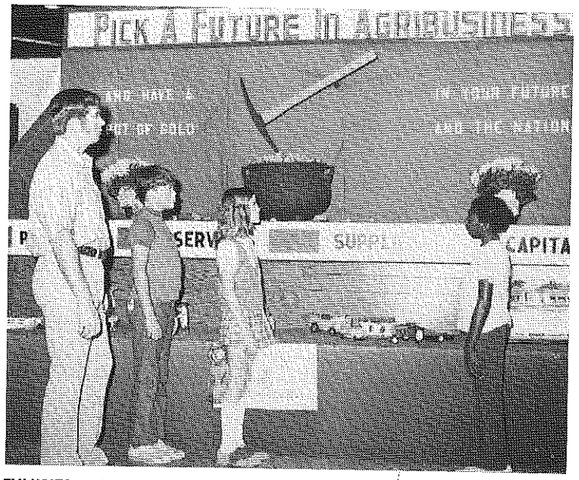
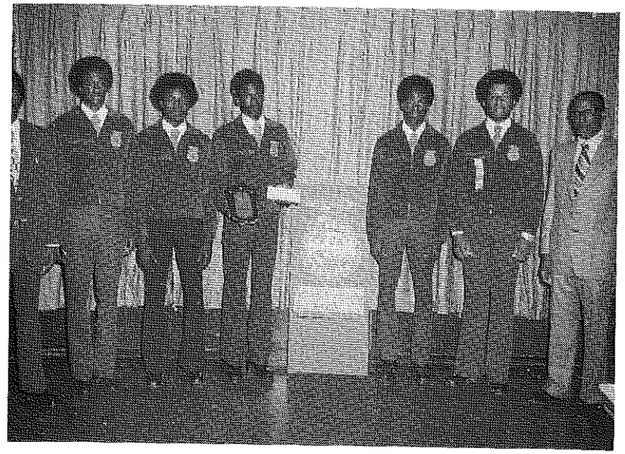
STORIES IN PICTURES

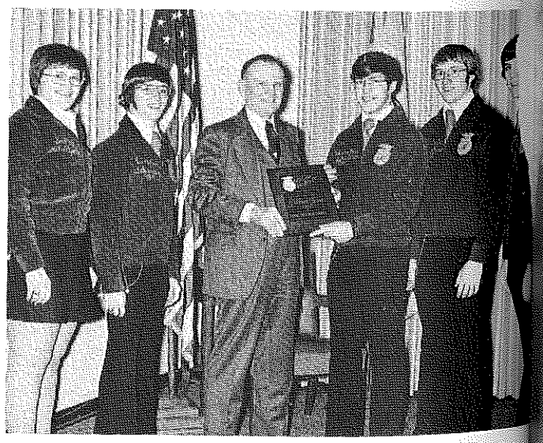


EXHIBITS ACQUAINT CHILDREN WITH CAREER OPPORTUNITIES — Don Bristow, agribusiness education teacher at McAdory, Alabama, is shown discussing an exhibit at the Birmingham State Fair with elementary grade pupils. (Photo from Cecil Gant, Auburn, Alabama)

AMERICAN FARMER DEGREE CANDIDATES — Ralph Bender, Chairman of the Agricultural Education Department at The Ohio State University, is shown congratulating six Agricultural Education majors who have been declared candidates for the American Farmer Degree by the Ohio FFA Association. They are Ken Bingle, Arthur Arnold, Dan Wagner, Dale Scheiderer, Doug Loudenslager, and Rick Fruth. (Photo from Larry Erpelding, The Ohio State University)



STATE PARLIAMENTARY PROCEDURE CHAMPIONS — The Hinds County (Mississippi) Agricultural High School FFA Chapter had the first place team in the State Parliamentary Procedure Contest. Shown with the team are advisors Albert Cole, left, and J. W. Owens, right. (Photo from Albert Cole and J. W. Owens, Utica, Mississippi)



DISTINGUISHED SERVICE AWARD — South Dakota State University President H. M. Briggs is shown receiving a Distinguished Service Award from the State FFA Officers in South Dakota. Briggs retired July 1, 1975, and is well known for his contributions to the FFA. (Photo from South Dakota State University)

Theme—INTERNATIONAL EDUCATION

015282 1275
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October 1975

EDPRESS

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TABLE OF CONTENTS

THEME — INTERNATIONAL AGRICULTURAL EDUCATION

The cover was submitted by Richard F. Welton, Assistant Professor of Agricultural Education at Southern Illinois University, shows two photographs superimposed over an outline of South America. The lower left photo represents the agricultural high school in Brazil. The other photo represents a group of Brazilian agriculture teachers involved in planning programs of instruction.

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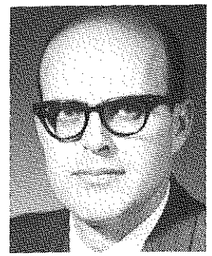

Martin B. McMillion

FROM YOUR EDITOR

Agricultural Development

Education in agriculture is but one of the concomitants of agricultural development. Although education in agriculture is the primary means of fostering agricultural development by our profession and is extremely important, it alone cannot cause development in agriculture in the local school districts of the United States of America or in the countries of the world, regardless of their present level of development.

Agricultural research is essential to education in agriculture. That fact became obvious at our land-grant colleges shortly after their establishment. Provision for experiment stations as a part of the land-grant colleges was the result of recognition that without useful and valid information to teach, efforts in education for agricultural development would be severely restricted.

Members of our profession need to be change agents who consider the importance of incentive, capital, labor, mechanization, markets, transportation, climate, land, land ownership, customs, government and its agricultural policies, schools, and non-school institutions in attempting to bring about agricultural development. Without a knowledge of all the factors which can affect agricultural development, the agricultural educator cannot have the desired impact upon agricultural development.

Education for human development is not as related to education for agricultural development as the vocational agriculture teachers and teacher educators in the United States apparently believe. Actually, many purely people development programs exist in vocational agriculture in which the impact of the student on agricultural development will be nearly nil. Education for human development has become almost sufficient reason for agricultural education in wealthy countries. Such extravagance in programs of agricultural education, and especially at the secondary level, cannot be afforded in poorer countries. Development of the individual is important, but the likelihood of that individual contributing to agriculture development must be given at least equal priority by teachers of agriculture.

Policies and customs which affect land use also affect agricultural productivity. Who owns the land? Is it large landholders, the government or the tribe? A common problem in African countries such as Rhodesia and Zambia is that grazing land is held by the tribe and livestock owners care little about trying to improve or maintain productivity of the land. Also, it is not possible to make use of any improved bull when scrub bulls are all over the range. A change agent in this setting has more to do than teach good agricultural practices.

Another land related problem results from the division of land among the sons, generation after generation, until the land parcels are too small to farm.

Agricultural development is impeded by lack of incentive or motivation. The lack of incentive might be because the landlord, either a large private landowner or the state, rewards the worker insufficiently for his efforts. The same killing of incentive can come from excessive taxes levied against producers having their own means of production.

In areas where agriculture and the economy are least developed, the wants of people are also less developed. People who are unfamiliar with the benefits of a radio or a bicycle must know about them and see their benefits before they can see a need to work for one. The farmer who has plenty of food, good shelter, family and friends with whom he has a good time, and safety from enemies feels he does not need much else. Really, except for the addition of medical attention, it is difficult to disagree with him. The desire for transistor radios, bicycles, motor bikes, or other goods is required to obtain more production. The transistor radio is usually the first item used as the incentive because it can be used for communication, to facilitate education, and to promote an outside group and its beliefs. Very little if any technical assistance has been given without ulterior motives — not even that of the missionaries.

Not until agricultural development monies were pooled through the United Nations agencies — FAO, ILO and UNESCO — and the World Bank (International Bank for Reconstruction and Development) were the selfish interests of nations played down. Multilaterial financing reduced the suspicion of those being helped about ulterior motives. Accusations of colonialism, trying to win political friends and allies, or fronting for secret activities are less pronounced under multilaterial financing of programs. Multinational staffing of technical assistance programs further reduces suspicions.

When nationals from several countries work for the same agency, compromises in every facet of the program must be made. A Smith-Hughes vocational agriculture teacher and a former agricultural officer back from the colonies, for example, will have some heated discussions, but I feel multinational staffing brings more relevance. Host country counterparts of the technical assistants are extremely important in the staffing of projects. When the technical assistants return home, it is important that the host country counterparts can continue the agricultural development activities.

(Concluded on next page)

Transportation is necessary to get extra produce to where it will be purchased and to get the bikes and radios, and hopefully some fertilizer and seed, to the agricultural producer. The solution to a transportation problem might require something as extensive as the construction of a modern highway into the interior of the country by another nation or something as simple as arranging ship service for an island. The change agent cannot ignore a lack of transportation.

Agricultural labor is plentiful in underdeveloped countries but capital and credit are scarce. Technical assistants often fail to recognize this fact at first and place too much emphasis upon mechanization. That corn can be planted and harvested with stumps and logs in the field more economically because of the low cost of labor and the high cost of land clearing machinery and agricultural machinery is surprising to vocational agriculture personnel and others in the United States.

A study of the economic aspects of problems is important before making recommendations. Recommended practices from Iowa State, for example, probably will not work in the new situation. If inorganic fertilizer costs more than the increased production which is expected, it cannot be recommended for use. The good change agent, however, would search for a source of less expensive fertilizer.

The U.S. vocational agriculture teacher would think he certainly would be safe in recommending prevention of erosion, but volcanic soil can be the same for hundreds of feet deep, and if some of the soil does not wash away the nutrients soon become too deep for the roots to reach them.

Summary

Agricultural development depends upon several factors, all of which the agricultural educator or change agent must consider and, where possible, improve. Among the factors influencing agricultural development are: 1) agricultural research, 2) agricultural education, 3) land, 4) land ownership, 5) capital and credit, 6) labor, 7) transportation, 8) markets, 9) mechanization, 10) government and its policies for agriculture, 11) climate, and 12) customs of the people.

A narrow approach to agricultural development through courses in agriculture is inadequate to promote change. Change agents must consider the wide range of factors which influence agricultural development.

The choice between placing primary consideration on agricultural development or human development is clear when one realizes that failure of agricultural development will result in human starvation in many of the less developed areas of the world. Agricultural and economic development will pave the way for greater attention to human development.

Even in the rich and developed countries, education in agriculture must help the industry of agriculture as well as develop the people. —MBM

COOPERATIVE MONTH: OCTOBER 1975

COMING ISSUES COMING ISSUES COMING ISSUES

COMING ISSUES

NOVEMBER — Cooperative Education in Agriculture

DECEMBER — Agricultural Mechanics

JANUARY — Two-Year Post Secondary Programs in Agriculture

FEBRUARY — Education in Agriculture — Our Past and Our Future

MARCH — Programs in Agricultural Supply and Service

APRIL — Career Exploration

MAY — In-Service Education for Agriculture Instructors

JUNE — The Summer Program

COMING ISSUES

Agricultural Education in Developing Countries

William I. Lindley
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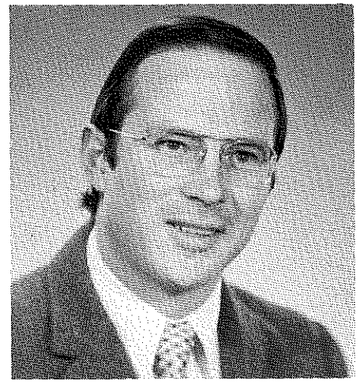
Agricultural Education Adviser
Technical and Vocational Division
Ministry of Education
Malaysia



William I. Lindley

In any country, people are the most important resource. The importance of education for social and economic development everywhere in the world cannot be over emphasized. The late Secretary General of the United Nations, Dag Hammarskjold, once declared:

> "Great economic development programmes have been planned which are held back more by lack of men to direct them than by lack of capital. Great national programmes of social welfare are failing to move forward, primarily for lack of experienced officials to undertake the manifold administrative tasks which these programmes entail. Fundamentally, man is the key to our problems, not money. Funds are valuable only when used by trained, experienced and devoted men and women. Such people, on the other hand, can work miracles even with small resources and draw wealth out of barren land."

It is generally recognized that there is a direct relationship between the level of education and the degree of development found within any country. Assistance programs directed toward the agricultural sector must be concerned, either directly or indirectly with the education.

International Assistance in Agricultural Education

It is not sufficient for international aid programs in agricultural education to be concerned with any one level of education in a developing country.

Primary and secondary school agricultural programs must be supported by teacher training colleges. College lecturers need university training, and the university must rest firmly on a foundation of well educated manpower aided by solid research and teaching programs.

Of all aspects of agricultural education and training, the teacher is the most important. Without good teachers, competent in their work and possessing the qualities which enable them to inspire those they teach, the system as a whole cannot function effectively. Teacher training should not necessarily be confined to technical agricultural subjects and methodology. It is also essential to include training in the techniques of communication and in the human and social aspects of the cultural environment. In supporting the work of teachers, increased attention needs to be placed upon in-service educational facilities, textbooks and teaching materials. This is an area which invites interagency cooperation and partnership.

Too often agricultural education is viewed from a perspective which is narrow and short sighted. This myopic point of view leads to frustration and small programs not integrated into an overall plan of action.

Determining the Need

Assistance programs in agricultural education should be formulated by individuals who have an intimate knowledge of both the country and the subject matter. This is a difficult combination to find in many developing countries and often times consultants must be called in to help define the problem and to write a project document outlining a course of action.

Even the best consultant is confined within the boundaries of what he knows about the situation. The program developed by a consultant may look ideal and yet be tailored for only a small part of what should have been a comprehensive approach to a country's needs. Any project, no matter how small, should be designed in such a way that it can be amended and changed to meet current needs.

A Development Plan

A development plan is a necessity if a course of action is to proceed on a sustained basis. Clear cut objectives must be stated so that all levels of administration understand the purpose of a particular project. As Professor W. E. Drake at Cornell University would say, "If you're not sure where you're going, you're liable to end up some place else — and not even know it."

Agricultural educators are in the unique position of being able to combine the fight against illiteracy and poverty with the struggle to feed an ever increasing world population. It is a challenging role. If we do our job well, much can be done to improve the current situation in a shrinking world where countries tend to be more and more dependent upon each other.

In his book *Beyond Good Intentions,* Edgar Stoesz[2] reminds us that rich nations do not have all the answers for less developed countries. Developing countries respect the contribution which can come from the more wealthy nations, but at the same time they have come to realize that rich-nation solutions do not necessarily match Third World problems.

If there is ever a time for common sense to prevail it is when international cooperation is at stake.

Organization is the essential ingredient for any successful undertaking. A good teacher is organized and appears to do his job with ease. A good assistance program must also be well or-

(Concluded on page 86)

VOCATIONAL AGRICULTURE IN PONAPE

Ruben S. Dayrit
Vocational Agriculture Specialist
Ponape District, Eastern Caroline Islands
Trust Territory of the Pacific Islands

Ruben S. Dayrit

In line with the recommendation from the Trust Territory Education Department and Ponape District Curriculum Council to make the educational system more meaningful, relevant, and responsive to the needs of Micronesians, Ponape District has formally included vocational agriculture as a separate and required subject in the public schools. The general objectives of agriculture education in both the elementary and secondary schools in Ponape District are to develop interest in agriculture among students and to provide practical and technical skills in growing crops and raising domestic animals.

Sensing the need to facilitate accomplishments in agriculture, the Vocational Agriculture Department in the Ponape District Department of Education is conducting efforts to improve skills in both subsistence farming and raising of domestic animals for both home consumption and local markets. The students are being taught to grow crops which their families might grow to improve their diet and to learn about modern agricultural techniques which particularly apply to their situation.

In a developing young nation such as Micronesia, whose imports far exceed exports, and where self-reliance is considerably inadequate, it is vital that the students should be encouraged to grow and eat more vegetables, to appreciate and respect farming as a way of life, and to begin small family gardens at their homes while they are still in school. These objectives can be brought to a successful conclusion if the students are trained to understand the use of farm tools, how to operate and maintain equipment, and to help in "nation building" by developing both human and natural resources in their environment.

The vocational agriculture program in Ponape District is made up of two separate but closely related divisions: Vocational Agriculture in the Elementary Schools and Vocational Agriculture at Ponape Islands Central School. Under the first division, a relevant recommendation was made by the South Pacific Commission Regional Seminar on Agriculture Curriculum Development, January 10 to 19, 1972, at Noumea, Caledonia, stating in part that "Agriculture should not be taught as a separate subject but should be integrated in the school curriculum."

Ponape, however, had decided to teach agriculture as a separate subject in grades 7 and 8 in the public schools. This decision was based on the present situation wherein only 20% of the 8th grade graduates are able to go on to high school. Making agricultural instruction available only in the secondary schools would be depriving 80% of the elementary graduates of basic training in agriculture.

The inclusion of agriculture as a separate subject in the curriculum in a particular school is dependent on the availability of a qualified teacher to teach vocational agriculture, need for the program under the existing situation, available support from school principals and the community, and availability of a suitable garden site.

Ponape is more fortunate than any of the other districts with regard to availability on qualified vocational agriculture teachers. Every elementary school in the district has at least one teacher who has had formal instruction in agriculture in the secondary school. Training of teachers in vocational agriculture starts at Ponape Islands Central School (PICS) and at Kusaie Island High School and continues with in-service training of teachers at Ponape Teacher's Educational Center (PONTEC). Without a qualified teacher to teach vocational agriculture, the program will have a difficult time getting started in school.

Vocational agriculture is emphasized in schools located in the main islands. It is not taught as a separate subject in schools situated on atolls but is integrated with such subjects as science and social studies.

This is an important factor that can determine the fate of the whole program in any school. We need the support of the school principal because of his role in class scheduling. The agriculture class should be scheduled as the last period of the day so that the students can work longer in the garden if they have to and do not have to return to the classroom sweaty and dirty. The community has to be involved because they could do much to discourage stealing from school gardens.

Children learn and retain more of what they are taught by doing actual field work than by listening to classroom lectures. Because of this, the school garden becomes a very important component of the whole program. In Ponape, privately owned lands are sometimes made available if a suitable area cannot be found in the school ground. Again, the support from the community is required in this case.

The 7th graders are given classroom instruction in basic agriculture. The children are taught the importance of agriculture, plants and plant growth, soils and fertilizer, pests, diseases and their control, and harvesting and marketing of vegetables. In the 8th grade, the children are given lessons in the cultural requirements of different kinds of vegetables that are presently grown for home use and those with proven commercial potential in Ponape. A lesson on a particular kind of vegetable consists of soil requirements, variety, land preparation, fertilization, cultivation, pest and disease control, harvesting, and marketing. It should be noted that all recommendations on the culture of these crops are based on personal experiences of the different agriculture teachers in the district and from results of replicated trials at PICS farm.

It is important that vegetable crops of proven value that are easy to raise be grown at the beginning of the program so that the students will experience success in their first try in crop production. Crops such as sweet potatoes, cucumbers, sweet corn, Chinese cabbage, and green onions are emphasized in the elementary agriculture program. Plants that require more intensive care are taken up in the later months.

Production requirements like seeds, fertilizers and chemicals are given free to schools. Produce from the school gardens is either sent to the school kitchen or sold to teachers or to the farmer's market. Part of it is given to students to take home. Proceeds from sales ranged from $35.00 to $275.00 from each school last year.

The children are also encouraged to have individual home garden projects. There has been lots of enthusiasm for these projects and the comments from the parents and community leaders have been very encouraging. There are 475 boys and girls in 20 elementary schools involved in the vocational agriculture program this school year. Future plans are to include instructions on swine and poultry production, and ornamental horticulture.

We have had problems and setbacks the first year, but they are insignificant in comparison with the progress and success that the program has so far achieved.

Under the Vocational Agriculture Program at Ponape Islands Central School, vocational agriculture consists of classroom lectures and field laboratory period totaling 1,080 hours per year. PICS offers four vocational agriculture courses.

To introduce students to the vocational field, each male student at PICS is required to take a semester of vocational agriculture and a semester of trades and industry. The first year agriculture program includes introduction to the different fields of agriculture and a more advanced discussion of vegetable production.

(Concluded on next page)

High school boys in the Swine Production class injecting a small pig with antibiotics.

Some Chinese cabbage in the Ohmine Elementary School garden is harvested by a group of eighth graders.

CONTINUED

VOCATIONAL AGRICULTURE IN PONAPE

Vocational agriculture for the sophomore year is divided into two general courses. The first semester includes principles of animal husbandry and consists of such topics as animal nutrition and animal breeding. The second semester is the study of swine production and includes such practical skills as castration, ear notching, judging, slaughtering, piggery house construction, care and management of swine. PICS farm has a small scale hog house to support the swine production program.

The courses in the junior and senior years are elective courses. Students enrolled in vocational agriculture III take up more advanced discussions of soils and soil nutrients, fertilizers and fertilization, entomology, plant pathology, and crop husbandry. The course also deals with the production, marketing and economics of different commercial crops such as: banana, papaya, rice, black pepper, coconut and tapioca. With construction of the poultry house, poultry production will be taught in the second semester. Vocational agriculture in the senior year deals with the operation, maintenance and repair of small farm machinery, tools and farm equipment. Construction and maintenance of farm buildings are also studied.

This school year, PICS has a one semester course on vegetable gardening for girls which deals with instructions on production, harvesting, and cooking of vegetable plants. Forty girls are presently enrolled in this course. PICS farm totals seven acres, 1⅓ acres of which are devoted to vegetable production. The rest of the area is planted with permanent crops such as: coconut, citrus, bananas, papaya, and black pepper. The physical plant also includes a 10-pen hog house, a 300-layer poultry house, compost bins, and farm machinery garage, and a combination classroom and supply room, at present, construction of a two-classroom agriculture building is underway.

Vocational agriculture at Kusaie Island High School is available to all male students from the first to the fourth year in high school. Every male student is required to make a minimum of one quarter of vocational agriculture during his freshman year. Classroom instruction during the first year in vocational agriculture consists of basic theories and concepts of agriculture in general.

The sophomore year is divided into one semester of Introductory Crop Science and one semester of Poultry Science. In the Introductory Crops Science class, the students are given introductory lessons in botany, soils, plant physiology, fertilizers, plant pests, insecticide, plant disease, crop husbandry, and marketing of produce. In the Poultry Science class, the students take lessons in egg and poultry meat production. Emphasis is put on breed selection, parasite and disease control, poultry housing. These classroom discussions in either Introductory Crops Science or Poultry Science are supplemented with laboratory or field practices.

During the third year, vocational agriculture at Kusaie Island High School consists of one full year of Crops Science or one full year of Swine Science. The students who chose Crops Science as their specialty are given more advanced and comprehensive lessons and practice in crop production. Cultural requirements of vegetable crops that are of economic importance to the island of Kusaie are given emphasis in this course. For those students taking Swine Science as their specialty, lessons consist of: swine breeds, stock selections, swine health, feeding, housing, and slaughtering of pigs. Practical skills in this field are learned during laboratory periods at the piggery.

During the senior year in vocational agriculture, the students are given more advanced lessons in their field of specialty. Included also with these lessons are the marketing and economics of different crops and animals. The Kusaie Island High School farm consists of: a one acre field for crops, one piggery, one poultry house, two storage buildings, and one partially finished machinery shed. At present, all these are located on private land. Better facilities and a larger farm area will be available when the new school site at Tofol will be completed. It is anticipated the new school site will be available about two years from now.

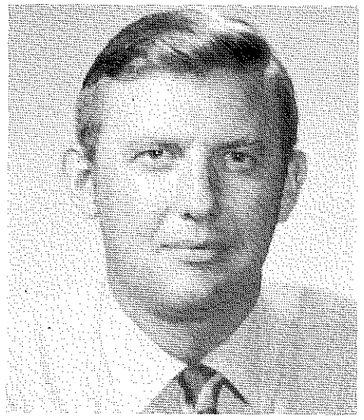
The whole vocational agriculture program in the public schools in Ponape District has been very successful. Children who have had training in agriculture in the elementary grades do better and advance faster in higher agriculture than those children who have not had instruction in agriculture in the elementary schools. High school graduates with agriculture as a major field of study and who are sent to post-high school training and studies in agriculture and other closely related fields, have been doing very well. Vocational agriculture teachers in the elementary schools who started their training in agriculture during their high school days are doing a very commendable job teaching the subject to grade school children. Recently, we have been getting more academically inclined students enrolling in vocational agriculture in the two high schools of the district. All this could only mean that the vocational agriculture program on Ponape is doing its part in the District Education Department's efforts of trying to give a more relevant and meaningful education for the Ponapean children in the public schools. ◆◆◆

[Editor's Note. — This article was originally published in the *Micronesian Reporter* (Fourth Quarter, 1974, Volume XXII, Number 4, pp. 31-34). William L. Thuemmel, Associate Professor, Center for Occupational Education, University of Massachusetts, Amherst, Massachusetts, thought the article to be appropriate for the current issue of *The Agricultural Education Magazine* and has secured authorization from both Mr. Dayrit and the editor of the *Micronesian Reporter* for reprinting the article in this publication. Dr. Thuemmel served on the faculty of the University of Guam from 1970-74 and continues to maintain an active interest in the growth of agricultural education throughout the Pacific region.

Ponape is located just above the Equator in the western Pacific and is one of six administrative districts in the Trust Territory of the Pacific Islands. The Trust Territory, also referred to as Micronesia, is a United Nations Trusteeship administered by the United States and consists of tiny islands scattered over an expanse of ocean comparable in area to the contiguous United States.]

In-Service Education— Brazilian Style

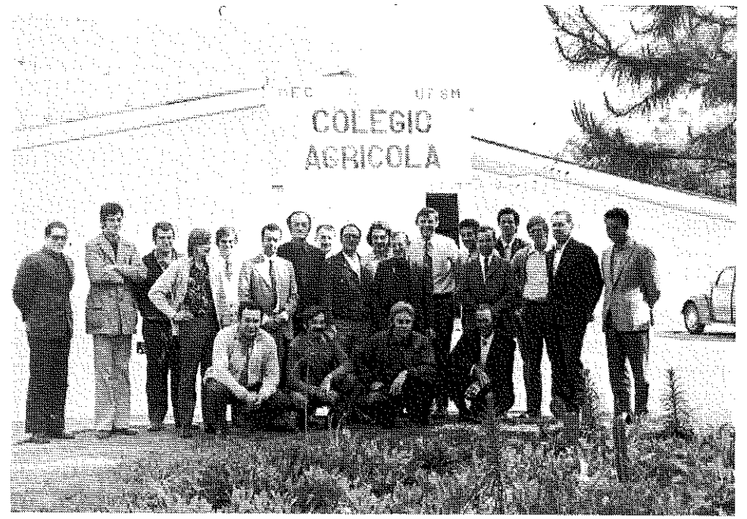
Richard F. Welton
Agricultural Education
Southern Illinois University



Richard F. Welton

Rio Grande do Sul, the southernmost state in Brazil, is known as the land of the gaucho, pampas grass, and cattle. It is one of Brazil's richest, most fertile areas and is renowned for the production of steak and soybeans. Agricultural education in the gaucho state is offered in seventeen of the 244 high schools. Five of these seventeen schools are administered by the Federal University of Santa Maria. Those agriculture teachers in the Federal University high schools who are university graduates are products of an educational system geared to train students in a single area of specialization such as animal science, agronomy, agricultural mechanics, or agricultural economics. Education courses have not been integrated into the university curriculum of the agricultural science student wanting to teach. The student begins teaching high school agriculture without preparation in professional education. For the agriculture teacher without a university degree, the problem is compounded: he is not only lacking in pedogogical training but he is also inadequately prepared in an area of specialization. These problems are not new in Brazilian education. A 1971 report on education made an entry into north-training has always been a particularly knotty problem . . . a large proportion of Brazilian teachers are 'non-qualified' for their jobs."[1]

It was in this setting that agricultural education in Brazil noted that "teacher western Rio Grande do Sul. The efforts of this program were under the aegis of the United Nations Development Program/Southern Illinois University Brazil Project at the Federal University of Santa Maria. An early concern of the agricultural education team was to develop a strategy that would set the course for program emphasis and activities at entry time and beyond. Before a realistic and workable scheme could be developed, information was needed from the teachers involved. Thus a decision was made to investigate the needs of agriculture teachers in the high schools of the Federal University.[2]



Teachers from the agricultural high school in Rio Grande do Sul, Brazil, attended in-service coordinator training workshops at the Federal University of Santa Maria. A coordinator from each of the seventeen agricultural schools was represented at these meetings.

In-Service Needs Study

One-half of the teachers in the study reported an educational level of less than a university degree. This group included teachers who were high school graduates and those who had completed secondary education and some university study. Realizing the need to improve their teaching, nearly seventy-five per cent of the teachers had participated in some kind of teacher training short course or workshop in previous years. Regardless of this educational involvement, teachers indicated a need for assistance in improving their competencies in classroom, agricultural mechanics, school farm, and community oriented instruction.

In-Service Training Program

The primary objective of the educational phase of the United Nations

(Concluded on page 88)

1. Fay Haussman, "Brazil: A Giant Begins to Stir," *Science Review*, October 17, 1971, pp. 62-63, 71-72.
2. Erb Veleda and Richard Welton, "Educational and Instructional In-Service Needs of Agriculture Directors and Teachers in Agricultural Schools Administered by the Federal University of Santa Maria," Santa Maria, RGS, Brazil, 1972.

Ag Educators Give Assistance in Korea

Milo J. Peterson
Agricultural Education
University of Minnesota

. . . the day of instant miracles has passed. Sadly, however, the day of the "instant expert" persists.

Many readers have served a variety of duty tours in foreign lands. One is tempted to mention names, but the list would be endless. However, it seems appropriate to remember the contribution of the late Dr. Harry W. Kitts as a soldier and agricultural educator at home and abroad in times of peace as well as armed conflict.

This report will concern itself with a specific project in a specific country, the Republic of Korea. The Republic of Korea encompasses about the same area as Indiana, but the similarity ends there. South Korea has a population of about 33 million and a population density of about 800 to 900 people per square mile. Indiana has a population density of about 144 people per square mile.

Compared to Minnesota with an area of about 80,000 square miles and a population density of 48 people per square mile, the Republic of Korea presents a marked contrast. This, in itself, suggests the necessity of "cutting the cloth to fit the pattern" in agricultural education as well as any other enterprise.

WHY ARE WE HERE?

It may seem redundant to ask the question "Why are we here?" but it is appropriate. Korea is basically rural with its economy rooted in agriculture. Seoul, the capitol city, has a population of over 5,000,000 and suffers all of the problems of urban sprawl that plague large centers of population around the world. Migrants from rural to urban centers continue to aggravate the inner city problem.

Low farm income and an accompanying low status of agriculture is a major contributory cause for migration from farm to city. As a consequence, the government of Korea is giving high priority to improving farm income and the level of living in rural communities. The New Village Movement is a major part of the Five Year Plan presently being initiated. Thankfully, this is in total harmony with the community school philosophy on which the vocational agriculture program of the United States is founded.

Thus evolved the International Bank for Reconstruction and Development (World Bank) Project which finds your correspondent halfway around the world doing the vocational agriculture bit in an environment so different from the U.S.A. that one has to live it to understand it. Nevertheless there seems to be a universally common philosophy among vo-ag men and a universally shared set of principles and objectives. The problems arise in the area of practice, putting the philosophy into action, which is always the toughest, and most important step in the process.

At this point in time, Minnesota (or any other state in the U.S.A.) with a strong and active NVATA membership and State Vo-Ag Teachers Association, can well serve as a model for a basic ingredient of rural development. Our prime reason for being here is to *strengthen* and *improve* the vocational agriculture program at the community level. This includes teacher education. Our responsibility must be to do our best to understand Korean culture and values, to figure out ways to contribute to the enrichment of the life of the man on the land. It becomes a problem of adaptation, adoption and assimilation. It is a long term process; the day of instant miracles has passed. Sadly, however, the day of the "instant expert" persists. This constitutes a major obstacle.

ABOUT KOREA

Korea, with a recorded history of more than 4,000 years, is an ancient country. It has been invaded, occupied and exploited throughout the centuries, most recently by the thirty-six years of Japanese occupation which ended with the conclusion of World War II. It is now a divided land with a Communist regime north of the 38th parallel and a Republic government in South Korea. Nevertheless the Korean people have maintained their own culture, value systems and character. The Koreans are perhaps the "purest" nation in the civilized world in terms of unmixed blood. Until the recent infusion of the American G.I., Koreans almost exclusively united in marriage with Koreans. There were of course exceptions during the Japanese occupation.

We have found the Korean people to be friendly, happy, patriotic, hard-working and fiercely proud of Korea. There is much we can learn from this land and its people. Hopefully, we may be able to contribute something to the advancement of agricultural education in return.

This hope is complicated by small farms (average about 3-5 acres), almost total dependence on hand labor and Korean cattle power, lack of rural electrical power, an underdeveloped farm credit system, and a rather primitive marketing process save for rice and tobacco.

THE PROJECT

As previously indicated, this project is financed by a World Bank loan to the Korean government. The Project Team consists of eight technical consultants including one chief educational consultant and one each in mechanical, automotive, electrical, civil engineering, and commercial education. Two consultants in agriculture complete the roster of consultants. Eight Korean counterparts make up the balance of the Project Team.

The chief educational consultant is scheduled for a three year tour of duty as are each of the Korean counterparts. The mechanics consultant, who also has major responsibility for teacher education, is scheduled for two years. The remaining consultants have eighteen months in which to accomplish their objectives.

Prior to the arrival of the educational consultants, a team of architects prepared building plans and specifications

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for the classrooms, shops and laboratories for the Project Schools. These included the College of Agriculture, Department of Agricultural Education of Seoul National University and several agricultural high schools. While our work is not limited to the Project Schools, they receive the major share of our time and effort.

Because the consultants were recruited singly and reported for duty over a four month period the termination dates of both consultants and counterparts are staggered. This will either result in more orderly completion of the Project or a bit of confusion in compiling the final reports and recommendations. One very desirable aspect of the Project is that it will place gradually increasing responsibility on the Korean counterparts, and thus test their absorptive capacity and degree of adaptability to change.

SOME COMMENTS ON THE VO-AG PROGRAM

Since no other country in the world has an educational system similar to the U.S.A., it is most important in developing understanding to "walk in another man's shoes." Korea has a highly developed system of vocational agriculture at the secondary and collegiate level. The facilities of the Department of Agricultural Education at Seoul National University are far superior to most I have seen. There are certain gaps in equipment, but by and large the physical plant and the quality of staff are on a par with any institution I know.

Seoul National University, the most prestigious university in Korea, graduates more vo-ag teachers than any other institution. It is also looked to by the Ministry of Education as the source of in-service training and professional upgrading for vocational agriculture.

The agricultural high schools are equipped with a more or less complete campus. The curriculum embodies 50% academic or general education and 50% technical agriculture. The school farms, some of which are gems of opportunity, are the main source of supervised farming programs, or farm practice as it is more commonly called.

Adult education in agriculture is extremely limited. No systematic organized program has been observed. Such activity as exists consists of occasional visits to a nearby village to provide information to farmers. A few schools hold meetings for farmers at periodic intervals, maybe twice a year, and there are times when farmers may visit a school farm to observe crop varieties and cultural practices.

A major problem contributing to the practically nonexistent on-farm instruction is lack of transportation for the teachers. Almost all have bicycles and on rare occasions one finds a teacher with a motorcycle. However, these are inadequate for on-farm instruction. The Korean teachers and school officials are acutely aware of this limitation and its retarding influence on program improvement.

On May 4, 1972, the National Association of the Future Farmers of Korea was inaugurated. At the same time a National FFK Foundation was also established. The importance of this event can be illustrated by the dignitaries who participated in the day-long ceremonies. These included the Premier of Korea, a top Presidential advisor, the Minister of Education, the Minister of Agriculture and Forestry, the Provincial Governor, the Dean of the College of Agriculture (PhD from Minnesota), and the Vice-President of the American Korean Foundation. Also participating were the two agriculture consultants (Milo Peterson and Lambert Schilling) and a representative of the Peavey Company of the U.S.A.-Korea branch operations. Six hundred and twenty FFK delegates and one hundred and seventy-five FFK advisors representing every agricultural high school in the Republic of Korea filled the auditorium of the College of Agriculture to capacity.

This event was a vocational agriculture spectacular of the first magnitude and hopefully a significant step forward.

The in-service training program for teachers of agriculture is well organized and utilizes an all-star cast of outstanding professors, many of whom are internationally famous. The program is also a strenuous one for the one hundred and fifty selected teachers who attend the annual session. It runs eight hours a day, five and one half days a week for eight weeks during July and August.

Lambert Shilling (left), teacher of agriculture from Detroit Lakes, Minnesota, displays grapes with his counterpart, Kim Sung Soo, at Kimchon Agricultural High School, Kimchon, Korea.

Teachers successfully completing the courses receive a salary increment and a step advance in their certification. They receive reimbursement for their transportation and living expenses during the eight week period. No college or graduate credit is granted. This year marked the tenth annual in-service training program conducted by the College of Agriculture of Seoul National University. The Department of Agriculture Education is responsible for organizing and administering the program with the Ministry of Education providing the budget.

IN BENEDICTION

Any contribution Mr. Schilling and I can make to vocational agriculture in Korea will, of course, not be evident during the eighteen months we are here. The burden of responsibility will fall most heavily on our counterparts and their colleagues. The leadership of the Ministry of Education will also be crucial in this highly centralized system.

In any event the support we have received from Mr. Neville Hunsicker in the U.S. Office of Education and Mr. Lennie Gamage and others at the National FFA Center, merit special thanks. An expression of gratitude is also due the vo-ag teachers, FFA members and agricultural education supervisors who have contributed books and aided in the FFA-FFK Chapter-to-Chapter program. Finally a tip of the hat to my colleagues at the University of Minnesota and at Dunwoody Industrial Institute who have made possible this enriching professional experience. ◆◆

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Some Implications for International Ag. Ed. in the U.S.

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In today's world, probably every course taught in our high schools and colleges should have an international dimension. There also would seem to be a need for special courses which focus on the practical aspects of important individual and collective international relationships. Our school libraries should have up-to-date references and other materials which support such efforts.

The entire agricultural industry in Illinois and elsewhere is dependent on other countries for its success. In recent years it has become apparent that the amounts of agricultural commodities sent abroad have significant effects on prices the farmer gets for his products. Consumer prices also are influenced.

Foreign peoples and cultures are steadily becoming more important to the intellectual and emotional concerns of United States citizens. The destinies of students and everyone else in our society (in agriculture and other subject matter fields) are becoming increasingly dependent on our understanding of peoples of other countries.

Many persons who have been abroad for any extended period of time have noticed that foreign schools make much greater efforts to educate their students about the United States than our schools do about the foreign countries. With our economic, military, and other powers continuing to diminish with relation to the rest of the world, our need for much greater efforts in international agricultural education becomes clear. We no longer can afford the weaknesses of parochialism and overspecialization which have afflicted large segments of our population.

It has been common for many Americans to think our ways are best for us and for the rest of the world as well. Anthropologists call this ethnocentrism, and remind us that one reason for our failures to help a number of other countries with success (despite expenditures of large sums of money) is this belief in our superiority. It comes as quite a shock to some Americans when they find out that significant numbers of people in developing countries see our financial and technical aid as "possible modern imperialism, the danger of economic penetration, a shattering of traditional values, and it means also often-insensitive strangers taking the best houses and driving up the cost of living."[1]

The technical specialist from the United States who has failed while working in a foreign country often could trace such a failure to *not* finding out why things are done as they are before attempting to change them. The very fact that a culture has survived for a few thousand years should be an indication that it can't be all bad!

The use of the word "America" to mean the "United States of America" is another evidence of ethnocentrism. After all, there are countries in North America, Central America, and South America which might just as logically be called America.

"Developing countries" is a better term to use than "underdeveloped countries" because the former indicates progress and hope while the latter suggests stagnation and lack of hope for significant improvement. Another term worth knowing about is "culture shock." This refers to a mental condition of people who have been suddenly transported abroad. Usually, the victim does not know he or she is afflicted with the disease. The person feels terrible, yet can find nothing physically wrong with himself or herself. He or she believes the host country and its unpredictable citizens are to blame. The condition can last as briefly as three months or less or as long as a year or more.

No one is immune to culture shock, but knowing about it allows the victim to recover sooner than would otherwise be the case. This is one of the reasons that anything less than a two-year assignment for a technician working in a foreign country is likely to produce considerably less than satisfactory results. Another reason for a two-year or longer assignment is that there is a greater possibility for the technician to see some evidence of progress as a result of his or her efforts.

The United States has been attempting to aid other countries for a long time. Yet, strange as it may seem, there is no effective mechanism established to take full advantage of the accumulated knowledge built up over the years.

Also, one agency often works at cross purposes with another agency to the detriment of both. This, frequently is due to the absence of an effective coordinating force or forces rather than an intentional operational policy. Jealousies between agencies and individuals are not unknown, however, and make worthwhile achievements much more difficult. The emphasis on starting new projects rather than properly maintaining successful established projects is a weakness of newly appointed United States administrators. Too many such individuals seem more intent on "building empires" or "making names for themselves" than in meeting the real needs of developing countries.

Probably, the libraries of too many public high schools in the United States with vocational agriculture departments are deficient in books and materials related to international agricultural education. What books and materials should be there? It is doubtful that anyone really knows the answer to this question, but the reference listed at the end of this article should be on

(Concluded on page 86)

Foreign Students Arrange Farm Tours and Course Credit

*by Mark Patton, Winston Haye, and Martin Limbird**

What do foreign agricultural students want to know about agriculture in the United States? Well, for one thing, they would like to learn more about the process of information dissemination through universities, the extension service, high schools, area vocational schools, and the media. With this in mind, the three authors set about the task of organizing a step-by-step examination of the ways and means by which practical agricultural information flows from its inception at the university to its destiny, the farmer.

The basis of our experimental seminar on the transfer of technology came from an earlier ISU program called the Extended Civic Participation Program (ECPP). ECPP experimented with the "Four I's" of learning — Introduction, Interpretation, Involvement, and Internalization — in packaging off-campus learning experiences for foreign students. With these four I's as the basis, we began laying the groundwork for our seminar to relate applied agricultural development in Iowa to selected foreign graduate students at ISU in various fields of agriculture — from agricultural economics to veterinary medicine.

Identification of key student leaders was our first step. The presidents of seven different nationality groups were personally contacted to inform them of the prospect of a seminar on technology transfer. The presidents were invited to attend informational meetings in which the content of the seminar was to be considered. From these preliminary contacts, fifteen interested foreign graduate students met at two different sessions to have input into the seminar structure and content. Consensus was developed as to the limits of what, when, and how the group wanted to learn about the transfer of technology in Iowa agriculture. Not surprisingly, the highly-motivated student participant/planners agreed to entirely underwrite the cost of the seminar's field trips themselves.

With the specific suggestions of the students in mind, the three organizers began contacting the appropriate resource persons to organize the seminar structure around the four I's concept. For the *introduction* phase, two ISU faculty members were invited to give two-hour lectures each on the adoption-diffusion process of technology transfer and the structure of the extension service in Iowa. *Interpretation* of the concepts that were introduced came during our first field trip when a very cooperative county extension agent related his work to the theories of technology transfer. *Involvement* took place during the three field trips which included visits to five very different farms, extensive visits with the professionals operating ISU research farms, and a full-day visit with the students and staff of a high school and an area vocational school's agricultural education department. *Internalization* took place throughout the twelve-week seminar as Thai, Turkish, and Iranian participants discussed what they saw and how it related to their respective specialities and the needs of their countries.

As we completed the program, we arrived at the following observations: 1) Students prefer field trips. Attendance was significantly higher when the group traveled off the campus as opposed to attendance at lectures on

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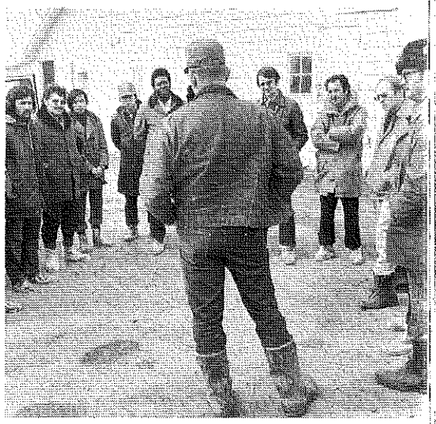
*The authors are all graduate students at Iowa State University. Mark Patton has studied in Ghana and is finishing a Master's degree in Ag. Ed. Winston Haye is a native of Jamaica who has studied at Tuskegee Institute and is currently in the middle of a Ph.D. program in Ag. Ed. Martin Limbird has spent time with the Peace Corps in Ghana and did a Master's degree in Belgium studying the grain market there. He is also working on a Ph.D. at Iowa State.



Iowa farmer, Don Burt, explains U.S. farming to a group of foreign students from Iowa State who organized a seminar with "a little help from their friends." The authors are very likely in the photos, but they did not identify themselves.

CONTINUED *FOREIGN STUDENTS . . . FARM TOURS . . .*

campus. Consideration is being given to the idea that some type of notice should be given to interested foreign students of upcoming agricultural events (fairs, demonstrations, etc.) which might expand awareness of agriculture in practice.

2) Vacation periods can be a time of boredom and frustration for foreign students. While many of us go away to visit family and friends, oftentimes foreign students must sit in their dormitories or rooming houses and wonder why they are not able to be elsewhere. All of our field trips were scheduled during such vacation holidays.

3) The time for interdisciplinary studies has arrived. We have all heard a great deal of rhetoric about interdisciplinary studies but have seen little action. In the case of the foreign student, we need to come to a realization of just what *his* needs will be in his home culture and not just the needs we find in this country's agriculture. Here we have specialists who may be consulted by simply dialing a phone. The foreign national returning to a developing nation may have to rely only on his experience and expertise since a cadre of experts may not exist there. Therefore, by exposing him to many areas outside his own field of study, we partially prepare him for those "unknowns" which he will eventually have to face. This is the challenge to agricultural educators at every level.

4) Academic credit is very helpful in drawing in greater numbers of students. Although our students arranged for credit with their own major professors, this was found to be somewhat unsatisfactory since some professors were unsure of just how "academic" the seminar was to be. Therefore, we recommend that any future attempt be endorsed by the university so that credit may be more easily obtained.

5) Organizers and planners should not assume too much. In the U.S. we like to think we have a fairly efficient system of agricultural production. However, many times we tend to overlook the basic reasons why our system works as well as it does. Credit, marketing, and transportation are often the three critical factors which act as detriments to other nations' development of better agricultural production systems. Instead of simply showing the foreign students how to cultivate a field of soybeans, perhaps we should examine the factors which relate to the situation which leads up to the production of that crop of soybeans. It is much easier to demonstrate the proper method of crop cultivation than to demonstrate how to find markets for the product, to acquire transport for the commodity, and to arrange for credit to finance the entire operation.

In retrospect, the four I's proved to be the glue which held the entire seminar together. We recognized that the facilities, resource people, and interest of the students needed for such a seminar existed in *our* community. It is up to all of us, not just as educators but as responsible citizens of this increasingly interdependent world, to bring these facets together for a valuable learning experience. ◆◆◆

CONTINUED *SOME IMPLICATIONS . . .*

any recommended list. It is easy and interesting to read, lists many valuable references, and can contribute to essential understandings.

A fine book for anyone who might some day wish to work in a developing country is Thomas F. Trail's *Education of Development Technicians — A Guide to Training Programs,* Frederick A. Praeger Publishers, Inc., 111 Fourth Avenue, New York, N.Y. 10003. A free monthly publication "War on Hunger — A Report from The Agency for International Development" is available without cost to persons who request to be placed on the mailing list. Such requests should be directed to Publications Division, Office of Public Affairs, AID, Room 4953, State Department Building, Washington, D.C. 20523.

If the undergraduate course, "Agriculture of Developing Countries," at Illinois State University is an indication of potential student interest in an international agricultural education course, it should be possible to establish such courses successfully at the high school level. Two sections of the course are taught each semester at Illinois State with an enrollment of about 40 students in each section. The students come from about 14 different departments in addition to agriculture.

If a special course seems like too large an undertaking, the inclusion of an international dimension in established courses is an alternative worth considering. In today's world, any relevant, thoughtful, accurate, well-planned, formal instruction in international education in agriculture should pay rich dividends. One of the dividends most apparent to the experienced instructor is the fact that the more we learn about other countries the more we understand about our own. ◆◆◆

1. Foster, George M., *Traditional Societies and Technological Change*. New York: Harper and Row Publishers, Inc. 1973, p. 253.

CONTINUED *AG. ED. IN DEVELOPING COUNTRIES*

ganized with clearly defined objectives.

In most cases the issue is not *whether* international assistance programs in agricultural education should be continued but *how* and *to what degree.* Our fundamental concern should be how to adapt agricultural education and training in the developing countries in such a way that it will make the lives of those related to the agricultural sector of the economy more productive and more meaningful. The success of rural development will depend to a large degree, on what the teachers and administration of agricultural education are able to achieve. ◆◆◆

1. Chang, C. W. *Rural Asia Marches Forwards*, University of the Philippines, College of Agriculture Textbook Board, College, Laguna, Philippines, 1969, p. 10.
2. Stoesz, E. *Beyond Good Intentions*, United Printing, Inc., Newton, Kansas, 1972.

Agricultural Education in the Kingdom of Tonga

Tom Beckner
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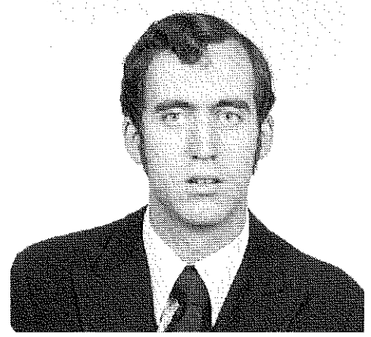

Tom Beckner

The Kingdom of Tonga is situated in the South Pacific approximately 1,100 miles northeast of Auckland, New Zealand. Its population estimated at 92,362 at the end of 1972 lives on 35 inhabited islands ranging from 0.13 squares miles to the mainland, Tongatapu, of 100 square miles.[1] The bulk of the population is in three main groups, the southern (Tongatapu and 'Eua), the central (Ha'apai) and the northern (Vava'u). The distance between the northern and southern groups is 400 miles.

The approach to agriculture education in Tonga is one of "institutional training." Education in agriculture is offered at the secondary school level as part of the formal education system at Tonga's rural government and church schools.

The Wesleyan Church operates the only post-secondary agricultural school in Tonga. Hango Agricultural College is aimed at preparing young men for farming. The school is located on the island of 'Eua in the southern group. The college is staffed by Tongans, missionaries from Australia, volunteers from New Zealand, and by my wife and me as Peace Corps Volunteers.

Thirty-five to forty young men age 17-30 are enrolled in a two-year training program. Approximately 20 students enter Hango each year. This is a small number when 80-85 percent of the male population is involved in subsistance farming.

Hango combines academic studies with practical application. The emphasis is on practical training with the majority of the time being spent working outside of the classroom. Forty percent of student time is on the school farm, thirty percent on individual garden projects and thirty percent in the classroom.

The school farm consists of a 200 acre cash cropping and dairy farm with a 200 acre beef cattle farm located four miles away. In addition to learning skills involving cash crops (maize, bananas, yams, taro and potatoes), the students learn such skills as fencing, building construction, livestock management and milking. Students are also introduced to new crops — soybeans, siratro and broom millet.

Each student is provided with a parcel of land to plant and maintain as a vegetable garden. First year students receive ⅛ of an acre and second year students rceeive ¼ of an acre. Work on the student farm is of an individual nature with a staff member in a supervisory role. An ambitious student may carry out several experiments on his garden in one year.

Although students work individually on their gardens, a co-operative is formed for marketing their vegetables. Profits the students receive are paid to them in the form of seeds and chemicals upon graduation.

The curriculum consists mainly of courses in agricultural subjects such as livestock, farm management, entomology and the sciences related to agriculture. Instruction is also given in English, math, bookkeeping and religious knowledge.

Teaching at a farmer-training school has many advantages over agricultural programs taught at the secondary level. The farm serves as a land laboratory. Classes are small and flexible. Group projects are used as a teaching tool. There is more contact with students outside the classroom.

With 400 acres, Hango offers a land laboratory and ag mechanics workshop which would be the envy of many agriculture instructors. No field trips are necessary. The farm, workshop and gardens are easily accessible to the classrooms.

With small classes, more individual attention can be given. Since only two classes are being conducted at any one time, the staff can be more flexible in adjusting the class schedule. An investigation can be performed with the entire class participating or classes may be cancelled so students can select and package bananas for shipment.

Group projects, such as the co-operative, provide training in economics and management. Profits of a student's own labor more effectively teach economics.

Finally, the instructors have more hours of contact with the students outside the classroom. They can observe and work with the students in many varied situations.

Although agricultural schools have many advantages, Mr. G. Bamford,[2] former principal of Navuso Agricultural School, Fiji, feels the rural youth club approach has the greatest potential for reaching the masses of out-of-school youth in rural areas. Mr. Bamford has studied different forms of education in Asia as an F.A.O. consultant. He lists the following advantages to rural youth clubs:

1. It takes place "in community."
2. It trains for a way of life.
3. Training is for boys and girls.
4. Unit costs are low.

(Concluded on next page)

5. Earning while learning
6. Training is for those most likely to use it.
7. Training programs cover a wide age range.
8. Supplementary training meets specific needs.

It is hard to say which approach will be best for Tonga in the future. Which ever one is used, many roadblocks will have to be overocome.

First is the shortage of qualified agriculture instructors. There is no place in Tonga where ag educators can be trained. Few can be sent oversees because of the great expense and many lack the educational requirements for overseas universities.

Customs and the church have shaped the lives and attitudes of the people for many years. For example, Tongans will not live on their farms. This especially affects livestock management.

The Tongan custom of giving, which has been promoted by the church, does not encourage saving necessary for reinvestment. Also, a man is held in high honor if he produces large amounts of food for his family. This type of farming does not encourage cash cropping systems.

Providing training for those who will make the best use of it has always been a problem of agriculture education. This is especially true in Tonga. In 1970, 80 percent of the young men, 16-21, had no land of their own to use.[3] This is a serious problem in a country where the majority of the people make their living from farming. With very few industries to employ these young men, many are left unemployed.

Since income is small (a farm laborer earns $15-$25 per month), a student would be best served if he could earn while he learned. Again, to solve this problem of "in community" instruction, a number of qualified, enthusiastic instructors need to be trained.

Finally, there is little follow-up on graduates or their specific problems. Distance between islands and the small populations on some islands make extension work very difficult.

Rapidly increasing population, lack of trained technicians, attitudes, education and economic independence are problems Tonga shares with the rest of the developing world. Agriculture education will play an increasing role in rural development in Tonga. It will require educators, agriculturalists, church and government officials working together to develop a program of ag education which will meet the needs of the growing population of Tonga. ◆◆◆

1. Statistics Office, Ministry of Finance, Nuku'alofa, Tonga, "Statistical Abstract 1972, Kingdom of Tonga."
2. G. Bamford, *Training Rural Youth for Farming in the Asia and Far East Region*. F.A.O. Bangkok 1972.
3. B. Hardaker, "An Economic Survey of Farming in Tonga," Private Document, Department of Agriculture, Tonga.

Development Program/Southern Illinois University Brazil Project was to strengthen all aspects of agricultural education in the geographic area of Rio Grande do Sul influenced by the Federal University of Santa Maria. In-service training was considered basic to any program efforts for upgrading education in agriculture. To provide a basis for planning and carrying out a dynamic in-service program, the following strategies were planned:

A coordinator of in-service education was designated in each agricultural school. This person was selected on the basis of teaching experience and in-service education interest. Duties of the coordinator included: 1) assisting teachers in improving their instruction; 2) providing regular in-service training in the school; 3) evaluating classroom teaching; 4) conducting periodic teacher conferences; 5) serving as chairman of agricultural education seminars sponsored by the Federal University; and 6) serving as coordinator for instructional materials.

Workshops were conducted to train coordinators. Two workshops were held during the first year of agricultural education activities of the Brazil Project. These workshops were three days in length and conducted by education personnel from the Federal University and throughout Rio Grande do Sul.

A coordinator manual was developed. It was designed to serve as a guide in planning and conducting an in-service program.

Supervision for coordinators was provided. Periodic supervision of each coordinator was made by the project's agricultural education team. Supervision was considered essential for the establishment of the coordinator concept.

A series of seminars was held in each Federal University high school. The purpose of these seminars was to improve technical agriculture and educational competencies of teachers. Seminars were one day in duration and conducted by specialists from the Federal University. The in-service coordinator in each school was consulted to assist in selecting topics for these seminars.

A teaching materials service was established in the Department of Agricultural Education and Rural Extension of the Federal University. The purposes of the service were to prepare instructional and visual teaching aids directed toward: 1) improving teaching competency; 2) increasing teachers' subject matter knowledge; and 3) providing a variety of printed materials and other kinds of aids designed to make the teachers more effective.

The in-service training program was originally conceived to serve the needs of agriculture teachers in the schools of the Federal University of Santa Maria. However, as the program developed, it became evident that other agriculture teachers in the state might also benefit from planned services and activities. The program was enthusiastically received and supported by the agriculture teachers throughout Rio Grande do Sul. The impact of in-service training upon personnel and programs might best be summarized by comments from teachers involved: ". . . this program is important for agricultural education in Rio Grande do Sul and for Brazil in general . . ." "the idea is based on reality . . ." "We hope it will continue . . ." "The in-service coordinator has strengthened teaching in my school . . ." ". . . important for the improvement of teaching in this state . . ." ". . . fulfilling an aspiration of agricultural education which has extended for more than a decade." ◆◆◆

Hunger Solution in a Nigerian Girls' School

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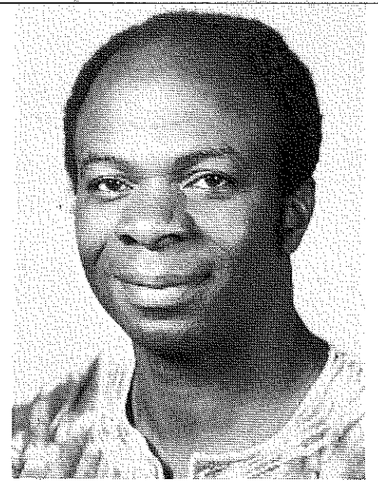
Dept. of Vocational Educ.
University of Nigeria, Nsukka



John U. Okorie

The idea of secondary students practicing agriculture in their schools seems to be creeping into this country, though in a small scale. At Amumara Girls' Secondary School, the members of the School's Young Farmers Club have an extensive area under cultivation.

It is generally being viewed by a majority of the people in Nigeria that Amumara Girls' Secondary School is unique in its efforts to combat hunger in their school as well as in eliminating hunger in Nigeria.

The school is located near Mbaise, Owerri in the East Central State of Nigeria. This area falls within the most densely populated regions of Africa. Consequently, there is an apparent scarcity of basic foodstuffs in this area. Within this area, there exist some of the most spectacular examples of poor lands as a result of reduced fallow necessitated by population densities and the pressure exerted on available agricultural lands. Thus, several factors could be deduced as the motivational factors driving the staff and students of Amumara Secondary School towards massive agricultural production.

CAUSES OF POOR MEALS

It should be noted that a great many of the secondary schools in Nigeria are boarding schools, where the students live during the school sessions and are fed by the school authorities. Among the pressing problems of secondary schools in Nigeria today is that of poor and inadequate feeding prevalent in the schools. Allegedly, the causes of poor feeding in the schools are due to indifference on the part of the government in not subsidizing the feeding and to the non-challant attitude of some principals, who in collusion with

Students at Amumara Girls' High School are harvesting rice on the boarding school's farm.

"unscrupulous and dishonest" food contractors fail to meet their obligation to feed the students well. Others contend that poor feeding in the schools is a result of the rising cost of living in the country. In any case, one thing that is sure and paramount in the minds of many Nigerians is that "boarders" in most of the secondary schools require better and improved feeding. As a result of "student hunger" in boarding schools, students are prone to visiting nearby villages and towns in search of food. The foods usually bought by the students consist of coconuts, palm kernels, garri, tapioca, bread and biscuits in addition to some beverages which are stored in the students' lockers and are gradually depleted as a supplement to their regular meals.

RESPONSE TO AN APPEAL

According to the principal of the school, members of the Young Farmers Club, which consists mainly of agricultural students in the school, were motivated by an appeal made by the Federal Military Government for massive food production throughout the country. It was the desire of the principal of the school to give the students what she termed "bread-based" education.

There is little or no incentive on the part of the youth to farm. Consequently, the people are generally worried over the present food crisis existing in the country. If the young generation is not encouraged to take up farming, there is a danger that the situation will be worse in the very near future. According to the recent United Nation's report, Africa has the world's most rapid population growth rate. This means more mouths to feed. It is imperative for Nigerians to make every effort to curb hunger not only in schools but throughout the country. One of the commissioners in charge of Agricultural Extension was recently quoted as alerting the nation concerning the dangers of the proposed Universal Primary Education (U.P.E.) in Nigeria, if the youth were not encouraged to consider farming as a career. His fear originated from the fact that the U.P.E. would undermine agriculture. He contends that more education for the younger generation would lead to an unprecedented wave of rural-to-urban migration. According to him, this would lead to the worsening of the present food crisis in the country. However, the students of

(Continued on page 94)

FFA WORK EXPERIENCE ABROAD

John W. Watkins
Agricultural Supervisor
Columbus, Ohio

Working and living on a farm in a foreign country is an experience available to only a few vocational agriculture students. Having a foreign exchange student in a local FFA members' home is also an experience available only to a few vocational agriculture students. For those who have this opportunity, it is an experience they will never forget. Several Ohio FFA members have had this opportunity. Ohio has had students placed on farms in Panama, Brazil, Germany, and other foreign countries. These students have gained something they shall never forget. Their local FFA chapter has also gained by having these members come home and show pictures and share experiences with their fellow members, parents, service clubs, and other organizations in the community.

Several farm families in Ohio have also gained valuable, unforgettable experiences by hosting an exchange student from a foreign country in their home for periods of three months to one year. The FFA Work Experience Abroad (WEA) Program is designed for active qualified members of FFA and cooperating organizations around the world. The program's goal is to offer practical work experience in other countries, and provide for the observation and study of agricultural methods that allow the students to become familiar with history, culture, tradition, and the way of life of other people. Participants represent their country as "Junior Ambassadors," in activities to exchange ideas and improve agriculture and rural youth organizations.

Students who have participated from Ohio must meet certain requirements to be eligible. Several of these are as follows:

1.) Have completed the Junior year in high school
2.) Be an active FFA member
3.) Satisfactorily completed a minimum of two years of vocational agriculture
4.) Has had a good practical experience in farming, ranching, horticulture, or other field of agriculture
5.) Be recommended by vocational agriculture teachers, high school principal or college course advisor, and a neighbor
6.) Applicants should have a basic knowledge of the language of the country in which they will be visiting

Participants will be taken in as members of the family and work on the farm or at other agriculture business along with the host family. WEA students receive room and board and a small cash stipend. The program varies in length from a minimum of three months to one year. Students spend three days at an orientation conference in Washington at the National FFA Center to acquaint them with the country they will be visiting. Foreign students who come to this country also participate in an orientation conference. Supervisory visits are made periodically to discuss problems and progress of the visit. Cost of this program varies depending on the country in which the FFA member wishes to visit. It ranges from approximately $650.00 for a three-month stay in Europe to $1800.00 for a six-month stay in Australia.

The Ohio FFA Association has provided a $500.00 scholarship to worthy, intersted FFA members to participate in this program for the past three years. Following the students visit to a foreign country, he or she is expected to present talks and show slides of their visit to their fellow FFA members, churches, service clubs, and other organizations when called upon.

Mary Dudgeon, Ohio FFA Work Experience Abroad student, observing an agriculture school garden and irrigation system in Brazil.

Dave Branham, former FFA President from Ohio, spent six months in Panama where he worked with local vocational agriculture teachers in developing and improving vocational agriculture and FFA activities in that country. Since his return, Dave has made many presentations relating to the lifestyle and economy of Panama, and was instrumental in hosting two Panamanian students in Ohio for an 18-month period. These students attended school and graduated from a local high school, and have since returned to Panama where they are planning to become vocational agriculture teachers. In all cases, students live and work with the host family in order to learn the ways of the country. If your FFA chapter has students who would like to have the experience of visiting and traveling in a foreign country, encourage them to apply for the Work Experience Abroad Program and visit the country of their choice. Also, if you have farm families in your community who would make suitable host families for students of foreign countries, encourage them to host a student and get in touch with Mr. Lennie Gamage at the National FFA Center in order to secure a WEA student from some foreign country. These host family requests should be submitted to the State FFA Office prior to January 15, and will be forwarded to the National FFA Center. FFA students who wish to participate in the program should have their application submitted to their state FFA Association soon after November 1st each year. The deadline in the National office is April 1.

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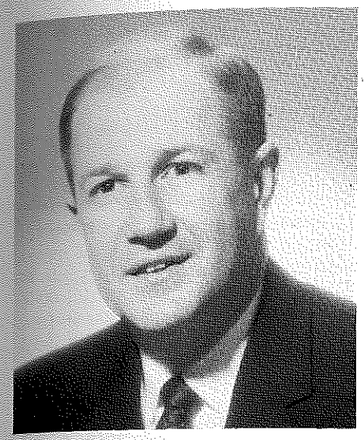
Leader in Agricultural Education:

J. ROBERT WARMBROD

*by Ralph E. Bender**



Dr. J. Robert Warmbrod, Professor in Agricultural Education at The Ohio State University is a distinguished teacher, researcher, and scholar. He was recognized as such at the most recent convention of the American Vocational Association held in New Orleans in December 1974. At that convention he was the recipient of the Annual Distinguished Service Award of the American Association of Teacher Educators in Agriculture. Just before receiving this award, he presented the Association's annual mystery speaker's address on the subject "The Liberalization of Vocational Education." This presentation has been published by the Intersate Printers and Publishers of Illinois and distributed throughout the United States. At the convention he was also elected as President-Elect of the American Vocational Educational Research Association.

Dr. Warmbrod was reared on a farm in Tennessee. After studying four years of vocational agriculture in high school, he was a student at the University of Tennessee where he received a Bachelor of Science degree in 1952 and the Master of Science degree in 1954 with a major in agricultural education. During a part of the time in his Master's work he managed the University poultry farm. He was involved as an officer of the U.S. Air Force from 1954-56 after which he served for a year as an instructor in the Department of Agricultural Education at the University of Tennessee and as a teacher of vocational agriculture for two years at Winchester, Tennessee. Warmbrod received his doctorate at the University of Illinois in 1962. During the seven years at that University he served in various teaching and research responsibilities starting as a graduate assistant and progressing through the ranks to Associate Professor. Before beginning his present position as a Professor in Agricultural Education at Ohio State in 1968, he was a full-time consultant for nine months at the Center for Vocational Education. Warmbrod's wife, Catharine, is also actively involved in vocational-technical education. She is currently serving as Chairman of the Secretarial Science Department at Columbus Technical Institute, Columbus, Ohio.

Teaching Excellence

In 1972 Warmbrod was one of eight teachers of The Ohio State University faculty who received the Alumni Award for Distinguish Teaching which carried with it a $1,000 stipend. Most of his teaching at Ohio State has been a series of research courses in which he had a major responsibility in developing. The enrollment in these courses in agricultural education has grown from 54 in 1968-69 to approximately 250 in 1974-75. The first year's enrollees included seven percent from outside the department as contrasted to the current 70 per cent of the students from other divisions of vocational education and other departments throughout the University.

Ralph E. Bender

Dr. Warmbrod served as professor at the AVA presession on Fundamentals of Research Design and Statistical Analysis in 1972, 1973, and 1974. He was a visiting professor at Iowa State University, University of Minnesota, and Pennsylvania State University. In order to increase his competence in the area of research, he attended four American Educational Research Association training sessions.

Other experience in teaching includes supervising student teachers, beginning teachers, and teachers hired from industry. He has served on many Master's degree committees, approximately 75 doctoral candidate committees, and has personally advised 20 candidates to completion of their Ph.D. degree programs.

Significant Research

The research program of the Department of Agricultural Education at Ohio State University is being coordinated by Warmbrod. Currently he is the Project Director for the evaluation and national field test of career education curriculum guides for agricultural education programs. Recently he directed the development of criterion-referenced instruments for the assessment of specialized vocational agriculture programs and applied such instruments to the appraisal of competencies of students in area vocational schools who have and have not studied vocational agriculture in grades 9 and 10.

Other research included an emphasis upon program planning in agricultural education in Tennessee, state policies for distributing state and federal funds for vocational education in agriculture to local school districts, technical education in and for rural areas, and curriculum development basic to the training of individuals for employment in

(Concluded on page 94)

*Ralph Bender is Chairman of the Department of Agricultural Education at The Ohio State University.

A Survey of Salaries and Working Conditions of Vo-Ag Teachers in the U. S.

Wayne King

James P. Key

Wayne King
Vocational Agriculture Instructor
Harrah, Oklahoma

James P. Key
Teacher Educator
Oklahoma State University

Throughout the United States there has been a shortage of vocational agriculture teachers for the past ten years. There have been a few states in which more students have been qualified to teach vocational agriculture than there were positions open in their home state. However, those that qualified in these states have been reluctant to leave their home state. At the same time, in the states where there has been a shortage of vocational agriculture teachers, some departments (106 as of August 1974) have had to close each year.

Some of the graduates might have been more willing to leave their home state and teach vocational agriculture if they had access to salary and working condition information in the other states.

Also, some experienced teachers who left the profession for reasons, such as low salary or certain working conditions, might have been influenced to move to another state where those conditions better suited them and might have remained in the field of teaching vocational agriculture if they had access to this information.

The purpose of the study* was to follow up a similar previous study and find the beginning salaries for agriculture teachers in the United States and the changes in working conditions that occurred during the past school year. Every state was surveyed except Alaska which does not have a vocational agriculture program.

Procedures

A questionnaire was developed which requested information on salaries, number of months on the job, teaching load, expenses, certificate renewal, and changes for the coming year. The questionnaire was then sent to the department or agency which directed the vocational agriculture program in each state. If no reply was received, then the questionnaire was sent to the Agricultural Education Department. The final return was 100 percent.

Major Findings

There was a variation on most of the items reported from state to state and even at times within a state. The length of employment varied in 59 percent of the states while 33 percent reported 12 months employment and 4 percent reported 11 months employment.

Three types of salaries were requested: minimum, maximum and average beginning salaries for vocational agriculture teachers with a B.S. or M.S. degree.

A beginning teacher with a B.S. degree could have expected a minimum beginning salary in a range of $645 to $940 per month; and with an M.S. degree, from $685 to $1,098 per month.

Table I is a summary of *minimum starting* salaries for vocational agriculture teachers. The most frequent salary range for a beginning teacher with a B.S. degree was $700-799 with 26 states or 53 percent reporting in that range. One state reported the minimum starting salary was below $650, and one state reported it was above $900. The most frequent beginning minimum salary range for teachers with M.S. degree was $750-849 which 17 or 34.7 percent of the states reporting.

Table II shows the summary of *maximum starting* salaries for vocational agriculture teachers. The most frequent

TABLE I

SUMMARY OF MINIMUM STARTING SALARIES FOR VOCATIONAL AGRICULTURE TEACHERS

B.S.			M.S.		
Monthly Salary	Number of States	Percent	Monthly Salary	Number of States	Percent
$600--649	1	2.0	$ 650--699	1	2.0
650--699	8	16.4	700--749	3	6.1
700--749	13	26.5	750--799	9	18.4
750--799	13	26.5	800--849	8	16.3
800--849	6	12.3	850--899	4	8.2
850-899	7	14.3	900--949	5	10.2
900--949	1	2.0	950--999	1	2.0
			1,000--1,049	2	4.1
			1,050--1,099	2	4.1
			No Information	14	28.6

*A report of a Master's Thesis done at Oklahoma State University.

range for teachers with a B.S. degree was $900-949 with 12 or 24.5 percent of the states reporting in this range. Two states reported salaries in the range of $1,000 to $1,099 and two $1,100 through $1,199 per month. The range of maximum starting salaries for agriculture teachers with a B.S. degree was between $700 and $1,171 per month. At the same time, 12 states or 24.6 percent reported maximum starting salaries with the M.S. degree between $800-899. Fifteen or 30.6 percent of the states reported salaries between $900-1,049. The range of maximum starting salaries for the M.S. degree was from $805 to $1,545 per month.

The *average starting* salary range for a teacher with a B.S. degree was from $691 through $1,072 per month. While for a teacher with the M.S. degree, it was $708 through $1,158 per month. Table III show the frequency of average starting salaries. The most frequent range of average, starting monthly salaries for teachers with a B.S. degree was $750 through $799 with 15 states or 30.6 percent reporting. Ten states or 20.4 percent reported salaries in the range of $800 through $849. Eighteen states or 36.7 percent reported paying an average salary of $800 through $949 for a beginning teacher with the M.S. degree. Six states reported paying over $1,000 per month to teachers with the M.S. degree.

In comparison with the study which was completed last year where *average* monthly salaries were used, the low range for a B.S. degree was $500-$549 compared to $600-$649 this year. Last year one state paid over $1,000 per month. This year two states did. For the 1973-74 school year, the most frequent range was $750-$799 with 22.4 percent of the states reporting this range. During the 1974-75 school year 30.9 percent reported the same range.

For those beginning teachers with a M.S. degree, in 1973-74 the low range of salaries was from $550-$599 compared to $700-$749 in 1974-75, an increase of $150. Only four states reported paying over $1,000 last year while six states did in the 1974-75 school year. The most frequent range was $850-$899 in 1973-74 school year, while in 1974-75 it was $800-$899. However, only 21 states reported an *average beginning* salary for teachers with a M.S. degree in 1974-75 compared to 42 states in 1973-74, so this

TABLE II

SUMMARY OF MAXIMUM STARTING SALARIES FOR VOCATIONAL AGRICULTURE TEACHERS

B.S.			M.S.		
Monthly Salary	Number of States	Percent	Monthly Salary	Number of States	Percent
$ 700--749	5	10.2	$ 800--849	6	12.3
750--799	5	10.2	850--899	6	12.3
800--849	8	16.3	900--949	5	10.2
850--899	7	14.3	950--999	5	10.2
900--949	12	24.5	1,000--1,049	5	10.2
950--999	1	2.0	1,100--plus	3	6.1
1,000--1,049	2	4.0	No Information	19	38.7
1,050--1,099	0	0.0			
1,100--plus	2	4.0			
No Information	9	18.5			

TABLE III

SUMMARY OF AVERAGE STARTING SALARIES FOR VOCATIONAL AGRICULTURE TEACHERS

B.S.			M.S.		
Monthly Salary	Number of States	Percent	Monthly Salary	Number of States	Percent
$ 600--649	1	2.0	$ 700--749	2	4.1
650--699	1	2.0	750--799	2	4.1
700--749	3	6.1	800--849	8	16.3
750--799	15	30.6	850--899	6	12.2
800--849	10	20.4	900--949	4	8.2
850--899	7	14.3	950--999	0	0.0
900--949	4	8.2	1,000--1,049	3	6.1
950--999	0	0.0	1,049--plus	3	6.1
1,000--plus	2	4.1	No Information	21	42.9
No Information	6	12.3			

information must be compared with caution.

It was found that yearly increases were paid by 36 of the states. These increases ranged from $92 to $1,000 for a B.S. degree teacher and from $100 to $1,000 for a teacher with the M.S. degree.

A total of 21 states reported changes in teaching load, certification, certificate renewal, travel expenses or fringe benefits in the past year. The greatest change reported from 17 states was an increase in travel expenses or per diem.

Thirty-five of the states reported that there would be an increase in salary for the 1975-76 school year. The increase ranged from $200 to $1,000 or more.

Recommendations

Because of a record number of unfilled positions this previous year and the loss of more vocational agriculture departments due to qualified people leaving the field, the following recommendations were made:

1. That a similar study be made and published each year to keep the information up to date.
2. That each state compile a list of minimum, maximum, and average starting salaries and working conditions for agriculture teachers in their state and designate if the

(Concluded on page 95)

CONTINUED

LEADER IN AG ED

both Illinois and Ohio.

Scholarly Writing

During the period from January 1968 to December 1970 Warmbrod was Editor of *The Agricultural Education Magazine*. He has authored or co-authored four publications including *New Dimensions in Public School Education in Agriculture, Review and Synthesis of Research in Agricultural Education, New Designs in Vocational, Technical, and Practical Arts Education in the Public Schools,* and *Review and Synthesis of Research on the Economics of Vocational-Technical Education*. He has written many articles for national publications including *The Agricultural Education Magazine, American Vocational Journal,* and the *Journal of the American Association of Teacher Educators in Agriculture*. He authored a chapter in each of two yearbooks published by the American Vocational Association and reported the proceedings of the Agricultural Education Division for the AVA Convention Proceedings Digest for each of the four years 1969-73.

Other Service to the Profession

During this past year Warmbrod was Chairman of a University-wide committee at Ohio State University for the purpose of developing a pattern for the establishment of a comprehensive University-wide program of graduate education in vocational education and closely related fields. He is a member of the University Graduate Council and participates as a member of its Executive Committee. He chaired a College-wide Centennial Committee for the development of programs and methods for improving competence in faculty members. In addition to these services he has been on six college committees and five departmental committees.

Some of Warmbrod's other services include being Educational Adviser for the Occupational Education Series of the Charles E. Merrill Publishing Company, consulting editor and secretary of the Editing-Managing Board of *The Agricultural Education Magazine,* and serving as a member-secretary and chairman of the Research Committee of the Agricultural Education Division of AVA from 1965-68. He has presented papers at many regional and national conferences in agricultural education and vocational education. He has been a consultant to the Center for Vocational Education, Eastern Illinois Development and Service Unit, University of Minnesota, and University of Connecticut. Other activities include participation in Phi Delta Kappa, Gamma Sigma Delta, Phi Kappa Phi, and Alpha Zeta Fraternities in addition to community organizations.

In all of Warmbrod's responsibilities he has been noted for his thorough preparation, sound judgment, and adherence to high standards of excellence. In addition to his significant contribution to the development of new programs and the improvement of current situations, he has utmost consideration for people. He is a leader in the profession and will continue to exert still greater leadership through distinguished teaching, research, and service. ♦

CONTINUED

HUNGER SOLUTION IN NIGERIAN . . .

Amumara Girls' Secondary School have demonstrated without doubt that education, instead of causing a hinderance to agriculture, can be a very valuable asset for its furtherance. It is therefore necessary that in launching the U.P.E. Scheme the Government should emphasize agriculture in the curriculum, because failure at this crucial moment to introduce agriculture to the pupils would greatly contribute to the neglect and disregard of agriculture — the basic industry of the people.

EXTENT OF STUDENT AND STAFF INVOLVEMENT

What has motivated the students more, apart from their basic need to produce enough food for their consumption, is the zeal and interest their principal has shown in their agricultural programs. She has proved to the country and the world that women are a viable force in any future agricultural activities. Besides, she has personally appealed to both the Federal Ministry of Agriculture and Food and Agricultural Organization to come to their aid. The students have proved to the nation and the world that they are an exceptional group dedicated to the restoration of the lost image of agriculture. Using only the local farming implements, namely, the hoe and matchet, the students have now under cultivation an area of approximately 10 acres of rice, maize, cassava and vegetables. The school which has an extensive area for expansion is soliciting aid to fulfill its wishes of combining learning with food production in an attempt to alleviate hunger in the school and beyond.

NEED FOR HELP

There is a great need for help, as the school lacks the necessary equipment for efficient farming. It has been reported that the East Central State Ministry of Agricultural Extension is encouraging the Amumara Project by donating farming materials (spades and shovels) and seedlings to the school. It is necessary to point out that what the girls need most is modern machinery to enable them to till the land. Other forms of aid will involve the provision of water for irrigation, pests and weed control measures and timely provision of planting materials.

THE SIGNIFICANCE OF AMUMARA PROJECT

There is no doubt that agriculture has been taught in most elementary and secondary schools for some years, but ironically the students concerned have failed to uphold the principles of practical farming. This is attributed to the fact that more emphasis is placed on theoretical than practical agriculture for the purpose of passing the West African School Certificate Examination. The students are neither encouraged by their teachers nor their parents to practice farming in their homes. The school farms have been viewed as no man's farm by the students, and dedication to farming within the school vicinity has until now been grossly disregarded. However, the Amumara Project is serving as an eye opener to many schools that have neglected agriculture in the past. The Government should, therefore, encourage the establishment of farms in

(Concluded on next page)

CONTINUED

HUNGER SOLUTION . . .

both the elementary and secondary schools. By introducing farming into the schools, children will be saved from hunger and grow up to like agriculture as a means of life. By practicing agriculture, many of the children will become self-employed, thus, reducing the rate of employment which has been a major problem confronting the country. The government should intensify its aid programs in the form of farming equipment, seedlings and skilled assistance to schools as it is doing at Amumara Girls Secondary School, and in doing so it should give guidelines with regard to the conduct and management of such farms. In view of the recent world food situation, the government should perhaps, make agriculture compulsory in all the schools and give every available incentive to the students. By the establishment of a moderately large-scale farming in all or most of the schools, especially those in rural areas, we will be combating the long-term problem of student hunger in schools. ♦♦♦

CONTINUED

SURVEY OF SALARIES

salaries are for a B.S. or M.S. degree teacher.

3. That each state make available to interested people, the salary information for their state.
4. That a comparison be made between agriculture and other teacher salaries in each state.
5. That each state's teacher training institution make available to all prospective teachers a listing of positions, salaries and working conditions in all states that are made available to the institution.

A summary of this study is being distributed to the Agriculture Division of the State Department of Vocational and Technical Education and to the Agriculture Education Departments of the universities in each state. We would advise caution in making direct comparisons between individual states due to the variation in some responses. ♦

BOOK REVIEWS

PARTNERS WITH INDIA: BUILDING AGRICULTURAL UNIVERSITIES, by Hadley Read; Urbana, Illinois: University of Illinois Press, 1974, 160 pp. $6.00

This very interesting and historical book sets the background for the land-grant university in the United States of America. India established similar rural universities. It points out the goals and philosophy of serving people through education and research.

Mr. Read traces the formation of nine universities in India, how six U.S. universities cooperated for 20 years (1952-1972) to serve people through the U.S. Agency for International Development (AID), Indian Council of Agricultural Research (ICAR), the Ministry of Agriculture, and the Ministry of Education.

The book details the experience between the specific universities and analyzes the progress. Some 300 U.S. staff traveled to India and over 1,000 Indian staff studied in the U.S. It gives one a feeling for the pioneering experience, to see and recall history.

Hadley Read is professor and head of agricultural communications at the University of Illinois, and is assistant director of the Cooperative Extension Service. His life and professional career have been molded by the forces that provide the focus for this story — a developing rural America, the land-grant university system, and partnerships with people of other nations.

He is the author of two widely used books: *Getting Information to Farm Families and Communication: Methods of All Media.*

Partners with India has a special meaning for me as I have worked with three of the Indian universities and two of the U.S. universities. It will bring fond memories to anyone who has been assocated with Indian development. Included in the book is a list of U.S. staff members who worked in India, many of whom will be recognized by Americans as well as Indians.

Anyone interested in international education in general, and the why and how of international cooperation, will find food for thought.

Roger Engstrom
Coordinator Farm Co-op. Program
Iowa Lakes Community College
Emmetsburg, Iowa 50536

SWINE PRODUCTION IN TEMPERATE AND TROPICAL ENVIRONMENTS, by Wilson G. Pond and Jerome H. Maner. San Francisco, CA: W. H. Freeman and Company, 1974, 646 pp., $17.50.

This book deals with the pig, which unlike other farm animals is well adapted to tropical environments. Keeping in mind the great capacity of tropical areas to produce energy from plant sources, the authors use the major portion of this book to focus on the single most limiting factor affecting swine production around the world—what shall they eat? The feeds reviewed are broken down into energy and protein sources from tropical areas, including rice, cassava, bananas, cane sugar, safflower and sesame meal, coconut meal, seaweed and peanut meal. For the U.S. hog producer, much of the discussion on common feedstuffs may be repetitious, but there are excellent reviews on the value for swine of high lysine corn, bakery, brewery and milling by-products, potatoes, citrus pulp, garbage, milk whey, feather meal, poultry waste, petroleum grown yeast and non-protein nitrogen. The other major section of this book is devoted to swine physiology. It starts with the prenatal development of the pig and carries through the entire life cycle into reproduction and lactation.

A host of other swine information is contained between the covers of this book. Swine disorders, housing, marketing, breeding and value of pork as human food are all touched upon in this book. In addition, the value of this book is enhanced by an extensive bibliography at the end of each chapter. There are also nearly 100 pages of appendices, the major portion dedicated to listing the nutrient composition of the various feedstuffs discussed in the text.

Dr. Pond is professor of animal science at Cornell University where he is involved in teaching and research in swine production. His work covers the temperate aspect of swine production although he has traveled extensively. Dr. Maner is director of the swine improvement program of the Center for International Agriculture in the Tropics in Cali, Colombia. This is one of several tropical research institutes throughout the world funded by the Rockefeller Foundation.

This book would be a valuable text for the serious, post-secondary student either in formal or informal study. It also would be a valuable teaching reference for agriculture instructors at both the secondary and post-secondary level.

Ralph Van Dixhorn
Moraine Park Technical Institute
West Bend, Wisconsin

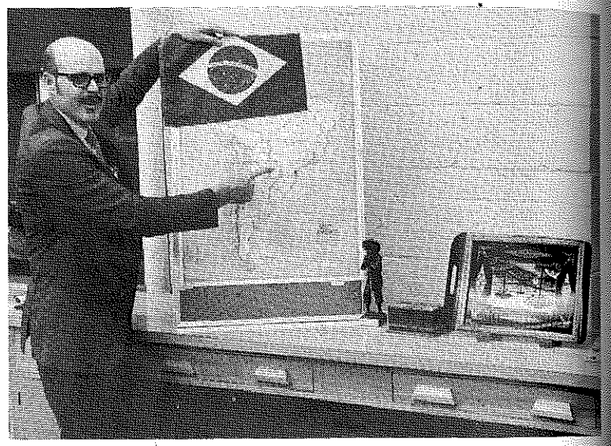
November 1975
Vol. 48 No. 5

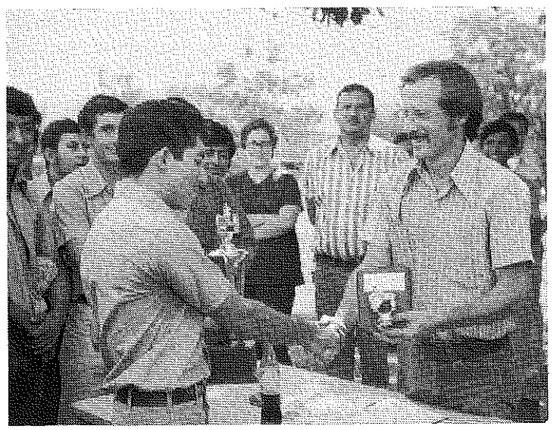
STORIES IN PICTURES

by Jasper S. Lee

NATIONAL ASSOCIATION OF FFK — Entrance to National College of Agriculture, Suweon, Korea. Signs announce formation of Future Farmers of Korea National Association. (Photo from Lambert Schilling and Milo J. Peterson, Minnesota)

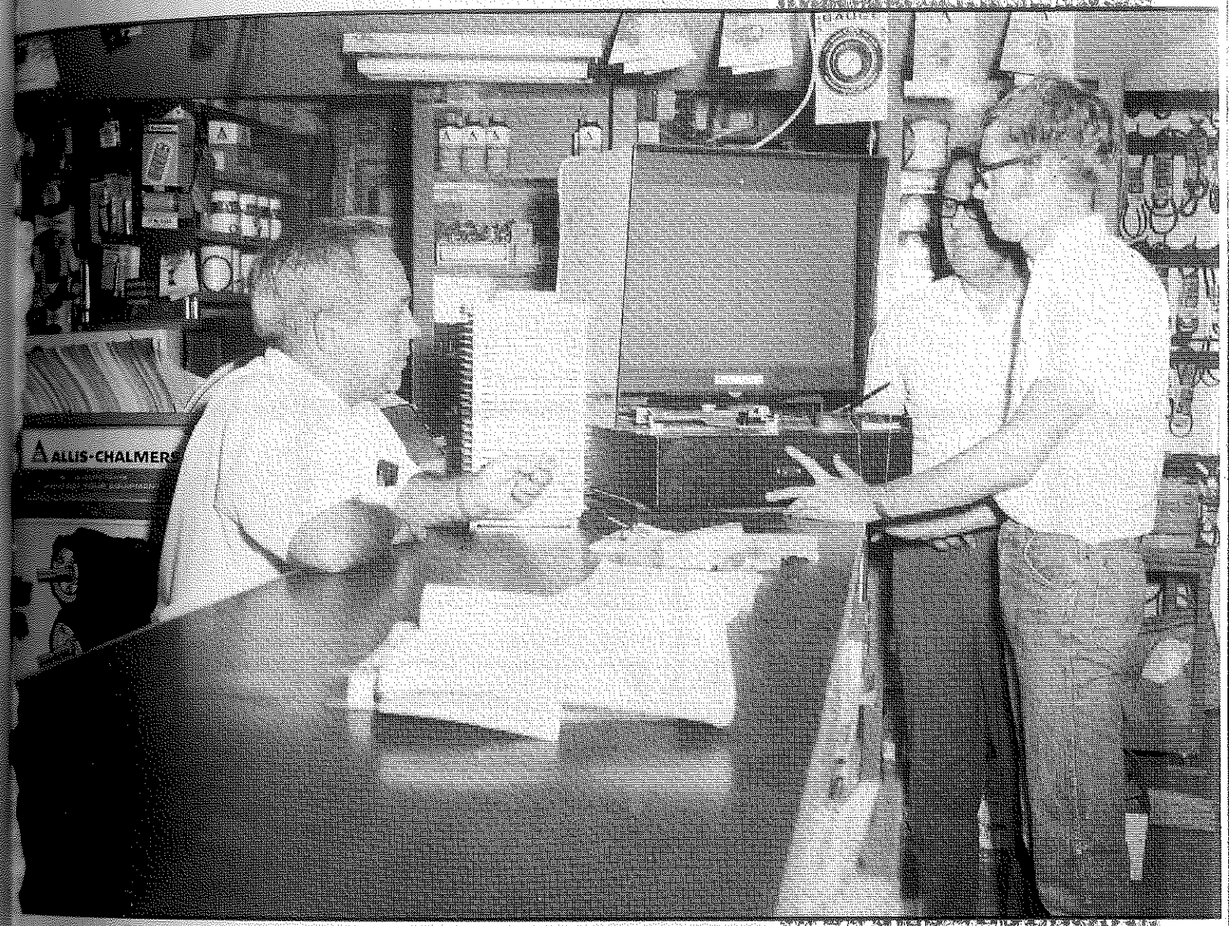
SEMINAR ON INTERNATIONAL AGRICULTURAL EDUCATION — Martin McMillion, Virginia, is shown presenting a program on international agricultural education in Brazil to members of the Agricultural Education Society at Virginia Polytechnic Institute and State University. (He is also Editor of "The Agricultural Education Magazine.") (Photo by Jasper S. Lee, Virginia)





EL SALVADOR TRACTOR DRIVING CONTEST PRESENTATION — Jack Schinstock, former instructor at the National School of Agriculture in El Salvador, is shown presenting the first place trophy to Sorto Villatoro following the first Annual Tractor Driving Contest at the National School of Agriculture in El Salvador, Central America. (Photo from Jack Schinstock, Virginia Polytechnic Institute and State University)

FFA MEMBERS PARTICIPATE IN INTERNATIONAL CONTESTS — Members of the San Luis Obispo (California) FFA Dairy Cattle Judging Team are shown at the National FFA Center prior to departure for the International Dairy Cattle Judging Contest in Wales at which they won second place. The coach of the team is Les Ferriera, center. (Photo from National FFA Center)



Theme—COOPERATIVE EDUCATION IN AGRICULTURE

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AGRICULTURAL EDUCATION