

ARDA

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D. C. 20523
BIBLIOGRAPHIC INPUT SHEET

FOR AID USE ONLY

Batch 73

1. SUBJECT CLASSIFICATION	A. PRIMARY Education	JE30-0000-0000
	B. SECONDARY Education and development	
2. TITLE AND SUBTITLE Report		
3. AUTHOR(S) (101) Eastern Regional Training Conf., Washington, D.C.		
4. DOCUMENT DATE 1976	5. NUMBER OF PAGES 60p.	6. ARC NUMBER ARC
7. REFERENCE ORGANIZATION NAME AND ADDRESS AID/SER/IT		

8. SUPPLEMENTARY NOTES (Sponsoring Organization, Publishers, Availability)

9. ABSTRACT

Reports on the fourth in a series of regional meetings on international agricultural training. This meeting was designed to serve the Eastern Region and to summarize the results of the first three meetings. This report presents the papers given and a summary of the discussions. The major discussion were on training needs over the next decade, new directions in agricultural training, key elements in international training programs, and policy and procedural issues in international training. Goals of the training program are to: provide better and more efficient participant programming; provide more short course training overseas which will be practical and job related; assist LDCs in better use of scarce training resources; break ground in new areas of training; and provide training programs in OPEC countries. Effective degree training for agricultural and rural development in the LDCs is dependent on several key elements: careful participant selection, clear definition of training objectives, choice of training site, and an effective management system. The key elements of training which pertain to the university role are appropriate coursework, relevance in research, interdisciplinary opportunities participant adaptation, and support services. There is a need for a national college of agriculture which will carry on research and educational programs and which will eventually produce the technical personnel to staff the institutions which comprise the national food system. There is a need for more joint research activities and more opportunities for professional interchange, conferences, symposia and workshops, between U.S. and LDC agricultural research personnel.

10. CONTROL NUMBER PN-AAF-042	11. PRICE OF DOCUMENT
12. DESCRIPTORS Personnel development Technical assistance	13. PROJECT NUMBER
	14. CONTRACT NUMBER AID/SER/IT
	15. TYPE OF DOCUMENT

AID/SER/IT

REPORT ON
EASTERN REGIONAL TRAINING
CONFERENCE

WASHINGTON, D. C.

MAY 25-26, 1976

Conference Committee

J. A. Rigney
Regional Coordinator
North Carolina State University

L. W. Zuidema - Cornell University
Hugh Popenoe - University of Florida
William Litwiller - International Training Division
U. S. Department of Agriculture

TABLE OF CONTENTS

- I. Introduction
 - II. Participant Training in the Colleges of Agriculture
 - III. New Directions in Agricultural Training
 - IV. Key Elements in International Training Programs
 - V. Policy and Procedural Issues in International
Training Programs
-
- Appendix 1. Letter of Invitation
 2. List of Participants
 3. Program

I. Introduction

The International Science and Education Council (ISEC) and the Association of U. S. University Directors of International Agricultural Programs (AUSUDIAP) jointly sponsored four regional meetings on International Agricultural Training in the spring of 1976. The Eastern Regional Meeting was the fourth in the series and it was designed to summarize the results of the first three meetings as well as to serve the Eastern Region.

ISEC was formed three years ago to serve as a medium for exchange of information between the U. S. Department of Agriculture and members of the Land Grant Association. It also serves as a forum for discussion of policy and procedural issues affecting these two groups. ISEC appointed a "Training Work Group" to look into a number of problems in that area, and these four conferences are the product of that group's recommendations.

Invitees to the meetings included Deans, Directors of Instruction, Directors of International Agriculture and other interested officials from the land grant institutions in the region. Also invited were representatives from various federal agencies, foundations, international agencies and private firms. The list of participants is included as Appendix I.

The Conference was organized in three half-day sessions, each of which was started with a major paper and followed by formal and informal discussion. This report gives the papers as prepared for the meeting and a summary of the points registered in discussion.

II. THE TRAINING NEEDS OVER THE NEXT DECADE

Robert I. Ayling*

I want to say what a pleasure it is for me to be here at this conference. This is, as you know, the fourth of the regional conferences set up under the offices of ISEC/AUSUDIAP/AID/USDA. In the previous three conferences there have been 150 university people present. This number means clearly that the goal held in mind by the planners of reaching a far wider diversity and a large number of university people connected with training than has been reached in previous conferences has easily been achieved. For me it has been a gratifying experience to share ideas and to meet the personalities involved in this whole worthwhile endeavor.

The topic given to me today is that of training needs over the next decade. I must confess I speak about it, about this topic, with considerable trepidation and anxiety. World events and events within the U. S. in the last ten or fifteen years make all of us less certain in our predictions. But being in the position we are in, we must speculate, we must learn what we can, and we must plan and make decisions.

As we think of the situation today - the beginning point of the next decade - we remind ourselves that the food situation in the world is still one of crisis. The effects are conspicuous in the dramatic plight of parts of the world which are devoid of the resources to meet their needs and are beset by human tragedy. The outlook is dangerously

*International Training, Economic Research Service, USDA

uncertain in view of greatly reduced stocks. If there are large crop failures in several regions simultaneously there would be food disasters of dramatic size.

If we build on current trends the grain shortage of the developing countries toward 1985 will amount to 85 million tons a year or 17 billion dollars at 200 dollars a ton. So as we look at the next ten years we are reminded that the situation today is dramatic, dangerous and one that could get rapidly worse.

The causes of this situation are not unknown. The rise in production has not matched or exceeded population growth, rising demands and expectations, dependence on imports at a time of worsening terms of trade, fall or elimination in stocks, protein energy malnutrition, soil degradation. urbanization, maldistribution and other problems are the causes of the situation that we currently face. So we are clear that the need is great and the causes are known. What is unclear at this time is what the world response will be.

As we talk about training needs for the next decade, it is clear that what training is called upon to do is only part of the total response of the world and this critical situation. What training will do is dependent upon what is done in other areas. I must confess that as we think about what the world may do in response to the food situation there are both encouragements and disillusionments. Certainly some steps have been taken since the World Food Conference of 1974. Assistance has been given to countries of the Sahelian zone. The International Fertilizer Supplies Program has been implemented and the creation of the International Fund for Agricultural Development has taken place. All of these give an

indication of the will of the world to respond. However, there are major issues still remaining--trade issues continue to be a major source of dismay. And other problems of this and similar types give one cause to wonder how effective will be the world response. Another question that impinges on what training needs will be and what the training response will be, is whether training is put in its rightful place. It is quite common to hear comments made that training is not given its due respect; that research and institution building come first and that training is given a smaller place--often to the detriment of projects that are of vital importance. These comments are often accurate. Whether this set of priorities will change remains to be seen.

As we talk about training over the next ten years, let me first indicate some things that I think will happen in the agricultural development world that will be the determinators of what training does. First, there will be a large emphasis on investment capital. Already the International Fund for Agricultural Development has been formed and monies are being made available to other organizations in considerable amounts.

It is clear from our experience that the successful planning and implementation of capital projects depends upon a number of activities. It depends first on successful sector analysis. There needs first to be a broad examination of a country's agricultural sector with a view to identifying major priorities. Second, there needs to be successful project identification. That is, selecting those projects which warrant a more detailed study and priority. Third, there needs to be effective programming, linking in more effective ways, preinvestment and investment. Fourth, there needs to be adequate project preparation, that is detailed feasibility studies which are seen to be viable and for which there are

prospects of securing funds. Fifth, there needs to be detailed and effective project analysis; that is, careful assessment of fully prepared project plans by financial institutions to determine where the funding is liable to be effectively followed by a viable project. Sixth, there needs to be adequate project implementation; that is, a bringing to bare of the appropriate technical and managerial skills to bring a project to fulfillment.

It is clear that with the heavy focus on investment capital abroad there will be a focus on the development of capabilities of this type both in the developing nations and in the funding institutions.

Secondly, there will be over the next decade attempts to correct the balance between the roles of information and research, policy advice and field operations. In practice this comes down and is experienced as a conflict between the short and long term focus. While it is clear that long term needs must not be neglected, it is also clear that long term projects are open to speculation and can absorb large amounts of scarce resources with very uncertain and even problematic results. There will be, in my view, an attempt to be more responsible and responsive in more immediate terms to the needs of governments of developing nations. Thirdly, there will be an attempt to develop thrusts and programs that will have much more direct and immediate impact on food production.

It has become common to talk about the small farmer problem, the inadequacy of extension services, the minor increases in production per acre and so forth. These concerns are valid and will receive increased attention.

What then are the implications of these thrusts for training over the next decade? I believe the major ones are clear. First, it is clear

that training will assume a more important place in development activity and will tend to be more directly tied to development projects, loans and programs.

Already, in some areas of international organization activities, training plans of a very specific and detailed nature are made conditions for loans and are required to be fulfilled.

This importance of training however, will not be an automatic thing. The request for additional stress on training will certainly come from developing nations and also from some international organizations. But they will need to be a deliberate and thoughtful response on the part of the dominant institutions in international development to these requests. It is unfortunate, I believe, that in the Title XII legislation-which is liable to emerge as having dominating force in U. S. international development activities-makes very little mention of training. As you know, it establishes a Research Committee and a Country Programs Committee. Training is not represented by a committee and is hardly mentioned in the legislation. I believe that to give training its rightful place, it would be advisable for a training sub-committee to be established under Title XII which would have among its members representatives of both the committee on research and the country programs committee. In this way we may be able to provide adequate linkage into these committees that will be most important in planning Title XII activities.

Second, the next implication for training is that training support of investment will grow. We did indicate earlier the areas that are of vital importance when it comes to successful investment. These are indicated sector analysis, project identification, programming, project

preparation, project appraisal, and project implementation. It will be necessary for the training community to provide adequate training for national resources in these areas. As you are aware, the AID Technical Assistance Bureau has recently funded USDA to develop training resources and training capability in project management in four training centers around the world. Together these training centers will service some 40 nations. This is a highly desirable step, but still needs to be reinforced and supplemented in a multiplicity of ways if national manpower for the effective use of investment funds is to be available.

The third implication for training is that training will need to be done through mechanisms and in ways that enhance the development of local training institutions.

By such institutions I do not mean only agricultural colleges and universities or extension services but rather whatever training institutions at whatever level are present within the developing nation. Less dependency on the institutions of the developed countries must be developed within the developing nations themselves.

The fourth implication for training is that it will be required to assist in and support training at the lowest levels in the production chain. A vast challenge exists here both for developing nations and the assisting organizations in other countries. The ways to provide training on the scale that is needed to farmers, fishers and foresters are not clear and there is need for much practical experimentation at this point.

The fifth implication for training lies in the need for the identification of research relevant to training itself.

We are all agreed on the emphasis that has been placed on research in

agriculture in the United States and abroad, and a gratifying feature has been the success of that research. A less gratifying feature has been the amount and quality of research done on the training methods and institutions that are needed to deliver and apply the results of agricultural research. It is clear, even within the United States, that while there have been major breakthroughs in agricultural research, our efforts to disseminate that research and to disseminate other social changes that impact on food production have not been overly successful. A case in point is the rural poor in the United States.

It seems to me that much training has been done in the international area not only by agriculture, but also by public administration, food and nutrition, business, and family planning experts. In a number of these areas there has been training for a quarter of a century in a good deal of research also. While no one would claim that the research is adequate, much has been done, but the lack of application and awareness of that knowledge across disciplinary lines leaves a great deal to be desired. I am aware, for instance, of research done in the international area by the Kaiser Aluminum Company, which has developed solid research data on the kinds of Americans who adapt most readily to the international experience and who adapt most successfully to living and working in other cultures. Not only do I see no application of that knowledge in the agricultural scene, I see virtually no awareness that such knowledge exists.

A major challenge for us all will be for us to participate in research that will provide us with training, mechanisms and techniques worthy of the challenge that we face in the developing nations.

Discussion:

Don Kimmel (FAO) - From FAO's perspective the training needs of the next decade will require more training for specific regions or ecological zones. Training will be more important as a component of a broader project. This will probably mean fewer people will be coming to the U. S. for that training. He disagrees with Ayling's contention that there has been a disproportionate amount of training for research. There will be more demand for tailor-made courses for special groups and much more demand for in-country training. The new Director General of FAO is emphasizing more impact-oriented programs and more village-level training. Kimmel is quite unhappy with the de-emphasis of institution building as a major focus in training.

Charles Fleer (AID) - Sees more in-country and third-country training with less emphasis on degree programs. Host countries need better manpower projections against which to make training places. Funds available for training in any country is determined jointly by the AID mission and the host country. Biggest problem is to get training that is relevant to country needs.

General - Two trainees who had just completed an organization management course in USDA testified to its usefulness to them. Both were experienced administrators who felt that younger persons would profit even more from such training as a bridge between technology learned in the U. S. and applications in their own country.

--In assessing training needs a distinction was made among 1) actual needs; 2) expressed needs, and 3) actual demand.

--Question was raised on reasons for underemployment of returned trainees.

Is it an administrative or policy problem?

--There was much discussion of how missions assess training needs. AID ties training to specific projects. Ministries have varying enthusiasm for training. U. S. training costs have dampened their interest. Ph.D's are difficult to hold in host government agencies, especially at the bench-scientist level. There was much speculation on the feasibility of reducing the travel and U. S. per diem of trainees, but no consensus emerged.

--Discussion of type of training emphasized need to get away from "asphalt agronomists" via more practical experience. The greater use of international centers for thesis research and practical experience appeared promising.

III. NEW DIRECTIONS IN AGRICULTURAL TRAINING

Quentin M. West*

The U. S. Department of Agriculture, in its work with the Agency for International Development (AID), coordinates all the available resources throughout the U. S. agricultural sector for technical assistance and training. In this role USDA relies on its International Training Office to serve as a single point where these resources are applied to the planning, development, coordination, conduct, and evaluation of training programs in agriculture and related areas.

In recent years, I have urged the International Training Office to reexamine its role and functions and to expand its scope of action. Our programs aim to meet the needs expressed by personnel from AID, USDA, and Universities who have worked with former participants. We get valuable feedback concerning training needs from these people, and we also get information from AID Missions and United Nations Development Projects.

As a result of this information flow, and our reexamination of our role and functions, we have identified several important aspects of our training program on which we are focusing particular attention.

Our goals are to:

1. Provide better and more efficient participant programming.
2. Provide more short-course training overseas which will be practical and job-related.
3. Assist LDC's in better utilization of scarce training resources.
4. Break ground in new areas of training.
5. Provide training programs in OPEC countries.

Let me expand on some of these important items:

* Administrator, Economic Research Service, USDA

1. To provide better and more efficient participant training,

we are organizing a more complete communication and monitoring system, to ensure that the training cooperators -- for example, the academic advisors for degree candidates -- are aware of the full scope of training requested by the sponsoring agency. In the past, some participants received only the base minimum of training needed to complete degree requirements without participating in the additional course work or specialized training that was specified in the training request.

Sometimes field experience or practical application training was inadequate.

We know that improved programming, monitoring, and communication have resulted from our increased attention to these areas.

2. More Short Courses Offered for Presentation Overseas

In 1972, the International Training Office offered a new course entitled "Agricultural Capital Project Analysis." The procedure we followed with this course, which became a model for others,-- was to offer it first in the United States as a pilot or "seed" course and then to offer it overseas. Countries often send one or two participants to our economists who teach the course in their country. Since 1972 this particular course has been offered five times in the U. S. and 10 times overseas.

University staff from 5 Universities have played an important role in this course by serving as instructors for a section of the U. S. course, as overseas instructors, and in preparing teaching materials.

With this course as a model, USDA asked for and received funding in 1974 from AID for two new staff positions to strengthen our efforts to prepare more courses for presentation overseas.

These additional staff members have enabled us to develop several new courses for pilot presentations in the United States and for use overseas. Among them are:

- a. Agricultural Project Implementation, Control, and Evaluation
- b. Small Farmer Credit Policy (already presented in Bolivia)
- c. Small Farmer Credit Distribution and Administration (scheduled for presentation in Bolivia starting in June)
- d. Agricultural Policy Formulation and Analysis
- e. Economic Forecasting for Agricultural Policy Making and Planning
- f. Irrigation Problems and Practices

Again University staff members are involved in preparation of materials in each of the above courses.

We believe that this effort to develop specialized short-term programs ensures that our training is relevant to the changing needs of the developing countries, and these courses are an important part of our training program.

3. Program to Help LDC's Make Better Use of Scarce Resources

In March of this year, we signed a new agreement with TAB/AID establishing the Development Project Management Center. Under this agreement the International Training Office provides staff and training support in project management for 4 regional centers:

- .Inter-American School of Public Administration (EIAP), in Brazil,
- .Inter-American School of Agricultural Sciences, in Costa Rica,

.Asian Institute of Management, in Manila, the Philippines. The agreement provides for three new staff members headed by Dr. Morris Salomon, as well as considerable consultation time to help strengthen the outreach programs at these regional centers. The project will help provide materials, curriculum development, and consultation to improve capabilities in these regions for project identification, planning, and analysis. University staff can expect us to request training programs and staff on short-term assignments to meet the demands of this project. Two of the key problems to be addressed by the regional centers are:

- a. The lack of managerial capacity to meet program needs, particularly in agriculture, health, and family planning, at national, regional, and local levels.
- b. The lack of a capacity to institute delivery systems involving public service structures, including the communication, transportation, and marketing channels that are necessary for effective dissemination of information.

4. New Areas of Training

One of the major needs for participants training -- indicated repeatedly in recent years by returned AID/USDA and University officials -- was training in management. Although technical training is needed, information concerning management techniques, methodology, and philosophy, we were told, was sorely lacking. We decided to break ground in this area. As a result, we have just completed presentation of one course in management and another is going on now -- both offered for the first time

in the U. S. The first course, Organization Development Skills for Agricultural Managers, is designed to improve the ability of senior level agricultural managers in developing their most essential resource - the managers, supervisors, and technicians of their own organizations.

The participants in this course were all top-level administrators anxious to learn what was presented: how to conduct an organizational diagnosis as a guide for planning and implementing an agricultural organizational development program. Participants in that course have requested help in setting up similar training in their home countries, as well as assistance in conducting the organization development projects.

The second course is "Management and The Role of Women in Development." It was designed to provide women in administrative positions with increased management and leadership skills, particularly in relation to their role as women. It is intended to assist women in roles as executives, managers, and leaders in rural development. Twenty women are taking part in this course, under the leadership of a woman who is one of the top management specialists. We anticipate excellent responses from this course and requests for followup training in home countries.

In addition to the shift in emphasis toward management training, as exemplified by these two courses, other new areas for training include agricultural policy analysis, integrated rural development, manpower planning, and agricultural sector analysis.

To fulfill the new emphasis on management and project development training, we have hired some staff with expertise in this kind of training.

In addition, we have looked within and retrained some of our own staff in the area of management training.

Training Opportunities in OPEC Countries

Some other outreach efforts in which we are involved concern training opportunities in the OPEC nations. This area represents an exciting and relatively new approach in international cooperation in agriculture, and I would like to bring you up-to-date on this aspect of our work.

The Joint Commissions with OPEC countries -- inspired by Secretary of State Kissinger's Mid-East peace keeping efforts -- represent a new type of participatory aid program, since the countries cooperate fully in planning, carrying out, and financing development programs under direct contract arrangements.

Although several OPEC countries may have some training opportunities, only Saudi Arabia and Iran offer any significant training possibilities at this time. Both Saudi Arabia and Iran anticipate major training efforts that could develop into very significant programs over the next few years. Funding arrangements are still a problem with the Iran programs, so they are moving slower than those with Saudi Arabia.

Saudi Arabia

Saudi Arabia is in a hurry. Some projections indicate up to 1,000 participants over the next 5 years.

A meeting in Washington May 24-25 is making final arrangements for cooperative U.S.-Saudi Arabia training activities in agriculture. Saudi Arabia brought 20 U. S. university representatives to Washington, D. C. for this meeting to discuss admission problems and how to solve them, as well as ways to monitor student progress. During this visit we proposed that USDA be a contact point for agricultural training activities. USDA, in

turn, will work closely with State universities and land-grant colleges through ISEC. Our main involvement will be guidance on technical components of the program, and not administration. The Saudi government has a permanent office in Houston which will handle payments to participants and other administrative matters.

Training will include both academic and short-term, practical programs. Each university graduate will also have a 6-month on-the-job program following completion of his degree, so he will have practical experience beyond the academic theory. Estimates include 40 Ph.D. programs over the next 5 years, and 130 M.S. and 260 B.S. programs. In addition, some 10 agriculturists who already have Ph.D.'s will receive short-term on-the-job training in the United States, as will 50 persons who already have M.S. degrees, 300 who have B.S. degrees and 150 high school graduates. Various disciplines will be involved, but emphasis at the B.S. and M.S. levels will probably be on plant science, water resource development, engineering, and, to some degree, animal science.

Language and orientation are likely to be critical areas in these training programs. Discussions are underway to solve some of these difficulties.

Candidates have already been identified for training programs and the Saudis are ready to move fast once mechanisms are in place. First activities will probably concentrate on students already in the United States, but new participants will be ready to come as soon as we can handle them. There will probably be some in-country training developed later, but several logistical problems need to be solved first. Many training candidates will be tied closely to U. S. technical assistance projects.

Iran

An extensive training proposal developed by Bob Ayling, USDA, and Bruce Anderson, Utah State, in March 1975 was well received by Iranians, but funding has created problems for implementation. However, the first of 4 groups nominated by Iran for U. S. training under the Joint Commission Agreement will be coming in June, this will include 6 people who will be studying range management in a 5-month program. Another request from Iran has 100 people studying six different subjects in a 4-month practical program. Some 8-10 universities will be involved. The training model is 12-weeks of subject matter specialization, followed by 4-weeks on extension methods. We are now responding to their initial request and some trainees will probably begin arriving this summer.

The general manpower training needs that have been identified for Iran are as follows:

- a. Graduate training in Livestock, crops, genetics, agronomy irrigation and drainage, agricultural biochemistry, economics, rural sociology, entomology, food technology, and engineering.
- b. Training in public administration, finance; agricultural economics, field and operational management, including water conservation and irrigation practices, administration at various levels, marketing facilities, transportation, food processing, inspection services, grading and standardizing, and project evaluation.
- c. Training of Iranian agricultural researchers at U. S. research centers.
- d. Provision of short-term and resident scientists for teaching and research works at the postgraduate institute attached to

the Iranian Agricultural Research Organization.

e. Training in fertilizer marketing, use and research.

We look forward to working together with all of you on this new job of helping to train agriculturists from the OPEC nations, and in pursuing the other new directions in agricultural training that I have described to you.

IV.

KEY ELEMENTS IN INTERNATIONAL TRAINING PROGRAMS

L. W. Zuidema*

The Agency for International Development, the Foundations, and the universities which participated in the massive effort to help build educational institutions to serve agriculture in the developing nations can be justifiably proud of the contributions they made in the 50's and 60's. For the most part, these efforts were successful in creating viable institutions for agricultural training and research. Through these efforts (and sometimes in spite of them) and through the commitments of the countries involved, many LDC's now have institutions capable of giving Masters degrees and Ph.D. degrees in selected areas. Where these institutions exist, the role for U. S. training takes on new dimensions and this paper will explore some of them.

But the job is not done. Many countries still, for various reasons, do not have viable educational institutions capable of providing the manpower to staff development projects, administrative posts and their educational institutions. Some should not, because of size or location, attempt to develop these institutions but need to rely on cooperative agreements with other countries in their region or the developed countries for high level training. However, where a country's development plan calls for the creation or strengthening of educational or action oriented institutions to serve agriculture, we in the U. S. should not shy away from this important endeavor. Our development strategies should not be so singular as to exclude those activities which may be appropriate. Our ideal

*Assistant Director of International Agriculture at Cornell University

models may change as a result of our experiences, but needs should dictate our response posture.

I am suggesting that our training commitments focus on the strengthening of institutions. We in the U.S. should seek to organize our training programs toward the strengthening of the institutions which are supporting the agricultural development programs of the countries we are assisting. We must not lose sight of the continual need for trained manpower.

The focus of this paper is on training in the U.S. It is recognized, however, that individuals trained here represent a small portion of the total training effort for any one country. It is also recognized that most training is more appropriately provided within a country and, indeed, my case for a sustained institution building objective supports a continued effort to reduce a country's dependence on training in the U.S. In the future, we may have an even greater role to play with respect to assisting with non-formal, specialized training in the developing countries than we have had in providing academic training in the U.S. As agricultural and rural development activity intensifies so does the need for trained manpower to staff essential services and provide training to the lowest levels.

Training for foreign nationals in the U.S. is appropriate in the following circumstances:

1. To train educators, scientists, and researchers to levels beyond the capacity of a country but which is necessary to meet future needs for trained manpower.

2. To upgrade current educators and researchers with respect to new developments in a field of study.
3. To provide specific skills not locally available but necessary for an educational or development activity.

Universities, the USDA and AID have been partners in both degree and specialized training programs to meet these needs. In this paper, the critical elements in training will be explored for training in (1) traditional Masters and Doctorate degree programs, (2) specialized training, (3) professional degree study and (4) cooperative degree programs as they involve our universities only.

Advanced degree programs

U.S. universities are generally well prepared to train U.S. students to meet U.S. needs in a variety of disciplines. We have extended this competence to the training of foreign students with mixed success.

Over the years, at least two factors have improved the ability of many of our institutions to provide training more appropriate to the needs of students from developing countries and these remain critical to ensure effective training in the future.

1. Faculty experience abroad - The era of institution building had the very important consequence of bringing back to our campuses a breed of faculty with an understanding of and sensitivity to the training needs of developing countries. Their ability to advise and relate to international students has greatly improved the training programs which have been worked out for them. Sustained and large

scale faculty involvement overseas has now been reduced and this will have some negative effect on future U.S. training programs unless a distinct program style and operational pattern for international students has been institutionalized at the university. Efforts to direct international students to those with international experience are extremely worthwhile.

2. University commitments - In this age of rapid communications and multimedia learning opportunities abroad, we are training students who come with a greater ability to adapt to our culture and educational system, more confidence in their past training, a keener sense for discerning what's relevant for them from their U.S. experience, and a higher expectation with respect to their educational program. This new breed of third world student is placing pressures on the system requiring responses which are often different from those provided to our own U.S. students. Increasingly, we are recognizing the additional effort required when we commit ourselves to the advanced degree training of international students. Universities have been making these commitments in recognition of the needs abroad and to ensure effective and relevant training. The creation of special courses and degree programs and the organization of International Agricultural Programs at many of our universities attests to this fact. Unfortunately the effects of the recent recession have created financial constraints which tend to work against the gains made in this area.

Effective degree training in the U.S. for agricultural and rural development in the LDC's is dependent on several key elements. Some of these relate to the sponsors and managers of training programs and others relate to the universities. Some of these we are doing well and others not so well or not at all. All deserve consideration as we look to the future.

The key elements that pertain, for the most part, to sponsors and managers of degree training in the U.S. are as follows:

1. Careful participant selection - Advanced degree training in the U.S. is expensive and only a small portion of those who will be active in agricultural and rural development in the developing world will be able to receive the high level of training available in the U.S. Estimates of annual costs incurred by well known sponsors of international students in the U.S. range from \$8,000 to \$14,000 per year. These annual amounts are usually sufficient to pay for the cost of educating 5 or more students each year within many of these countries. It is imperative, therefore, that sponsors select participants for advanced degree training who not only have adequate academic qualifications, but who also have a strong commitment to agricultural development and are part of institutions which are effectively contributing to national development goals. Students who know they are needed and will be rewarded with responsibilities commensurate with their training are clearly more motivated and potentially more useful. Continued institutional ties during training help maintain morale and contribute to more effective training programs.

2. Clear definition of training objectives - The articulation of training objectives between the country institution, the student, the sponsor, and the training institution remains as one of the prime requisites of effective training. When objectives are effectively communicated, U.S. trainers can make better choices among the various perspectives within a discipline to meet student needs. When objectives are not clearly understood, the danger is the development of a program which provides ideal training for the U.S. job marketplace, but which may not be useful in the country and institutional context intended by the sponsor. Participants sometimes have or develop objectives which differ from sponsors and their home countries.

3. Choice of training site - We are fortunate in having a large number of institutions of higher education which are capable of providing advanced training in agriculture in many diverse environments throughout the U.S. All have their particular strengths which must be capitalized upon when placing international students. Some ideal considerations for placement are: research and teaching capability in desired areas of training, faculty experience and linkages in country involved, flexibility in degree program to accommodate specific training needs, and approximation of country environment and crops if possible. (My Ghanaian friend wondered what he could learn about tropical soils in Ithaca as he stepped off the plane on January 23 exposing himself to a wind-chill factor which periodically reached minus 71^oF - but I had

an answer for him - I told him that he could learn some practical principles of soil classification and correlation from our scientists who have had considerable experience in the tropics when the surface "soils" melted in the spring. Furthermore, our research program in Ghana will backstop him when he returns.)

4. An effective management system - The partnership between the LDC's, AID, USDA and the Universities has been useful and fairly successful in the past. In recent years, some deterioration in the system has occurred which is reducing our overall effectiveness. We are addressing ourselves to these weaknesses during this conference. Suffice it to say that an effective management system is crucial to training in as much as it successfully (1) relates training objectives to country development objectives, (2) defines and arranges for appropriate learning experiences to meet training objectives, and (3) provides and administers procedures and financial support which enables the training to be conducted with minimal anxiety on the part of the trainee. I'm hopeful that the efforts of the AID - USDA - NASULGC Informal Study Committee on Agricultural Participant Training will result in a solid, comprehensive, common sense system which will enable us to effectively conduct training and be efficient in utilizing AID and FAO funds appropriated for that purpose. We must be prepared to accommodate new modes of operation as provided under Title 12 of the Foreign Assistance Act, respond to new requests from the OPEC countries, and meet the future needs of FAO (which is under new management).

The faculties of our universities have been and will likely continue to be the prime trainers of agriculturalists who come from abroad. With increased commitments to international training and experience abroad, many positive changes are taking place and we are becoming more creative in our response to training needs. I'll mention some recent innovations as I discuss the key elements of training which pertain to the university role in degree training.

1. Appropriate coursework - Our prime concern is to produce solid scientists and capable researchers who will be able to respond to the current and future agricultural development needs of the LDC's. We are constantly in the dilemma of weighing the trade-offs between highly specialized and/or sophisticated training which we require in the U.S. and a broader based training program often requested. I believe we need to make more of an effort to tailor academic programs to meet the needs of participants. An advanced degree program should offer the coursework which provides a student with a solid grounding in his discipline and related disciplines. But it should not then place the student in a straightjacket of specialization so narrow as to limit his future scope for a meaningful contribution in his own country. He needs some additional training which a U.S. student may not need due to the future professional support mechanisms built into our system which are normally not afforded to those from abroad (particularly in the early years of their professional maturation). The following suggestions for training may not be feasible at all universities,

but several have the critical mass of international students to justify their consideration and others could make arrangements for their students to participate in special summer courses or to transfer to a larger university for one semester when these courses are offered.

- a. Specialized courses relating to tropical agriculture -
Many universities now have faculty capability to offer such courses and are doing so. Recent demand from U.S. students interested in working abroad on world food problems now makes it more feasible to develop these courses in more locations.
- b. Interdisciplinary courses dealing with agricultural development problems in LDC's. - These courses provide students with a more comprehensive view of their problems and help them establish the context of their own potential contribution. They also afford them the opportunity to systematically review what others in similar situations in other parts of the world are doing to solve their problems or open new avenues of development.
- c. Courses which offer practical training - Advanced degree students can substantially improve their acceptability and effectiveness when they return if they have the confidence to utilize their training in the real world context of practical problems. Too often we hear the justified

scorn of those trained locally against those who receive Ph.D's from abroad because they return, for example, as experts on a specific wheat disease but could not successfully raise a crop of wheat if their stomachs depended on it. Courses that are relevant to a student's training but which offer opportunities for practical experience in crop production, animal husbandry, or farm managements have even more functional utility for the international student than for the U.S. student and we should seek to build these into more student programs.

- d. Training for the management of agricultural and rural development programs - Most of us are aware of the rapid changes in career patterns which often take place among the students who receive advanced training from the U.S. Typically, they are thrust into leadership roles at very early stages of their professional development. International students themselves are becoming more aware of this phenomenon and are concerned about their ability to administer agricultural programs. We cannot make them administrators but we can complement their degree training with a course or two which sensitizes them to the principles and problems of management in the context of agricultural and rural development programs. We have had a very positive experience with such a course at Cornell this Spring. Approximately 47 students (35 foreign and 12 U.S.; 23 from technical

agricultural and 24 from socio/economic disciplines) have actively participated in a 3 credit hour course on the administration of agricultural and rural development. We introduced the course with a review of the task environment of administrators, administrative structures, and resources which are at their disposal. The next section was concerned with administrative functions including: (1) staffing and supervision of personnel, (2) planning, program development and project design, (3) economic tools of analysis, (4) budgeting and expenditure management, and (5) implementing and adapting programs. This was followed by a section dealing with types of administrative programs such as research, extension, agricultural services, and rural works and infrastructure. In the final section, we tried to pull things together with discussions of the integration of activities, the interface between officials and peasants, and the utilization of foreign assistance. The teaching of management in isolation can be deadly, but taught as an interdisciplinary seminar within the context of the common concern regarding agricultural and rural development, it can be exciting and useful. Student reaction certainly has been enthusiastic. We need to give this area of education and training more emphasis and concern.

2. Relevance in research - In some disciplines and for many problems, research training is universal and adaptable wherever one works in the world. For the most part, however, we need to concern ourselves

with the relevance of U.S. research training for those from the LDC's. We need to ask ourselves: what level of sophistication and equipment is required, how narrowly based should the research project be, who can best advise the student, where the problem should be conducted, what transferability is possible, what kinds of scientists the country needs, in what context will the student be working, and what is the expectation of the home country and sponsor. Faculty with professional experience abroad are in a better position to answer these questions than those who have little or no understanding of the needs and conditions which prevail in the LDC's. Where university contact officers and international programs exist on our campuses, an effort has been made to respond to these questions to ensure more effective training.

The question of "where" research should be conducted has received increased attention over the last decade. There has been a trend toward more thesis research being based on experimentation and data collection in the developing world as a part of U.S. degree training. While this may not be appropriate or feasible in many cases, it has been the key to effective training for several students in the past and should be expanded in the future.

One of the important criteria for the success of thesis research abroad is adequate supervision in the field. The institution building projects of the 50's and 60's would have provided ideal mechanisms for such training had we been prepared to move in this

direction at the time (some did). Today, we have new opportunities through the acceptance of cooperative training by the International Centers where professional supervision is generally very good. Through our past efforts and the commitments of the LDC's, many national and regionally recognized institutions of higher education now have strong advanced degree programs in agriculture. We need to recognize and utilize the highly trained manpower (many trained in the U.S.) available in these institutions for the cooperative research supervision of international students enrolled at our institutions. This serves the additional role of helping to building the stature and image of these institutions abroad.

A second criterion for success relates to the style and manner by which these cooperative research efforts are initiated and conducted. The definition of the problem and the focus of the research should be developed collaboratively with researchers in the LDC's whenever possible. The research project should be compatible with research priorities and commitments established in the country and be conducted within an appropriate institutional context. The design and conduct of the research remains as the prime contribution of the researcher and the U.S. advisor. [For a forthright and illuminating treatise on this style of research see Castillio, Gelia. A View from Southeast Asia, SEADAG: Asia, 1968. The emphasis is on expatriates, but the sensitivities and principles are relevant]. Research abroad has many advantages among which are: (1) the

advancement of science in LDC's, (2) adaptation of researchers to local conditions and equipment with which they will work in the future, and (3) development of commitments to local problems with opportunities to readily expand on thesis research upon his return home.

A final criterion for success is adequate financial support. This can best be accomplished by sponsors who permit funding for this purpose. AID has recently been somewhat more flexible on this and it's hoped that, in the future, they will fund such research when it is deemed appropriate by the universities. Normally, significant additional budget resources are not required since maintenance rates are generally lower abroad.

3. Interdisciplinary Opportunities - A third key element of training is the continual need to develop mechanisms for multi- and interdisciplinary interaction. Problems do not always categorize themselves neatly into disciplines. Furthermore, international scientists often do not have the depth of professional resources to call upon when they are confronted with real problems in their own countries. Even when they do, it is useful for them to develop sensitivities to the potential contributions which others can make to common problems. We don't do this well for our own students, so new strategies are called for to provide appropriate interdisciplinary training for international students.

One mechanism is the development of interdisciplinary seminars as

previously discussed. Such a seminar conducted on a voluntary basis at Cornell this year reviewed the critical issues relating to the world food situation from a variety of perspectives and then went on to explore specific agricultural development projects designed to meet food needs in various locations around the world. Students and staff from many disciplines learned what each discipline could and was contributing.

Another mechanism to help students from different disciplines relate to each other in a training situation is somewhat experimental, but has been successful to this point. Both Kansas State, at the M.S. level, and Cornell, at the Ph.D. level, are involved with CIMMYT in team thesis research. Under this arrangement at Cornell, six students representing Entomology, Plant Pathology, Soils, Plant Breeding, Biometrics, and Agricultural Economics (4 from LDC's and 2 from the U.S.) have been working on the common problem of corn varieties suitable for small farm conditions. Each has his own thesis project, but all collaborate with each other on overall project activities and are mutually supportive of each other when consultation is called for. We believe this style of research has promise for the future in that it builds understandings concerning the need and advantages of working together to solve critical and complex food problems in tropical countries.

4. Participant Adaptation - Assisting students adapt to our educational system and our agriculture continues to be a key element in any

effort to train those from abroad. Despite their higher level of sophistication, many still struggle with our system of education and need help in interpreting it at an early stage. They also need help in understanding our agriculture and what makes it different from theirs. Many things can be learned from our agriculture and many things are not transferable in whole or part. Efforts to interpret the nature of our agriculture system with respect to relevance for LDC's is extremely worthwhile.

5. Support Services - A final key element which is readily accepted, but which bears mentioning, are the support services provided by international student offices and contact officers in the U.S. Among other things, they pave the way for foreign students to concentrate on the training programs designed for them. The role of the contact officer as liaison between the student and advisor at the university and the sponsor continues to meet a vital need for coordination in the conduct of international training programs.

The above comments have related primarily to participants enrolled in traditional M.S. and Ph.D. degree programs. Other modes of operation have functioned effectively in the past and new ones are emerging to meet training needs as reflected in the 1970's. I'll discuss some of these briefly.

Specialized Training

As levels of appropriate technology rise and as more commitments are made to investments in agricultural and rural development in the LDC's, the pressing need for skilled technicians and effective managers increases sharply. Much of the

training needed to staff these projects and to man their research components must be conducted within the country. Often, however, strategic skills are needed which makes specialized U.S. training appropriate.

Some of the key factors which need consideration in this type of training are:

1. The participant must have a strong goal orientation.
2. Specialized training is expensive from the standpoint of the participant as well as in the use of training resources.
3. Efforts to centrally organize short courses around common training needs are cost effective and programmatically superior in most cases.
4. Opportunities for third country training, where conditions may be more relevant, should be seriously considered by sponsors.
5. Practical experience must be built into training design if possible.
6. The use of institutions which have had experience in the countries or region involved will help make the training more meaningful.

Professional Degree Study

In this country and abroad, we are beginning to recognize that research training is not appropriate for all who receive a higher education. Several universities now have opportunities for professional study programs for those who are already entrenched in their careers. These programs are particularly appropriate for many of those from the LDC's who come to the U.S. for further training; not only those needing an upgrading of their skills, but also those who may be in an administrative position and/or in a situation requiring broader perspectives on agriculture and rural development. Typically, these programs allow more flexibility in the selection of coursework, are more integrative in terms of educational focus,

and involve more practical training with an emphasis on career needs.

Cooperative Degree Programs

With the current availability of many excellent agricultural colleges in the LDC's, we now have new opportunities for establishing cooperative degree programs between U.S. universities and colleges from abroad. Of the many models possible, the following staged training program bears careful consideration by both sponsors and universities. Under this model, a student registered for an advanced degree in an agricultural college in the developing world, would come to a U.S. university which has previously worked with that college for a year of coursework and then return to his home institution. A key feature of the program would be the involvement of a U.S. university faculty member on the student's degree committee. He would help set up the overall program, advise the student on coursework in the U.S., arrange for appropriate practical experience if needed, provide guidance on the review of literature and design for the thesis, and be involved in the final thesis approval if requested. Presumably, he would have familiarity with the home institution having been previously involved in a past project there. This model would help strengthen institutions abroad while allowing for greater relevance in training through thesis research on local problems. It would give the student exposure to courses which may not be available locally and some additional assistance in developing a viable research project. The model is not new, but it could be formalized and utilized more routinely by sponsors and managers of training. Most universities would welcome continued opportunities for working relationships with the institutions they assisted in previous years.

Conclusions

The need for trained manpower to staff the agricultural and rural development

effort in the LDC's recently has been highlighted as being critical by the World Bank, FAO, the Foundations and many other organizations who are deeply committed and involved. World Food Conference resolutions on the topic stated "that priority be given to, and increased resources made available for the development of agricultural education and training at all levels", and, "national, regional, and international resources devoted to agricultural research, extension and training in and for developing countries should be increased severalfold in real terms by 1985." As a result of these resolutions, I believe that plans are underway for an international group to assist developing countries in designing and executing country master training plans for agricultural and rural development.

Whatever or wherever training for agricultural and rural development is appropriate, there is a role for U.S. institutions to assist the LDC's in their efforts. We can best define this role in terms of helping the LDC's gear up their institutions to meet their own manpower needs. We must also harmonize our technical assistance programs and our efforts to provide training so that we not only meet short term needs but also have a positive impact on the long term capacity of the LDC's to generate trained manpower.

If we in the U.S. are going to effectively respond to this urgent and growing need, we must do so on the basis of a comprehensive plan and a cooperative effort on the part of AID, the USDA, the universities and other training entities. We have the beginnings of a really effective network for training which needs to be strengthened and coordinated. I hope this conference will bring us closer together so we can pull together to get on with the job. Cooperation is the key element in training.

Discussion:

--There was general agreement that U. S. training in the past has been very useful and has served a genuine purpose in LDC development.

Many leaders are graduates of U. S. training programs and are using that training to good advantage. Therefore, most attention should be directed at removing constraints for improvement.

--The implication of "practical training" was questioned. Training for specific needs in the home country makes unfounded assumptions about ability to predict a trainee's future role. On the other hand, training for a specific job ensures his employment and usefulness upon return home.

--If training is for concentration on problems of the rural poor it probably eliminates U. S. as training site.

--The Instituto de Investigaciones Agropecuarias in Chile was invited to write the Conference regarding their suggestions for improving training in the U. S. The points they made in addition to those above are:

a) The U. S. universities provide the best training available to Chileans, b) They could justify sending to U. S. only those persons destined to be involved in teaching, research or extension, c) Their national research and extension programs are organized around commodities while U. S. training is discipline oriented, and this causes them problems, d) Trainees should only be selected from those who have two or three years of experience as a basis for their selection, e) Some system of "sabbatical" training is needed for their senior personnel.

--A plea was made for more involvement of women in training.

V. POLICY AND PROCEDURAL ISSUES IN INTERNATIONAL TRAINING

B. E. Swanson* and Janet Poley**

Introduction

The purpose of this paper is to consider policy and procedural issues in international training from two perspectives. First, are those issues that require consideration to improve training within a technical assistance posture. Second, are those issues which must be resolved as U. S. institutions, particularly the U. S. universities, move into a more collaborative relationship with Third World institutions through the emerging international scientific and technological networks. It seems imperative that as this transition occurs, that international technical assistance training carried out by U. S. universities be increasingly designed to achieve and to strengthen this emerging relationship. To do so, however, will require that new programmatic procedures be formulated within Title XII, within the USDA, within the National Science Foundation and elsewhere. The task is to consider some of these problems and to discuss alternative procedures that might be implemented to achieve these objectives.

Improving International Training Within

A Technical Assistance Framework

As John Blackmore stated, at the Regional Training Conference held at Purdue University last month, "The Underlying rationale for Title XII's incountry program thrust is the need to improve the workings of national food systems." He made this point because of the problems

* University of Illinois

** International Training Division, USDA

associated with USAID's policy of making participant training "project related" and the dysfunctional effects of the "short-term syndrome" which is associated with AID's project approach.

If one accepts Professor Blackmore's statement about concentrating on improving national food systems as a premise for discussion, the next step would be to identify the key elements of a national food system and then to consider which types of institutions are in the better position to service the training needs of these components.

First, there is a need for a national college of agriculture which will carry on research and educational programs and which will eventually produce the technical personnel to staff the institutions which comprise the national food system.

Second, is the research and development (R&D) capacity that nearly every country needs to meet its technological requirements.

Third, are a multiplicity of components that make the technology delivery system. Included within this category would be: (a) the education/communication system, which would facilitate the two way flow of information between farmer and R&D scientists, regarding all aspects of the farmer's production practices; (b) the biological input system, which would multiply and distribute improved seeds and other biological materials; (c) the chemical input system, which is concerned with the production and timely distribution of chemical fertilizers and pesticides; (d) the mechanical technology system, which in many less-developed countries (LDC's), is primarily concerned with providing mechanical inputs that will facilitate multiple cropping objectives rather than just saving labor; (e) the capital input system, which will facilitate the utilization of improved technology by making credit available to producers, particularly small farmers, who otherwise would not have access to the

improved technology; and finally, (f) the policy component, which provides the oil to lubricate the total production system to keep it moving.

The fourth major element in the national food system, let us not forget the key individual in the overall production system - the farmer.

The fifth major element is the food distribution and utilization system. Since most poor nations are to some degree in a food deficit situation, primary attention continues to be focused on the production side of the national food system. Too little attention has been given to the problem of making better use of the food actually produced. As Margaret Mead pointed out during a recent speech at the University of Illinois, since women have traditionally been the food handlers, (and often the producers), we would do well to replace the male policy-makers that control food resources with women. We believe that increased attention should be given to this key component in the national food system and ways training might be utilized to improve the nutrition of people through the better utilization of food. Any suggestions by conference participants on this issue would be welcomed.

The sixth and final element in that national food system is the consumer.

Given these component parts of a national food system, the next set of questions, in terms of a technical assistance approach, would be (1) to consider the personnel requirements of these institutions, (2) to consider the training objectives and methodologies that would be appropriate in meeting these personnel needs, and finally, (3) to consider the institutions in the best position to implement this training.

Obviously, any type of detailed analysis of the issues involved in

these questions is beyond the scope of this paper. However, consideration of certain macro issues involving a division of labor between training institutions and the relationship between institutions is warranted here. For the sake of brevity and because information about food distribution and utilization programs is limited, the concentration of this paper is on the production side of the national food system.

The following model is an attempt to depict the key elements of a national food system and how U. S. universities and international training institutions, particularly the international research centers, might relate to that food system in a human resource development capacity.

It appears that in terms of building national colleges of agriculture, U. S. universities are in a unique position to take the lead. As an FAO report points out, fifty percent of all research personnel in the Third World are located in five countries (Brazil, India, Pakistan, Egypt and the Philippines). There is little question that the institution-building contracts implemented by U. S. universities in those countries has played a decisive role in increasing the training capacity of these nations. Much more remains to be done in those countries that still lack this local training capability.

While some may disagree, it also appears obvious that the international research centers must take the lead in building and strengthening the R&D capacity of Third World nations, particularly in those countries where the agricultural research function is divided between the Ministry of Agriculture and the National College of Agriculture. A crucial institutional problem, which might be partially addressed through training is (1) how to strengthen the research capacity of national colleges of

agriculture in these countries and (2) how to bridge the gap that commonly exists between research that is carried on within the colleges with that carried on by the Ministry of Agriculture.

One issue that should demand considerable attention is the problem of training people to work in various parts of the technology delivery system. Several of the international centers have experimented with improving national technology delivery systems, (for example the Puebla Project in Mexico and the Masagana 99 Rice Program in the Philippines) which heavily involved a training component. Different universities have been involved in various aspects of this institutional and personnel development problem. International agencies, such as FAO have also worked to improve these systems through training.

For the past few years, we have talked of integrated rural development and the need to coordinate the various elements of the national food system. In terms of technical assistance and the need to strengthen the various elements of the technology delivery system, which training institutions, if any, are best prepared to take the leadership role? Should the universities concentrate on what they are best at - training scientist/educators for national colleges of agriculture and leave training problems associated with the technology delivery system to other institutions? The same argument can be made about the international research centers, that they should concentrate on training research and production specialists for R&D and technology dissemination roles, rather than spreading their resources too thin. Who, then, is in the best position to address these other essential training priorities and how should this training responsibility be carried out best?

Other Issues Involving the Improvement of
International Training

The movement of well-trained scientists and other technical personnel into administrative posts in governmental, research and educational institutions is a common phenomena in most less developed countries (LDC's). Some observers argue that this movement is inevitable, therefore, we need to supplement scientific training with a few courses in public administration so they will be better prepared for these inevitable administrative roles. There is no question that well trained leaders are essential to organizing and directing effective development programs. However, having well trained scientists and other technical assistance personnel in place to carry out these programs is equally essential, if not more important. Furthermore, in agricultural research and production programs, staff stability and program continuity is generally important and frequently essential.

It is fair to ask whether the rapid movement of technically trained people into administration isn't really a variation of the well known "Peter Principle"? In technical assistance, are we really begging the issue by suggesting that administrative training is the answer to this problem, or have we defined the problem incorrectly?

If we analyze the situation and try to understand why it occurs, perhaps we might allocate our scarce training and institution building resources differently. Let's consider some tentative propositions.

First, it would appear that if resources are available, bureaucracies will continue to grow. Second, people in institutions will generally seek to maximize rewards and minimize stress. Therefore, if scientific

facilities in an LDC are poor and if higher salaries and more prestige can only be found in administrative positions, scientists will tend to move into these positions as rapidly as resources will permit.

The issue that we would like to have you consider this afternoon, is the following: if these are the organizational constraints under which technically trained personnel must operate in most Third World countries, will administrative training solve the technical research and production problems, or should we institute more effective follow-up procedures through our technical assistance programs that will offer some countervailing rewards to scientists who would prefer to concentrate on agricultural research and education programs? There are a number of possible mechanisms that should be instituted and properly supported for this purpose. Specifically, there is a need for considerably more joint research activities possibly through NSF, USDA, as well as USAID and more opportunities for professional interchange, conferences, symposia and workshops, between U. S. and Third World agricultural research personnel.

The experience of CIMMYT, in training wheat research and production workers from over 35 countries, supports the case for more effective and well-supported follow-up procedures. After training wheat improvement workers for over 10 years, a survey in 1973 determined that about 90% of all trainees were still actively working in wheat research and production programs. Much of the success for this high utilization rate can be attributed to the follow-up procedures employed (regular workshops, visits, professional correspondence, exchange of germ plasm and publications). Specifically, there were professional incentives for these former trainees to stay in wheat improvement work. These external rewards off set any potential internal gains that former trainees might have

received by going into administrative positions. The question is, how can we institutionalize and adequately support these types of procedures between U. S. universities and national colleges of agriculture on a continuing basis?

The final section of the paper is concerned with policy and procedural issues as U. S. universities move from a technical assistance relationship (an advisor-advisee relationship) with LDC's, to a new relationship of educational and scientific collaboration based on mutual need and self-interest. The United States will have much to gain from these international relationships. Already there have been important technological "spin-offs" from the international technology transfer system. Second, and probably more important, will be the scientific advances that will occur as the scientific capability of LDC's increases and is properly mobilized.

Our point in raising this discussion here is to suggest that as we plan future training strategies, particularly those that involve U. S. universities, that we do so in the context of this emerging relationship, rather than viewing training as solely a technical assistance activity.

As we make this transition, it will be necessary for us to move beyond a technical assistance mentality in international training and begin to view international agricultural research as a valuable resource to be invested in and utilized for national purposes. To do so, however, we must begin building the long-term institutional capacity and relationships that will promote this new set of objectives.

Institutionalizing An International Agricultural
Research and Educational Capacity within U. S. Universities

During the fifties and early sixties, when technical assistance resources were relatively plentiful, U. S. universities developed considerable expertise on agricultural development problems overseas. During the late sixties and early seventies, as these resources dried up, this expertise withered as scientists turned their attention back to domestic problems. There is considerable concern today that the U. S. must regenerate this previous capability so that we can both contribute to international agricultural research as well as to profit from it.

As brought out in the Regional Conference at Purdue University, some people feel that Title XII may provide the answer to rebuilding this previous capability in international agriculture. While there is no question that this Title XII will be of considerable importance, this legislation is still part of the Foreign Assistance Act and is not intended to build capacity at home. Therefore, while Title XII offers the promise of increased continuity of involvement, in technical assistance it still must be considered relatively soft money from perspective of U. S. universities.

What we would like to propose for your discussion is a means of making available core budget to U. S. universities, probably through USDA to support career scientists, in the different disciplines, who would concentrate their research and educational activities totally in the area of international agriculture. The implications for international training are obvious. Rather than handling these training activities on a more or less ad hoc basis, there would be highly competent scientists/educators available to advise international students, direct research projects

as well as to teach more in-depth, specialized courses in international agriculture for both U. S. and foreign students.

It is very difficult, if not impossible to keep abreast of both the domestic and international literature in a field of study. We must develop a sizeable core of well trained career scientists who specialize in international agriculture and who serve as the interface with strong domestic research programs in our U. S. universities.

To summarize, it seems imperative for the United States to prepare for and invest in a new set of relationships with Third World countries. The people we train today through our technical assistance programs will be tomorrow's scientific colleagues. These training and institution building activities are too important to be left to ad hoc arrangements and cannot be effectively institutionalized on technical assistance funding. We have an institution building job to be carried forward here at home which is equally important to the one to be carried out overseas. We welcome your comments and suggestions as to how we might better get on with both of the jobs.

SUMMARY OF POINTS MADE FROM THE OTHER
THREE REGIONAL CONFERENCES

1. The key elements identified in Zuidema's paper are similar to those from the other regions.
2. Title XII of the Foreign Assistance Act provides a unique opportunity to better link training with research and other institutional activities.
3. A policy issue is raised whether OPEC demands for training will distort attention to needs of other developing countries.
4. Better backstopping of the returned trainee is needed to put his new training to effective use.
5. We have not finished the institution building function but need to alter approaches in many places.
6. A need for some U. S. agency to develop skills in assessing manpower needs.

Points which did not receive adequate attention and which merit further consideration are:

1. There is a deficiency in training in "transfer of technology processes" applicable to LDC's.
2. There is a deficiency in training in the "doctrine" of service and problem solving orientation associated with acquiring technological skills. This is central to the Land Grant model.
3. A need for sharp focus on where, how and to whom to supply training in administrative skills.
4. Little attention was given to understanding what "outside agencies" can really do vs what must be done by host institutions regarding training policies and decisions.

5. Little imagination was exercised in finding workable networks for training that include U. S. universities, international research centers and national institutions.
6. Little progress was evident in development of appropriate U. S. university rationale for being involved in international training programs vs concentration on domestic students.
7. Strategies in institution building that have been employed to date have almost totally ignored the development of linkages that will place those in the midstream of national development. This is one of the prize assets of land grant institutions but there has been minimum development overseas.
8. The conference did not address the urgent business of developing national strategies that will lead to better policies in the future.

NORTH CAROLINA STATE UNIVERSITY | AT RALEIGH

OFFICE OF INTERNATIONAL PROGRAMS
Box 5968 ZIP 27607
TELEPHONE: 919, 829-2380

April 26, 1976

LETTER TO LAND GRANT UNIVERSITIES IN REGION

Dear Colleague:

The International Science and Education Council and the Association of International Agricultural Directors are sponsoring four regional meetings on "International Agricultural Training." The meeting for the Eastern Region is scheduled in Washington, D. C. on May 25-26.

The program will consist of three half-day sessions on the following main topics:

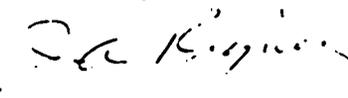
- Tuesday P.M. May 25 Training Needs in the Next Decade
- Wednesday A.M. May 26 Key Elements in the Training Programs
- Wednesday P.M. May 26 Policy and Procedure Issues in Training Programs

ISEC and AUSUDIAP are eager to have participation by appropriate federal and international agencies and foundations as well as by the Land-Grant Universities. We hope you will be able to participate. The program is designed to address the concerns of several groups in your organization and therefore we urge you to make this invitation widely known.

The meetings will be held at the National 4-H Center, 7100 Connecticut Avenue, 20015. Rooms and meals are available at the Center at very modest prices as indicated on the attached sheet.

Please make your reservations by May 10 in order to be assured of accommodations. This can be done by returning the attached form to Dr. William Litwiller in USDA.

Sincerely,


J. A. Rigney
Regional Coordinator

attachment

NORTH CAROLINA STATE UNIVERSITY | AT RALEIGH

OFFICE OF INTERNATIONAL PROGRAMS
Box 5968 ZIP 27607
TELEPHONE: 919, 829 2380

April 26, 1976

LETTER TO FOUNDATIONS, FEDERAL AND INTERNATIONAL AGENCIES

(Note: Litwiller will mail to all federal agencies)

Dear Colleague:

The International Science and Education Council and the Association of International Agricultural Directors are sponsoring four regional meetings on "International Agricultural Training." The meeting for the Eastern Region is scheduled in Washington, D. C. on May 25-26.

The program will consist of three half-day sessions on the following main topics:

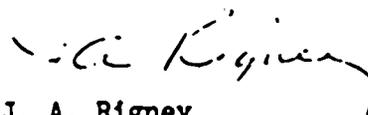
Tuesday P.M.	May 25	Training Needs in the Next Decade
Wednesday A.M.	May 26	Key Elements in the Training Programs
Wednesday P.M.	May 26	Policy and Procedure Issues in Training Programs

ISEC and AUSUDIAP are eager to have participation by all members of the Land Grant Association and by appropriate federal and international agencies and foundations. We hope your institution will be able to participate. The program is designed to address the concerns of several groups on your campus, and therefore we urge you to make this invitation widely known. In fact, in order to facilitate broader participation ISEC has limited funds to assist a few institutions in sending additional representatives. Therefore, if such assistance is needed by you to bring an extra person, please contact me at an early date.

The meetings will be held at the National 4-H Center, 7100 Connecticut Avenue, Washington, 20015. Rooms and meals are available at the Center at very modest prices as indicated on the attached sheet.

Please make your reservations by May 10 in order to be assured of accommodations. This can be done by returning the application form to Dr. William Litwiller in USDA.

Sincerely,


J. A. Rigney
Regional Coordinator

attachment

EASTERN REGIONAL TRAINING CONFERENCE

Sponsored by
ISEC and AUSUDIAP
In Cooperation with USDA, USAID and
U. S. Universities

May 25-26, 1976

National 4-H Center
7100 Connecticut Avenue, N.W.
Washington, D. C. 20015

Tuesday, May 25

11:00 a.m. - 1:30 p.m. REGISTRATION

1:30 p.m. - 5:00 p.m. "Needs in the LDC's"

Chairman: J. A. Rigney - North Carolina State
University

Wendell McKinsey - University of
Missouri

"Participant Training in the Colleges of
Agriculture"

Robert I. Ayling - USDA

"Training Needs in the Next Decade"

Discussants: Don Kimmel - FAO

Charles Fleer - AID

Mr. Joaquim SEVERINO from Brazil

Mr. M. A. Samad from Bangladesh

7:00 p.m. BANQUET

Speaker: Quentin West - ERS/USDA

Wednesday, May 26

8:30 a.m. - 12:00 noon "Key Elements in the Agricultural Development
Training Program"

Chairman: Dr. G. M. Cairns - University of
Maryland

Larry Zuidema - Cornell University

Wednesday, May 26 (cont)

8:30 a.m. - 12:00 noon

Discussants: Bruce Anderson - Coordinator
from Western Region

Woods Thomas - Coordinator from
W. Central Region

Wendell McKinsey - Coordinator
from Central Region

GENERAL DISCUSSION

12:00 noon - 1:00 p.m.

LUNCH

1:30 p.m. - 4:00 p.m.

"Training Operations"

Chairman: William F. Litwiller - USDA

Burt Swanson - University of Illinois

"Some Key Policy and Procedural Issues"

BRIEF REPORTS FROM REGIONAL CONFERENCES

Bruce Anderson - Western Regional

Woods Thomas - West Central Regional

Wendell McKinsey - East Central Regional

"Panel for Policy and Procedural Issues"

Bruce Anderson

Woods Thomas

Wendell McKinsey

Charles Fleer

Robert Ayling

4:00 p.m. - 5:00 p.m.

SUMMARY

Hugh Popenoe - University of Florida

REGIONAL COORDINATORS' COMMENTS

CONCLUSION

J. A. Rigney

PARTICIPANTS

<u>NAME</u>	<u>ORGANIZATION</u>	<u>LOCATION</u>
John T. Steele	USDA/IT	Washington
Robert Doan	USDA/IT	Washington
Charles Fleer	USAID	Washington
Ralph Jones	AID/IT	Washington
John Lippmann	AID/IT	Washington
Melvin Blase	University of Missouri	Columbia
Nat Farris	AID/IT	Washington
Robert Ayling	FDD/IT	Washington
Jack D. Hartman	FMHA	Washington
Rodger Yaeger	West Virginia University	Morgantown
Janet Poley	ERS/IT	Washington
Robert H. McAlexander	Penn State University	University Park
Robert E. Swope	Penn State University	University Park
Wendell McKinsey	University of Missouri	Columbia
Julie Dickson	USDA	Washington
Barbara Spendel	USDA/IT	Washington
Judith Latham	USDA/IT	Washington
Frances C. Byrnes	IADS	New York
Gerald A. Donovan	University of Rhode Island	Kingston
Gordon M. Cairns	University of Maryland	College Park
Howard P. Cottam	American University	Washington
George B. Alcorn	University of California	Berkeley
J. A. Rigney	N. C. State University	Raleigh

<u>NAME</u>	<u>ORGANIZATION</u>	<u>LOCATION</u>
Patricia Riley	Michigan State University	East Lansing
Larry B. Marton	USDA/COMM	Washington
Larry Zuidema	Cornell University	Ithaca
Edwin B. Oyer	Cornell University	Ithaca
Don Kimmel	FAO	Washington
Henrietta Walsh	USDA/IT	Washington
David P. Winkelmann	USDA/IT	Washington
Harold Matteson	USDA/IT	Washington
R. C. Fulcher	USDA/IT	Washington
Robert M. Dinger	AID/TA/EHR	Washington
E. Paul Creech	International Programs Texas A & M	College Station
L. S. Pope	Texas A & M	College Station
Hugh Popenoe	University of Florida	Gainesville
A. B. Browning	University of Florida	Gainesville
Robert B. Albritton	V.P.I. & S.U.	Blacksburg
Robert G. Dyck	V.P.I. & S.U.	Blacksburg
J. E. Foil	North Carolina State	Raleigh
Richard Affleck	USDA/FDD/IT	Washington
M. A. Samad	Director of Agriculture	Bangladesh
Joaquim Severino	General Director, Dept. of Agriculture, Parana State	Brazil
D. Woods Thomas	Purdue University	Lafayette
J. E. Legates	N. C. State University	Raleigh
Keith R. Allred	Utah State University	Logan
W. B. Bartlett	USDA	Washington
William F. Litwiller	USDA	Washington