

Volume 8, Number 2

Summer 2001

# Journal of International Agricultural and Extension Education

*Conference Issue*



A publication of the Association for International Agricultural and Extension Education

# *Journal of International Agricultural and Extension Education*

ISSN 1077-0755

The Journal of International Agricultural and Extension Education is the official refereed publication of the Association for International Agricultural and Extension Education. The purpose is to enhance the research and knowledge base of agricultural and extension education from an international perspective.

Articles intended for publication should focus on international agricultural education and/or international extension education. Articles should relate to current or emerging issues, cite appropriate literature, and draw out implications for international agricultural and extension education. Manuscripts should not have been published or be under consideration for publication by another journal.

Three types of articles are solicited for the Journal: Feature Articles; Commentary Articles; Tools of the Profession Articles.

## **Feature Articles**

Feature articles focus on philosophy, current or emerging issues, and the methodology and practical application of specific research and appropriate technologies, which have implications for developed and developing countries. Feature articles go through the Journal's blind review process utilizing peer reviewers to evaluate content and readability. Reviewers are usually selected from the membership of the AIAEE. In the blind review process all reference to author(s) is removed before the manuscript is sent to reviewers.

## **Commentary Articles**

Commentary articles state an opinion, offer a challenge, or present a thought-provoking idea on an issue of concern to international agricultural and extension education, including a published article in the Journal. Commentary articles are reviewed by two members of the editorial board for appropriateness and relevance to the Journal, and for readability.

## **Tools of the Profession Articles**

Tools of the Profession articles report on specific techniques, materials, books and technologies that can be useful to agricultural and extension educators in a global context and/or in a country/region. Tools of the Profession articles are reviewed by two members of the editorial board for appropriateness and relevance to the Journal, and for readability.

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## *From the Editor*

Within a couple of months I will relinquish the position of Editor of the Journal of International Agricultural and Extension Education. I will turn the reins over to Dr. Gary Wingenbach of Texas A&M University. Just as I took over from the first two outstanding Editors, I entrust the future of the Journal to good hands.

It is at this juncture that changes are in store for not only the Journal but the Association for International Agricultural and Extension Education. This past spring the proceedings for the entire conference were most successfully put on CD-ROM by Drs. Jim Christensen and Jimmy Lindner of Texas A&M University. The complete papers, posters and carousels are available at the AIAEE website (see pg 77 for details). This issue also includes Call for Papers, Posters, and Carousel Presentations for the 2002 AIAEE Conference in Durban South Africa. I hope all AIAEE members are preparing your proposals and planning your trip to Durban. President-Elect Gustav Düvel is busy planning another outstanding conference.

As the Journal enters its 9<sup>th</sup> Volume and is turned over to a new Editor, it is important for this publication to evolve as well. Steps are being taken to streamline the blind-review process into a totally electronic, web-based, review system. Currently, many authors, especially international members, submit their manuscripts electronically. However, in order to use our international members as reviewers, manuscripts have to be sent by air mail which is costly and time consuming.

As the new Editor and I make these changes it is vitally important that we revise our Reviewer lists. If you do not currently serve as a Reviewer and would like to please contact me or Gary. In order to lighten the workload on the reviewers it is important that the Editor has a critical mass of qualified reviewers who are willing to return reviewed manuscripts in a prompt manner.

It has been said that the only constant is change. Both AIAEE and the Journal of International Agricultural and Extension Education continue to evolve to meet the changing needs of the members and authors. As our distinguished colleague, Dr. Bill Thuemmel said at this spring's conference, AIAEE should become people's "association of choice" that offers its members education, scholarly opportunities, collegiality, and comradery. I hope you will join me in working with the new AIAEE officers, committee chairs, members and Journal Editor to make the association and the Journal, the best they can possibly be.

Association for International Agricultural and Extension Education  
17th Annual Conference

Baton Rouge, LA  
April 4-7, 2001

Outstanding Papers

Outstanding Paper

Evaluating International Agricultural and Extension Education Projects:  
Problems, Challenges, and Strategies

*Rama B. Radhakrishna*  
*The Pennsylvania State University*

1st Runner-Up Outstanding Paper

Two Decades of Progress in Globalizing U. S. Extension Systems

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2nd Runner-Up Outstanding Paper

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*Solaymon Bahmani, Tarbiat Modarres University*  
*James R. Lindner, Texas A&M University*

3rd Runner-Up Outstanding Paper

Six Lessons Learned in International Development and Their Application in the Context of  
Collaborative Texas-Mexico Agricultural Development

*Manuel Piña, Jr., Texas A&M University*

Outstanding Graduate Student Paper

After the Group: Extending the Farmer  
*Ruth Beilin & Stephanie Andreato*  
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# Evaluating International Agricultural and Extension Projects: Problems, Challenges, and Strategies

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Outstanding paper presented at the 17<sup>th</sup> Annual Association for International Agricultural and Extension Education Conference, Baton Rouge, LA, April 4-7, 2001

## Abstract

This study examined evaluation issues related to international agricultural and extension education projects. Objectives of the study were to: 1) identify and describe problems and challenges to evaluating international agricultural and extension education projects, and 2) review evaluation models that are appropriate for international agricultural and extension education projects. Data sources included books, journal articles, conference proceedings, evaluation reports, government documents, and interviews with select faculty. Findings revealed that there are many challenges to evaluating international agricultural and extension education projects. These include: 1) lack of time resulting in inadequate plans to evaluate projects, 2) extensive reliance on single method of evaluation, 3) lack of readily available evaluation instruments, and 4) cultural and language problem. Four evaluation models appropriate for international agricultural and extension education were also identified and described. Based on the information obtained through literature and faculty interviews, a new framework to evaluate international agricultural and extension education projects was proposed.

## Introduction

Increased emphasis is placed on project performance and outcomes by government, donor agencies, and universities engaged in international agricultural development. A key component of any proposal related to international agricultural development contains a section on evaluation criteria and methodology. Projects that have cost-benefit analysis as a major objective are easy to measure and document the outcomes. However, projects that deal with educational programs (creating awareness, knowledge and skill development, and understanding of problems and/or issues) are difficult to measure. One of the challenges is defining appropriate “impact” indicators. Early identification of defined and needed indicators through program objectives are not emphasized (Mustian, 1999 and

Radhakrishna, 1999). According to Bennett (1994), early identification of indicators through measurable program objectives will help strengthen planning and evaluating educational programs. Therefore, project investigators and evaluators should consider action specifying the “chain of program events” and the “kinds of evidences” and/or “appropriate indicators” for each event in the chain (Verma and Burnett, 1999).

Several researchers and evaluators have addressed the problems and challenges relative to evaluating educational programs in both domestic and international settings (Bayles, 1998; Hoffstrom and Mcdaniel, 1996; Mustian, 1999; Richardson, 1998; Radhakrishna, 1999; and Verma, 1998). Bayles (1998) examined evaluation efforts of 147 agricultural projects funded by the United States Agency for

International Development (USAID) between 1985 and 1995. Of these 147 projects, 68 were in Africa, 49 in Latin America and 30 in Asia involving a total budget of \$2.3 billion. Findings from Bayles's study revealed: 1) only 94 projects (64%) reported at least one evaluation, 2) seventy-two projects included an assessment of socio-economic impact and only one project had an impact evaluation, and 3) more number of projects in Asia and Latin America were evaluated when compared to projects in Africa. He found that the evaluation efforts of most projects that had cost-benefit analysis were successful and project investigators met the evaluation criteria of USAID. However, a majority of projects that dealt with educational programs did not provide any evaluation information. Major problems in evaluating projects included frequent changes in management, unrealistic project designs or goals and a lack of baseline data. Tilburg and Haan (1995) and Gow and Morss (1988) reported limited availability of project data as a major hindrance to project monitoring and evaluation in developing countries.

Chambers (1991) identified six biases that might limit the evaluation of agricultural and rural development projects in developing countries. The six biases were: 1) spatial—project staff and researchers focusing only on urban centers and roadside projects, 2) project—evaluation plans showing little interest in what happens to the rural poor and the disadvantaged, 3) person—tend to reach or get information from elite groups, 4) dry-season—few visits during dry season resulting in inadequate assessment of flooding or drought, 5) diplomatic—combination of politeness, fear, embarrassment, and language problems frequently deter visitors from speaking to the poor and the underprivileged, and 6) professional—tend to reach wealthier, better educated, and more progressive farmers.

Hoffstrom and McDaniel studied post-training evaluation of Cochran Program since 1983 and found that their evaluation efforts were

successful in getting valuable feedback. Mustian (1999) indicated that extension educators need to focus on program models where outcomes are the basic function. Similarly, Richardson (1998) stated that extension educators have major roles to play in documenting project outcomes. Any programs and models used in international settings should also address the expectations that agricultural and extension programs do bring changes in individuals, families and communities (Verma, 1998).

The Joint Committee on Standards for Educational Evaluation (1994) proposed standards that should be considered for evaluating educational efforts. The committee identified a total of 30 standards grouped across four categories—utility standards, feasibility standards, proprietary standards, and accuracy standards.

### **Purpose and Objectives**

The overall purpose of the study was to describe problems, challenges, and strategies relative to evaluation efforts in international agricultural and extension education projects. This paper specifically examined: 1) the problems and challenges in evaluating international agricultural and extension education projects, 2) identify and describe evaluation models that are appropriate for international agricultural and extension education projects, and 3) suggest strategies to overcome problems and challenges to evaluating international agricultural and extension education projects.

## Methods and Data Sources

Review of literature and personal experience of the author were the data sources for the study. A number of books, journal articles, and conference proceedings and government documents were reviewed to identify problems and challenges in evaluating international agricultural and extension education programs/projects. Information from informal discussions and interviews with faculty were also documented as evidence of data.

According to Seidman (1998), interviews permit explicit focus on the researcher's personal experience combined with those of the interviewees (p. 113). In addition, four evaluation models were also identified, reviewed and described.

## Results and/or Conclusions

### *Problems and Challenges*

The first objective was to identify problems and challenges to evaluating international agricultural and extension education programs and/or projects. The following problems and challenges were identified: 1) lack of time resulting in inadequate plans to evaluate projects, 2) greater demand by donor agencies to determine "impact" or "outcomes" of educational programs, 3) problems in defining appropriate impact indicators to show that project targets have been achieved, 4) scattered sources of evidences, program impact versus other sources of change, 5) assessments don't go beyond KOSA (knowledge, opinion, skill and aspiration) level, 6) extensive reliance on single method of evaluation, 7) lack of readily available evaluation instruments, 8) cultural and language problems, 9) lack of time and limited skills in planning, implementing and interpreting evaluation results, 10) limited feedback from donor agencies or sponsors, and 11) limited availability of project data.

## *Evaluation Models*

Based on an extensive review of literature and author's own experience in studying evaluation models, four models were identified and found useful to evaluate international agricultural and extension education programs. The four models identified were: 1) Francine Jacob's evaluation model, 2) Robert Stake evaluation framework, 3) Rockwell and Bennett's Targeting Outcomes of Program (TOPs) model, and 4) Kirkpatrick's evaluation framework. Jacob's five-tier evaluation model included pre-implementation, accountability, program clarification, progress toward objective and program impact (Figure 1). This model is very useful to guide planning and evaluation efforts for projects dealing with families, communities, youth, and children.

Robert Stake's framework to evaluation emphasizes targets, strategies, and outcomes (Figure 2). Stake's approach suggests that one has to clarify intentions and then periodically look at what is actually happening. Such approach helps to make corrections as the projects go through various stages of implementation. In addition, the model is particularly good at helping educators plan thoroughly in a way that creates the kinds of information needed to design an evaluation.

Bennett and Rockwell model is the most common and widely used evaluation model in extension (Figure 3). This model has two parts—program development and program performance on a continuum. Each of the parts has the same seven steps (input, activities, participation, reaction, knowledge, skills, opinions, aspirations and practice change). In the program development part, emphasis is on what needs to be done to bring about changes in program participants while in the program performance part, educators examine what actually happened as a result of the program.

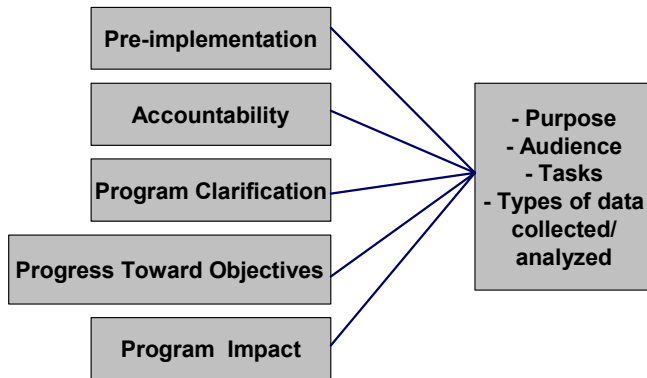


Figure 1: Jacobs Five-Tier Approach to Program Evaluation

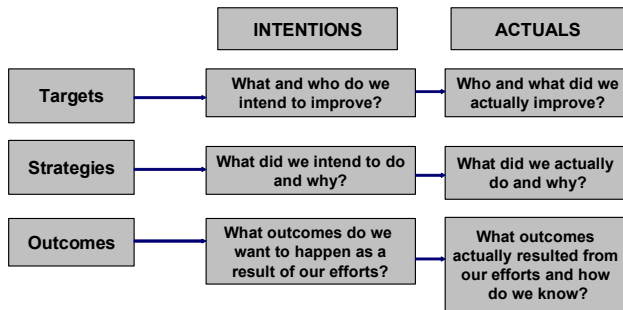


Figure 2: Stake Approach to Program Evaluation

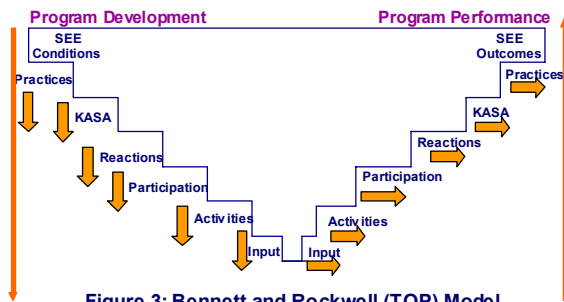


Figure 3: Bennett and Rockwell (TOP) Model

Finally, Kirkpatrick's evaluation model is most commonly used for educational programs that deal with learning (Figure 4). It clarifies the meaning of evaluation in simple and understandable terms and offers guidelines and suggestions on how to accomplish an evaluation. This model has four levels—reactions, learning, job behavior and results.

Review of these four models indicate both commonalities and differences in the approach to evaluation of international agricultural and extension education programs. In addition, the four models have strengths and weaknesses. For example, Jacob's model asks for a variety of evaluation information from different types of stakeholders. The model helps educators to think through the various kinds of information needed within the five-tier framework. The model, however, provides little help to educators in knowing what to do. In contrast, the Stake framework provides further depth of discussion needed to identify information/data listed in Jacob's one through four tiers. Both

Bennett and Rockwell and Kirkpatrick's models focus more on educational outcomes and less on project impacts. The challenge for international agricultural and extension educators is to glean the critical and good points from these models and use what is best for their projects.

Therefore, a new evaluation framework was proposed (Figure 5). The proposed model asks three evaluation questions and outlines the data/information needed to answer the questions. The first question relates to problem assessment and corresponding goals and objectives designed to address the problem. The second question relates to the desired situation or the ideal situation. Comparison of questions one and two will help identify strategies to reduce or overcome the problem. In other words, what needs to be done—plan of action needed to bring about change. Finally, question three relates to what actually happened, that is, did the project accomplish its goals and objectives.

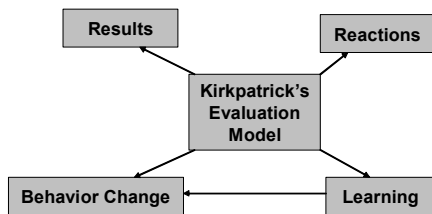


Figure 4: Kirkpatrick's Training Evaluation Model

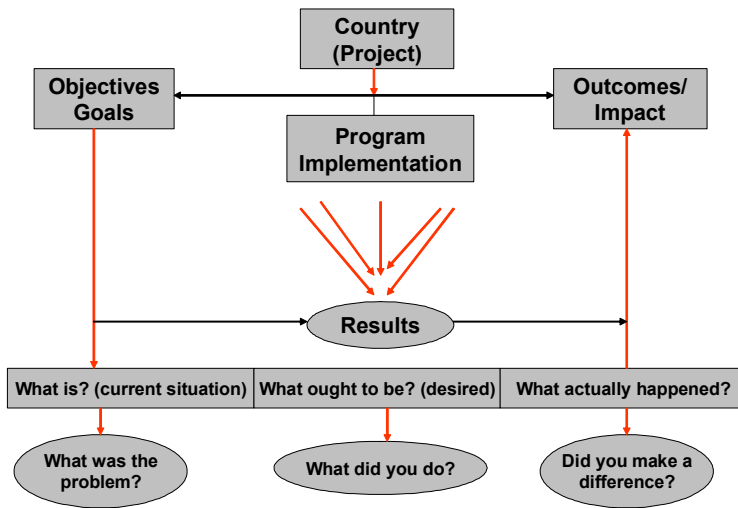


Figure 5: Proposed Evaluation Model

### *Summary of Faculty Interviews*

Four faculty in the department of agricultural and extension education at Penn State were interviewed to provide perspectives on international agricultural and extension education projects they conducted. These faculty had completed projects in countries of Africa, Asia, Latin America and Eastern Europe. Interview questions focused around: 1) involvement in international projects, 2) level of evaluation expertise they possessed, 3) level of importance given to project evaluation, 4) submission of evaluation reports to sponsors and feedback, if any from sponsor, 5) barriers/challenges they encountered to evaluate projects, and 6) lessons learned and strategies to improve evaluation efforts. Each interview lasted about 20-30 minutes in length. In addition, faculty also provided additional information relative to their projects.

Three of the faculty said that they gave greater emphasis to evaluation in their projects. However, one faculty indicated the emphasis depended on the sponsoring agency. Almost all faculty described their evaluation competency

level as intermediate to basic. Use of evaluation methods in their projects ranged from none to extensive. Evaluation methods used included self-evaluations, needs assessments, self-designed evaluation surveys, pre and post training assessments, and focus groups. Three faculty indicated that they submitted evaluation reports to their sponsors and feedback they received included an acknowledgement and some positive comments on completing the projects on time.

Faculty identified several barriers to conducting systematic evaluations of international agricultural and extension education projects. These included: 1) lack of well developed survey instruments, 2) lack of appropriate measures or extensive use of single methods of evaluation, 3) language and interpreter problems, 4) lack of time to do a systematic evaluation; and in some instances, no desire on part of the host country to do evaluations, 5) logistics, 6) program management, and 7) limited availability of skilled personnel to collect data.

Faculty offered several suggestions to overcome the barriers—planning and evaluation from the start, input from all participants (stakeholders), training host country personnel in evaluation methods, repository of surveys and questions, pilot testing, culture and language training, enough time from project initiation to project evaluation, and training of field-level staff in data collection.

The need for offering training or workshops focusing on evaluation of international agricultural and extension education projects was emphasized by all faculty. They indicated that training should focus on: various evaluation models, evaluation plan, developing measurable objectives, designing surveys and questions, quantitative and qualitative evaluation methods, exposure to monitoring and evaluation software, and language and cultural sensitivity training. Faculty also suggested for greater alignment of funding towards evaluation process, collaborative efforts, and feedback to improve programs.

### **Educational Importance**

The foregoing review suggests that there are many challenges to evaluation in international settings. In addition, the review also suggests we must change to address many of the challenges identified. The following recommendations or actions are offered based on the findings of the study.

First, an evaluation model matrix (Figure 6) for key program areas in international agricultural and extension education needs to be developed. Such a matrix would help identify appropriate evaluation models depending on the program areas. Early identification and selection of models will help answer several evaluation questions, including selection of evaluation methods, the type of information to be collected, identification of appropriate measures and indicators, etc.

Second, a need exists for creation of an evaluation information/resource exchange where faculty and students can share resources on evaluation issues. Such an information resource would save quite a bit of time and money for international agricultural and extension education programs/projects.

Finally, a training program to build evaluation capacity of international agricultural and extension educators should be offered. In addition, potential for delivery of training using distance technology should be explored.

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## Two Decades of Progress in Globalizing U. S. Extension Systems

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1<sup>st</sup> Runner-Up Outstanding paper presented at the 17<sup>th</sup> Annual Association for International Agricultural and Extension Education Conference, Baton Rouge, LA, April 4-7, 2001

### Abstract

The paper highlights the results of a 2000 study of U.S. Extension directors who described their Extension systems related to efforts to globalize. Barriers were also identified. Fifty land-grant Directors participated. Directors recognize that globalization of Extension is underway and will become more integrated into future Extension programming. In 1990, 40 states identified no or minimal efforts to globalize. Positive changes in globalizing were seen between 1990 and 2000 with 35 Extension systems moving towards globalization. By 2010, 14 directors project globalization will be integrated into extension programming and 30 project globalization will continue. The barriers most likely to limit globalizing of state Extension systems were: limited financial support, a lack of time, lack of clientele support and globalizing not being viewed as a programming priority. Over 150 comments from directors add richness to the quantitative results reported.

### Introduction

Extension programs across the globe are being challenged to consider their impact, relevance and effectiveness in a rapidly changing society. In the coming century, global components will become more central to our mission for Extension. They tie to the goals of economic well-being and quality of life for citizens and acknowledge that we are part of a larger global community. Globalizing Agricultural Science and Educational Programs for America (GASEPA, 1998) established a vision for colleges of agriculture and described globally competent stakeholders, faculty and students who live, compete and work in a dynamic and interdependent world community. Studies conducted in 1990 indicated there had been little emphasis on internationalizing by Extension systems across the country. (Poston & O'Rourke, 1991; Rosson & Sanders, 1991). Poston & O'Rourke (1991) reported 80% of Extension directors viewed their state had

achieved either a low level or had not achieved any level of globalization.

The current study sought to determine what changes had occurred, identify barriers and Extension directors' projections for the future. Ludwig (1999) established a definition for globalizing U.S. Extension systems which provided the basis for the study. Globalizing was defined as: The incorporation of global content into Extension efforts so that clientele develop a fundamental understanding of global interdependence and international economic forces as they relate to the issue areas with the Extension mission. Institutional commitment is evident in a structure to support staff development and a capacity to reward accomplishments in globalization.

## **Purpose**

The purpose of the study was to describe changes in land grant Extension Systems from 1990 to 2000 related to globalizing the Extension Program and project changes by 2010.

## **Goals**

1. To ascertain state Extension system characteristics which relate to globalizing.
2. To ascertain efforts to globalize by state Extension systems
3. To compare state Extension systems which are globalized with those which are not as identified by their director
4. To ascertain barriers that limit globalizing of U.S. Extension systems

## **Methodology**

### Instrumentation

A survey instrument was developed following a review of literature to clarify the concepts being studied. A five point Likert-type scale was used. Respondents were invited to add position statements describing their response. Respondents identified major barriers to globalizing and completed open ended items requesting short descriptions of state systems efforts to globalize over a 20 year time period. Face and content validity of the instrument were assured through the use of a panel of experts. The reviewers, six faculty from universities in the U.S., were knowledgeable of Extension systems, research methodology and international programs. The instrument was pilot and field tested with university faculty from 10 universities to help control measurement error. Cronbach's alpha for the instrument was .85. This met criteria established for internal consistency (Nunnally, 1967).

### Data Collection and Analysis

Instruments were distributed to all Extension directors during a February 2000 meeting. Follow up contacts in March and May, 2000 encouraged response. Individuals responding to the May mailing of the questionnaire were considered late respondents. Descriptive statistics were calculated. Responses were coded for computer analysis using SPSS. A .05 level of significance was established *a priori*. Early and late respondents were compared, using late respondents as a surrogate for non-respondents (Miller and Smith, 1983). Using a t-test at the .05 alpha level, no significant differences were found between early and late respondents.

## **Results**

The results of the study represent the collective opinion of the directors participating in the study at a single point and time and cannot be construed to be representative of any other population or situation. The directors included in the study were from 50 state land grant institutions and the District of Columbia. One state did not respond resulting in a 98% response rate. Comments made by the directors provided additional information to describe the ratings and clarified issues. Forty-nine usable instruments were received. Forty-three directors report having traveled outside the U.S. on professional business during the last 10 years.

### Characteristics

Directors were asked to indicate agreement or disagreement with a series of statements as descriptors of their Extension system. Seven characteristics were examined based on the GASEPA report (1999) and a study of internationalizing U.S. Extension systems (Ludwig, 1999). Tables 1 and 2 report the results. One hundred and five comments were received explaining ratings on the seven

characteristics. Table 3 provides an overview of these comments. The characteristics considered were:

- Programs offered to clientele incorporate global perspectives
- Extension professionals are interested in incorporating a global perspective
- Professional development opportunities exist for Extension professionals to develop global competencies
- Resources are available (i.e. funding) to support Extension professionals wishing to engage in global collaborative efforts
- Agricultural programs focus on the impact of international economic forces on agricultural markets
- Personnel evaluation systems recognize international efforts
- Extension professionals are involved in programs which promote economic and social well-being in other nations

Table 1

Characteristics of State Extension Systems (N = 49)

Item Descriptor	Mean	Standard Deviation
Programs offered to clientele incorporate global perspectives	3.3	.92
Extension professionals are interested in incorporating a global perspective	3.5	.97
Professional development opportunities exist for Extension professionals to develop global competencies	3.1	1.1
Resources are available (i.e. funding) to support Extension professionals wishing to engage in global collaborative efforts	2.8	1.1
Agricultural programs focus on the impact of international economic forces on agricultural markets	3.6	1.1
Personnel evaluation systems recognize international efforts	3.0	1.0
Extension professionals are involved in programs which promote economic and social well-being in other nations	3.0	1.1

Scale: 1 - Strongly disagree; 2 - Disagree; 3 -Neutral (Neither disagree or agree); 4 - Agree; 5 - Strongly Agree

Comparison of Systems

ANOVA was used to examine differences between state Extension systems which were identified as more globalized by their director with those having no or minimal globalization for 1990 and 2000 and for each of the seven characteristics studied. No statistically significant differences ( $p < .05$ ) were found between groups.

Efforts to Globalize

Directors were asked to describe their state Extension systems efforts to globalize in 1990 and 2000 and project efforts for the year 2010. For purpose of analysis, the comments were coded into three categories based on the descriptors provided by directors: (1) none or minimal globalizing; (2) moving in a direction of globalizing; (3) globalization integrated into Extension programming. Positive changes towards globalizing were shown from 1990 to 2000 with increasing globalization efforts projected in 2010. Changes reported from 1990 to 2000 showed 35 Extension systems moving towards globalization with one state reporting having achieved globalization. Three states

Table 2

Characteristics of State Extension Systems by Frequency of Response (N=49)

Item Descriptor	Rating Scale					Valid Percentage
	1	2	3	4	5	
Programs offered to clientele incorporate global perspectives	2	17	40	33	8	100
Extension professionals are interested in incorporating a global perspective	2	16	29	41	2	100
Professional development opportunities exist for Extension professionals to develop global competencies	4	31	31	18	6	100
Resources are available (i.e. funding) to support Extension professionals wishing to engage in global collaborative efforts	8	45	18	21	8	100
Agricultural programs focus on the impact of international economic forces on agricultural markets	2	12	29	35	2	100
Personnel evaluation systems recognize international efforts	6	29	37	22	6	100
Extension professionals are involved in programs which promote economic and social well-being in other nations	6	34	23	29	8	100

Scale: 1 - Strongly disagree; 2 - Disagree; 3 -Neutral (Neither disagree or agree); 4 - Agree; 5 - Strongly Agree

Table 3

## Characteristics of State Extension Systems - Comments

<p>1. Programs offered to clientele incorporate global perspectives</p> <ul style="list-style-type: none"><li>· We should do more, but the developed country view we hold keeps us from full deliberation, involvement and access to all ideas and thoughts. We are Ameri-centric in our programs.</li><li>· Programs include global topics when appropriate for the particular audience</li><li>· In Ag marketing, trade issues, related to beef and wheat industries</li><li>· Some Extension faculty have had international experience and incorporate a global perspective at the state and county level</li><li>· Majority of programs focus on local perspectives, incorporation of global perspectives is limited</li></ul>
<p>2. Extension professionals incorporate a global perspective in their programs</p> <ul style="list-style-type: none"><li>· Educators who have international experiences back a strong commitment to globalizing Extension programs</li><li>· Perhaps we do a bit better in natural resources and the environment than in agriculture and family living</li><li>· Extension staff are interested in incorporating global perspective into their programs however this is limited by their knowledge of appropriate issues. This is a topic for upcoming professional development activities.</li><li>· Local people really prefer to think smaller, not broader to world issues – most specialists and educators focus on local and immediate issues</li><li>· Program areas where a global component is appropriate are aggressive , economics</li><li>· Extension professionals are interested in incorporating global perspective in their programs</li></ul>
<p>3. Professional development opportunities exist for Extension professionals to develop global competencies</p> <ul style="list-style-type: none"><li>· True, but very few and often not from sources with CE; international experiences are not a high priority when resources are limited</li><li>· Some opportunities exist. I do not believe we have had much discussion on global competencies – nothing formalized</li><li>· We have several ways through which Extension professionals can participate. Only have funding for a few at a time but we do make it possible.</li><li>· Local people/county committees resist their county educators involvement in international work because of the gap it creates in local programs</li><li>· XXX state reopened assistant dean for international ag programs which is helping make international issues and globalization a higher priority</li><li>· Limited, although have done more with sabbaticals and short-term international experiences</li><li>· We offer Extension county and state faculty one month every two years to engage in an international experience. They are required to take leave but must seek to find their own source of funding. Many cooperate with VOCA.</li><li>· We don't have much inservice that helps and issues are very complex and systems oriented</li></ul>
<p>4. Resources are available, i.e., funding to support Extension professionals wishing to engage in collaborative efforts</p> <ul style="list-style-type: none"><li>· Not much funding available for anything, we lack state support, can barely afford telephones, travel.</li><li>· No financial resources available or allocated for global efforts</li><li>· The university and college are strongly supportive of international experience</li><li>· Budgets are tight, but motivated people are successful in finding adequate support for good programs</li><li>· Only from grant sources for international experiences</li><li>· Yes, based on programmatic justification; funds are available on research side for grants</li><li>· Time is allowed without leave, i.e., one month per two years but no funding</li><li>· Our sabbatical leaves support full salary leave for six months but individuals have to pursue their own resources generally.</li><li>· Funds are available on a very limited ad hoc, basis but no special funds have been designated to support such programming</li></ul>

<p>5. Agricultural programs focus on the impact of international economic forces on agricultural market.</p> <ul style="list-style-type: none"> <li>· International marketing is a vital priority for Extension programs, for farmers and industry</li> <li>· Not as much as we would like because of staff retirements</li> <li>· An increasing number of Extension programs include a discussion of the impact on agricultural markets, especially programs by agricultural economics</li> <li>· Probably moving more in this direction than in other areas; varies by community and geographic region</li> <li>· Emphasis is placed on local and specific region market and economic development</li> <li>· Research in fisheries marketing has Extension applications. This is highly global in perspective.</li> <li>· To a degree, our programs deal primarily with alternative crop production and potential markets for raw products. Most markets are local or within the range of a few states. However clients are aware of trade issues and particularly NAFTA.</li> </ul>
<p>6. Personnel evaluation systems recognize international efforts.</p> <ul style="list-style-type: none"> <li>· Typically not except when a person is going for "full professor." At that stage "international and national reputation" may be part of the assignment. Part of that local and state forces often like to see faculty connections and program commitment being close to home - thought of as funder-based.</li> <li>· Not at present</li> <li>· Really just beginning, not totally engaged yet in the evaluation and reward system</li> <li>· Performance appraisals document for both county and state faculty are flexible and can include global components as appropriate</li> <li>· There are have some serious negative consequences when faculty are gone for extended international assignment</li> <li>· Limited recognition, needs to contribute to planned programs and scholarship...viewed primarily as an extra service activity</li> <li>· Evaluation systems do not particularly focus on international work but diversity or personnel development are recognized.</li> <li>· International work is generally not recognized at the same level as quality teaching, research content or Extension.</li> <li>· If someone did well on an international project, that would be recognized. It does not mean that international work would be valued more</li> <li>· Faculty, yes. CE educators, this doesn't apply in practice</li> <li>· Faculty are evaluated on the impact of their programs on the people of the state to the extent their international efforts do that, then yes they get credit.</li> </ul>
<p>7. Extension professionals are involved in programs which promote economic and social well-being in other nations.</p> <ul style="list-style-type: none"> <li>· A number are involved in short term humanitarian and development projects. A few have been involved for extended periods in Morocco, Russia and Poland.</li> <li>· Not as a rigorous formal program objective; this is usually through sabbaticals, other leaves or special travel opportunities</li> <li>· Extension professionals collaborate with professionals in the South Pacific</li> <li>· We have some who are/have been very involved. Clearly most are not.</li> <li>· Probably more on a personal than professional basis</li> <li>· Faculty in department more than field faculty</li> <li>· Only occasionally and not with any systematic or coordinated effort</li> <li>· Some of the professional staff have taken the initiative to get personally involved globally, as well as incorporate with their program efforts</li> </ul>

reported during the time period 1990-2000 a movement from having a moderate level of globalization to minimal efforts as funding sources for international projects were lost. In 1990, 40 states identified no or minimal efforts to globalize. By 2000, 13 states reported minimal efforts and 35 state directors recognized their systems as moving

Table 4

toward internationalization. By 2010, 14 directors projected globalization would be integrated into their Extension programming, 30 forecast continued progress in globalizing and 5 projected minimal efforts to globalize. Tables 4 and 5 provide an overview.

State Directors' Identify Efforts to Globalize State Extension Systems 1990-2010 (N = 49)

Action Descriptors	Frequency & Valid Percentage					
	1990		2000		2010	
None or minimal globalization	40	82%	13	27%	5	10%
Moving in the direction of globalization	9	18%	35	71%	30	61%
Global elements integrated into Extension programming	0	0%	1	2%	14	29%

Barriers

Eight barriers that limit globalizing (Ludwig, 1999; Knight, Elliot & Krenzer, 2000) of state Extension systems were listed and directors asked to select the three barriers most impacting their system. The barriers most likely to limit globalizing of state Extension systems were: limited financial support available (65%), and a lack of time (25%). Directors also viewed lack of clientele support (19%) and not a programming priority (17%) as barriers.

**Implications for Leaders** - *We cannot become what we need to be by remaining what we are.*  
Max DePree

Martin (2001) in reviewing the results of the study expresses concern that while some progress has been made, U.S. Extension systems could be characterized as globally challenged. The lack of a plan for globalization or adding an international perspective to Extension programming is evident in responses from most states.

Ludwig (1999), Knight and Elliot (2000) in studies involving Extension personnel in two states found similar perceptions. Extension personnel viewed lack of time, financial support, and not being a program priority as the primary barriers. Concern about clientele support appears to be greater perceived barrier

for directors than Extension educators who deal directly with local clientele. It will be important for clientele to experience strong consistent programming while Extension professionals are outside of the country and be able to see the benefits they gain from a more cosmopolitan Extension professional. Extension personnel appear to have more concerns about whether the organization saw globalizing as a priority. Extension directors and program leaders will need to demonstrate their support of globalizing. This will be accomplished both by securing funds to support efforts and providing a vision of how globalizing will contribute to cross cultural competency, economic advantage in the global market and protection of the environment we share.

The handwriting seems clear\_incorporation of global concepts into local programming should be a part of Extension's future in the United States. In most states, personal and organizational desires to be involved in globalization. Globalization may be an area where multi-state programming for professional development can flourish. What is needed next is a plan and impetus for globalization of Extension systems to become a high priority of the land grant system.

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Table 5 Sample Descriptors of U.S. Extension Systems Efforts to Globalize

1990	2000	2010
<ul style="list-style-type: none"> <li>· Hampered by the challenges of budget cuts we look to direct value to direct payers</li> <li>· Limited to international research projects</li> <li>· Trailing off in 1990s with shift in USAID dollars</li> <li>· Minimal very limited (23)</li> <li>· Not recognized by Extension administration</li> <li>· Active, but focused on a few at the state level (3)?</li> <li>· Gestation phase, first involvement in "going global"</li> <li>· Support of USDA international efforts several people went to Poland (3)</li> <li>· International committee, kept international awareness of front of agents</li> <li>· High interest, but fewer opportunities than today</li> <li>· Recognition of need for global perspective</li> <li>· Very active in international programs (several projects); high priority (4)</li> <li>· We have a great tradition</li> <li>· Extension professionals participate in certain Caribbean agricultural organizations</li> <li>· Understanding global economics, trade, diseases</li> </ul>	<ul style="list-style-type: none"> <li>· Global summit &amp; international conferences</li> <li>· Increased funding and program professional dev. (2)</li> <li>· No change from moderate involvement in 1990</li> <li>· We understand that progress and potential are tied up with the entire globe and yet are very Ameri-centric in thought and action</li> <li>· Extension is moving towards a central focus with training provided for a central group of staff</li> <li>· Programs across all mission areas incorporate a global perspective</li> <li>· Some efforts with special programs; piecemeal</li> <li>· Learning new ways/means (example, World Bank)</li> <li>· Recognized as important (8)</li> <li>· Very limited (5); mostly by a few individuals</li> <li>· Starting a new international experience program targeting county faculty. Have fully realized the need.</li> <li>· Breaking out as a total university</li> <li>· Issues (global) more visible, better integration</li> <li>· Global marketing program funded at \$1.2 million</li> <li>· Strong links to ag marketing</li> <li>· Decreased emphasis from 1990 (3)</li> <li>· Strong peer encouragement</li> <li>· Have international ag office in several programs</li> <li>· Momentum is growing; Interest, awareness, involvement is expanding</li> <li>· We program with global economy more in mind</li> <li>· Global competitiveness requires that we be very involved</li> <li>· Includes business development globally, international ag marketing</li> <li>· Individual interests, but funders not supportive</li> <li>· Supportive of a small number of faculty and agents to obtain global experience (2)</li> <li>· Many state level faculty use in programming</li> <li>· Globalization is a buzz word, it doesn't mean anything.</li> </ul>	<ul style="list-style-type: none"> <li>· Our team has expanded efforts with opportunities for staff and clientele alike.</li> <li>· International activities and perspectives, including increased exchange opportunities and program content will become important parts of the total Extension effort (2)</li> <li>· Efforts will have increased greatly over today (6)</li> <li>· Increased involvement in degree/short course and technology-based programs</li> <li>· Integrated into programming</li> <li>· Limited (3) or piecemeal</li> <li>· Essential; Proactive to keen interest, frequent exchanges</li> <li>· Increased efforts in field faculty involvement</li> <li>· Incorporation of global components across base programs as appropriate</li> <li>· More positions and more money towards international work and awareness (3)</li> <li>· Extensive, many efforts to bring opportunities to our staff and provide encouragement to participate</li> <li>· Increased funding and program and professional development</li> <li>· Expanded educational programs for farmers</li> <li>· Greater use of "best practices" in educational projects</li> <li>· Global perspective will drive most programs</li> <li>· Seamless</li> <li>· More fully integrate current aspects, including multilingual training</li> <li>· Much more engaged, much more involved</li> <li>· We will have many agents and faculty overseas</li> <li>· Recognition and understanding of a truly global system</li> <li>· Will engage in global collaborative efforts</li> <li>· Expanded focus on economics</li> <li>· Dependent on financial support available</li> </ul>



## **Educational Needs of Semimigrant Nomads of Charmahal va Bakhtiari Province, Iran Regarding Sheep and Goat Management and Production**

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2<sup>nd</sup> Runner-Up Outstanding paper presented at the 17<sup>th</sup> Annual Association for International Agricultural and Extension Education Conference, Baton Rouge, LA, April 4-7, 2001

### **Abstract**

The purpose of this study was to describe the perceptions of semimigrant nomads in Chaharmahal va Bakhtiari Province, Iran with respect to sheep and goat management and production practices. A random sample of 368 semimigrant nomads was selected using stratified random sampling techniques. Data were collected through personal interviews with each selected participant. The highest overall learning needs of participants were animal nutrition, shelter and equipment, and rangeland management. Participants indicated a preference for hands-on programming over other types of delivery methods. Nomads thought winter was the most appropriate season for offering educational programs. Nomads wanted to attend programs in their villages. Low literacy rates, migratory patterns, and specialized learning needs present a special challenge for Extension and the Ministry of Agriculture in regards to developing and delivery needed training.

### **Introduction**

One of the overarching goals of Extension and the Ministry of Agriculture in Iran is self-sufficiency in the production of food and fiber. Iran has limited arable land, compounded by high soil erosion. Its population is growing. It is dependent on rice, wheat, and meat imports. It is also dependent on pesticide and insecticide imports. Recent research conducted to address these problems has focused on planning and needs assessment of various extension partners (Chizari, Lindner, & Karjoyan, 1999); farmers and ranchers role in needs based Extension programming (Chizari, Lindner, & Noorabadi, 2000); systems approaches for developing programs based on needs (Chizari, Lindner, &

Zoghie, 1999); decentralized control of agricultural programs (Chizari, Lindner, & Zoghie, 1999); role of women farmers (Chizari, Lindner, Bashardoost, 1997); and participatory approaches to development and delivery of educational program (Chizari, Karbasioun, & Lindner, 1998). An important component of agricultural systems in Iran that has received little attention are nomadic systems. Nomadic systems in general and nomads in specific have historically been ignored by Extension and the Ministry of Agriculture, perhaps due to the private nature of nomads and limited access to information. Recent institutional concerns over environmental degradation have resulted in increased attention to Iran's nomadic system.

The nomadic system is one of the oldest migratory sheep and goat husbandry techniques.

In nomadic systems, families move with their flocks in constant search of grazing and water. Nomadic systems are used primarily in the cold arid and semi-arid regions of Asia, followed by East Africa. The largest concentration of sheep and goats managed under a migratory system of production are in Asia and in countries located on the range of mountains extending West of the Pamirs to Hindu Kush in Afghanistan. This region extends to the Elburz and Zagros mountains in Iran and to the Taurus and the Black sea range in Turkey. Almost 200 million sheep and goats are located in these regions.

Although nomads make up less than three percent of the population of Iran, they control 30% of the livestock. In Iran, nomads are major providers of meat, wool, and dairy products. Recently, the nomadic system has been associated with poor quality of life issues and environmental degradation (Russell, Emadi, & Bawden, 1992). Further, governmental officials have shown little concern for these issues because few social or economic costs of nomadic systems are borne by the government. That is, it is not a very “squeaky wheel.”

Access to Extension educational programs is obviously limited because of the constant migration of nomadic families. Emadi, Fisher, and Woog (1992) noted that nomadic families desired better access to electricity, water, health services, and social welfare services. Further, these authors noted that nomadic families perceived an increased need for providing additional education to future generations. If Extension is to address these issues and play a larger role in addressing the nomadic population in Iran, more information is needed.

The development and delivery of sound educational programs, based on the learning needs of those responsible for the production and management of food and fiber, is necessary for such programs to be efficient and effective (Chizari, Lindner, & Noorabadi, 2000). Recent

Extension programming has been linked with Iran’s movement towards its goal of self-sufficiency in the production of food and fiber (Chizari, Lindner, & Zoghie, 1999; Chazari, Karbasioun, & Lindner, 1998). These authors have found that building Extension programs around the needs of learners results in greater participation and learning. The research presented here is an extension of these efforts to include populations not previously explored.

### **Purpose**

The purpose of this study was to describe and explore the educational needs of semimigrant nomads with respect to sheep and goat management and production practices in Chaharmahal va Bakhtiari Province, Iran.

Specific objectives of the study were:

1. Describe semimigrant nomads by selected personal characteristics;
2. Describe semimigrant nomads preferred learning needs regarding overall management and production programs, animal nutrition, shelter and equipment, and reproduction;
3. Describe semimigrant nomads’ preference for educational methods and appropriate season and place for programming; and
4. Describe semimigrant nomads preferred source of information with respect to animal husbandry.

### **Methods**

Semimigrant nomads ( $N=7,931$  households) in the Charmahal va Bakhtiari Province, Iran were the target population for this study. The Administration of Nomad Affairs of Charmahal va Bakhtiari Province provided a complete up-to-date list of semimigrant nomads in each township to the researchers. The list included the seasonal locations of nomads. Semimigrant nomads ( $n= 368$  households) were selected by

stratified random sampling to participate in this study and subsequently interviewed (Krejcie & Morgan 1970).

The research design for this study was a descriptive and correlational survey method. From a review of the literature, the researchers developed a survey instrument to collect data. The survey was divided into four sections. The first section included personal characteristics on the target population. The remaining three sections contained questions related to the study's objectives. Likert-type scales were used to quantify the responses.

Content and face validity were established by a panel of experts consisting of faculty members and graduate students at Tarbiat Modarres University, Tehran, Iran. A pilot study was conducted with 20 semimigrant nomads in the Farson Township a few weeks before the study. Minor changes in wording were made as a result of the pilot study. Questionnaire reliability was estimated by calculating Cronbach's alpha. Reliability for the overall instrument was estimated at .96. Data were collected through personal interviews with the nomads in the field. Appropriate statistical procedures for description frequencies, percents, means and standard deviations were used to summarize the data.

## **Findings**

The following section presents findings by objective.

### Objective 1

The first objective was to describe semimigrant nomads by selected personal characteristics. A majority of nomads (55%) were 40 to 60 years old. Forty-nine percent of the respondents were illiterate. Seventy-eight percent of respondents ( $n=286$ ) had no formal education. Twenty percent of respondents ( $n=74$ ) had some elementary education. Approximately two percent of the respondents ( $n=8$ ) had at least a

high school diploma. All respondents were male. Forty-three percent of nomads had six or more children. Nomads had an average of 34 years of experience in total livestock production.

Forty-eight percent of the nomads tended goats. Forty-six percent tended goats and sheep. Six percent tended only sheep. The average number of animals owned was 100. Forty-nine percent of the participants had fewer than 100 animals. Forty-seven had between 100 and 200 animals. Approximately four percent of nomads had more than 200 animals. Additionally, fifty-two percent of nomads used public pastures for their livestock feeding.

### Objective 2

The second objective was to describe the preferred learning needs of semimigrant nomads regarding overall management and production programs, animal nutrition, shelter and equipment, and reproduction. Learning needs of nomads for overall livestock management and production practices are presented in Table 1. Using means as indicators, semimigrant nomads perceived the highest level of learning needs were: Animal nutrition ( $\underline{M} = 3.6$ ); Shelter and equipment ( $\underline{M} = 3.5$ ); Rangeland management ( $\underline{M} = 3.5$ ); and Reproduction ( $\underline{M} = 3.4$ ). Lowest perceived level of learning needs were: Animal diseases ( $\underline{M} = 3.3$ ); Vaccination, injections and giving drugs ( $\underline{M} = 3.3$ ); Animal breeding and fattening ( $\underline{M} = 3.0$ ); and Shearing ( $\underline{M} = 2.0$ ).

Learning needs of nomads for with respect to animal nutrition are shown in Table 2. Using means as indicators, semimigrant nomads perceived the highest level of learning needs were: Methods of enriching straws ( $\underline{M} = 4.1$ ); Consumption of enriched straws ( $\underline{M} = 4.1$ ); and Various concentrated feeds ( $\underline{M} = 3.9$ ). Lowest perceived levels of learning needs were: Nutrition value of feed stuffs ( $\underline{M} = 3.2$ ); Preventing mold growth in hay ( $\underline{M} = 2.9$ ); and Nutrition requirements ( $\underline{M} = 2.8$ ).

Table 1

Learning Needs of Nomads for Livestock Management and Production Practices

Rank	Learning Need	N	M <sup>a</sup>	SD
1	Animal Nutrition	368	3.6	0.7
2	Shelter and equipment	368	3.5	0.8
2	Rangeland management	368	3.5	0.8
4	Reproduction	368	3.4	0.7
5	Animal diseases	368	3.3	0.6
5	Vaccination, injections and giving drugs	368	3.3	0.7
7	Animal breeding and fattening	368	3.0	0.8
8	Shearing	368	2.0	0.8

Note: <sup>a</sup>1 = very low need, 2 = low need, 3 = average need, 4 = high need, 5 = very high need

Table 2

Learning Needs of Nomads for Animal Nutrition

Rank	Learning Need	N	M <sup>a</sup>	SD
1	Methods of enriching straws	368	4.1	0.9
1	Consumption of enriched straws	368	4.1	0.8
3	Various concentrated feeds	368	3.9	0.9
4	Diet formulation on different stage of growth	368	3.3	0.9
5	Nutrition value of feed stuffs	368	3.2	0.7
6	Preventing mold growth in hay	368	2.9	1.0
7	Nutrition requirements	368	2.8	0.8

Note: <sup>a</sup>1 = very low need, 2 = low need, 3 = average need, 4 = high need, 5 = very high need

Table 3 shows learning needs of nomads with respect to livestock shelter and equipment. Using means as indicators, semimigrant nomads perceived the highest level of learning needs to be: Various chemicals for use in sanitation of barns ( $\underline{M} = 3.8$ ); Controlling parasites ( $\underline{M} = 3.4$ ); Knowing how to build a dipping vast ( $\underline{M} = 3.4$ ); and Importance of a well lighted and vented barn ( $\underline{M} = 3.4$ ). Lowest perceived levels of learning needs were: Providing a satisfactory sanitation program ( $\underline{M} = 3.3$ ); Safety instructions for spraying barns with chemicals ( $\underline{M} = 3.3$ ); and Appropriate locations for building barns ( $\underline{M} = 3.0$ ).

Table 4 shows learning needs of nomads for with respect to livestock reproduction. Using means as indicators, semimigrant nomads perceived the highest level of learning needs were: Drugs for treating navel cord of newborn ( $\underline{M} = 4.0$ ); Practices for disinfecting the navel cord ( $\underline{M} = 3.9$ ); and Gestation and parturition care ( $\underline{M} = 3.4$ ). Lowest perceived levels of learning needs were: Number of rams and male goats needed to flock ( $\underline{M} = 2.8$ ); and Appropriate age and season for breeding ( $\underline{M} = 2.8$ ).

Table 3

Learning Needs of Nomads for Shelter and Equipment of Livestock

Rank	Learning Need	N	M <sup>a</sup>	SD
1	Various chemicals for use in sanitation of barns	368	3.8	0.8
2	Controlling parasites	368	3.4	0.9
2	Knowing how to build a dipping vast	368	3.4	0.9
2	Importance of a well lighted and vented barn	368	3.4	0.8
5	Providing a satisfactory sanitation program	368	3.3	0.8
5	Safety instructions for spraying barns with chemicals	368	3.3	1.0
7	Appropriate locations for building barns	368	3.0	0.8

Note: <sup>a</sup>1 = very low need, 2 = low need, 3 = average need, 4 = high need, 5 = very high need

Table 4

Learning Needs of Nomads for Reproduction of Livestock

Rank	Learning Need	N	M <sup>a</sup>	SD
1	Drugs for treating navel cord of newborn	368	4.0	0.9
2	Practices for disinfecting the navel cord	368	3.9	0.9
2	Gestation and parturition care	368	3.4	0.7
2	Feeding during gestation and lactation	368	3.2	0.9
5	Helping livestock during birth	368	3.1	1.0
5	Number of rams and male goats needed to flock	368	2.8	0.9
7	Appropriate age and season for breeding	368	2.8	0.9

Note: <sup>a</sup>1 = very low need, 2 = low need, 3 = average need, 4 = high need, 5 = very high need



### Objective 3

The third objective was to describe semimigrant nomads preference for educational methods and appropriate season and place for programming.

Table 5 shows participants perceptions with respect to education delivery methods. Using means as indicators, semimigrant nomads perceived the following educational delivery methods as most useful: Hands-on experience ( $\underline{M} = 4.2$ ); and Films and slides ( $\underline{M} = 3.7$ ).

Least useful educational delivery methods were: Questions and answer meetings ( $\underline{M} = 3.5$ ) and Distance education ( $\underline{M} = 1.8$ ).

As shown in Table 6, most semimigrant nomads thought Winter (61%) was the most appropriate season for offering educational programs.

Spring (3%) was the least appropriate season. Eighty percent of participants indicated that their own village was the most appropriate setting for programming to occur.

### Objective 4

Objective four was to describe the preferred source of information with respect to animal husbandry held by semimigrant nomads. It should be noted in Table 7 that the veterinaries and other nomads combined accounted for more than half (57%) of the preferred sources of information. This is in agreement with work of others (Rogers, 1995) pertaining to adoption-diffusion research.

Table 5

#### Perceptions of Nomads with respect to Educational Delivery Methods

Rank	Learning Need	N	M <sup>a</sup>	SD
1	Hand on experience	368	4.2	0.9
2	Films and slides	368	3.7	0.8
3	Short term course	368	3.6	0.8
4	Questions and answer meetings	368	3.5	0.7
5	Distance education	368	1.8	0.8

Note: <sup>a</sup>1 = very useless, 2 = useless, 3 = neutral, 4 = useful, 5 = very useful

Table 6

Appropriate Season and Place to Conduct Educational Programs as Perceived by Nomads (N=368)

	N	Percent
<u>Season</u>		
Winter	268	73
Fall	55	15
Summer	35	9
Spring	10	3
<u>Place</u>		
Village	295	80
Summer quarters	40	11
Administration of nomad affairs office	32	8
Winter quarters	1	1

Table 7

Preferred source of information with Respect to Animal Husbandry (N=368)

Sources of Information	N	Percent
Veterinaries and other nomads	211	57
Veterinaries	106	29
Other sources	34	9
Ministry of Agriculture employees, other nomads	11	3
Extension agents, veterinaries, and other nomads	6	2

**Conclusions**

The findings presented here support those of Chizari, Lindner, Noorabadi (2000), Chizari, Lindner, and Zoghie (1999), and Chizari, Karbasioun, & Lindner (1998) who found that learners wanted a more active role in the planning and implementation of Extension programs. Learners preferred hands on and experiential learning methods over other methods. Nomads thought winter was the most appropriate season for offering education

programs. Nomads wanted to attend programs in their villages.

The highest learning needs of semimigrant nomads for livestock management and production practices were animal nutrition, shelter and equipment, and rangeland management. In respect to learning needs of nomads for animal nutrition, methods of enriching straws, consumption of enriched straws, and various concentrated feeds were shown to be of the highest need. With respect to shelter and equipment, various chemicals for

use in sanitation of barns was shown to be the highest need. With respect to reproduction, drugs for treating navel cord of newborn and practices for disinfecting the navel cord were shown to be the highest need.

The results presented here show that Extension was not perceived as a primary information source with respect to semimigrant nomads' animal husbandry information needs. This is due, perhaps, to inflexibility of Extension programming, and its pedagogical approaches to teaching. The findings of this study should be implemented by Extension when developing and delivering programs to this population. Low literacy rates, migratory patterns, and specialized learning needs, presents a special challenge for Extension and the Ministry of Agriculture in regards to developing and delivery needed training to semimigrant nomads. The results, however, are predictable, progress towards Iran's goal of self-sufficiency in the production of food and fiber.

### **Educational Importance**

The educational importance of this study is focused on two areas: program development and educational needs assessment. The results of this study will help Iran's Extension service develop better programs based on the identified gaps between the needs of nomadic families and Extension's goals and objectives. These results provide Extension with a better understanding of the educational needs of nomadic families with respect to program methods, timing, and location. Of particular interest was the desire of nomads to be more actively involved in Extension education programs . . . towards a participatory approach.

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**Six Lessons Learned in International Development  
and Their Application in the Context of  
Collaborative Texas-Mexico Agricultural Development**

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**Abstract**

Six international development lessons and their underlying philosophical themes are presented as postulates, and examples of their application in Texas-Mexico agricultural development are presented. They are influenced by the author's 22 years of experiences in three development settings – an international agricultural research center, an international foundation, and a land-grant university. The six lessons are: there must be (1) dialogue between experts from both Mexico and Texas in determining the issues that are to be addressed; (2) representation from the groups that will ultimately benefit from joint efforts at all steps of the process; (3) sharing of costs for every activity that is conducted; (4) a marketing component in all projects, whenever possible; (5) student involvement at every opportunity; and (6) joint evaluation of outcomes for policy impact.

These lessons are serving as a foundation for interaction and bi-national collaboration between The Agriculture Program of the Texas A&M University System and a consortium of universities, governmental and non-governmental organizations, and producer associations from northeast Mexico.

Fourteen completed and eight on-going bi-national projects, funded largely by the W.K. Kellogg Foundation, abide by these lessons. This paper should be useful to educators who have interests in development work with Mexico or with other countries with whom travel and communication is easy and for which cross cultural factors exist. It also sets a framework for developing proposals that may increase their competitiveness with donors who not only want to support projects that are comprehensive and interdisciplinary but also have potential for informing policy setters.

## Introduction

Lessons learned about international development and their application in the context of agricultural research, development and education between Texas and Mexico, are influenced by the author's 22 years of experiences in three types of development settings. From 1978 to 1989, the author directed the training program and communications and documentation services of the International Potato Center (CIP) headquartered in Lima, Peru. During this time CIP had formal collaborative research and training agreements with approximately 80 developing countries around the world. From 1989 to 1993, the author was a program director for agriculture and rural development with the W.K. Kellogg Foundation. In this capacity, the author reviewed and recommended proposals for approval, and managed and evaluated approximately 30 projects in the U.S. and Latin America. Since 1993, he has been developing and managing special projects for The Agriculture Program of The Texas A&M University System, with special emphasis on development that is of mutual benefit to rural residents of the Texas-Mexico borderlands. This work has been made possible principally through funding from the W.K. Kellogg Foundation.

After developing a strategy for mutually beneficial research, education, and development work with Mexico, 14 bi-national research and development projects were completed from 1993 to 1999. Fifty-four faculty members from the Texas A&M Agriculture Program collaborated with 35 counterparts from various universities and the Instituto Nacional de Investigaciones Forestales, Agrícolas, y Pecuarias from Mexico (Annual Progress Report, 1998). In 2000, eight bi-national projects were initiated through an effort led by the Center for Grazinglands and Ranch Management (CGRM) of Texas A&M University. CGRM is composed of faculty members from the seven academic departments

of the College of Agriculture and Life Sciences of Texas A&M University. Nine faculty members from the College are co-principal investigators with eight counterparts from the Technical Consortium from Northeast Mexico (Consortio Técnico del Noreste del País) (Consortium). The Consortium is a legally constituted and recognized organization composed of five universities, research and development governmental and non-governmental organizations, and producer associations from northeast Mexico. Each project will include other partners from Texas and Mexico.

The experiences gained have been translated into six important lessons that are being applied in The Agriculture Program's collaborative development initiatives with Mexico. The lessons are: there must be (1) dialogue between experts from Mexico and Texas in determining the issues that are to be addressed; (2) representation from the groups that will ultimately benefit from joint efforts at all steps of the process; (3) sharing of costs for every activity that is conducted; (4) a marketing component in all projects, whenever possible; (5) student involvement at every opportunity; and (6) joint evaluation of outcomes for policy impact. Following a description of each lesson (philosophical theme), a brief application is given of how the lesson has been applied in current research, development, and education bi-national projects between the CGRM and the Consortium from northeast Mexico.

## Purpose

The purpose of this paper is to share how six lessons learned over a 22-year period in international development are being applied in a collaborative and mutually beneficial initiative involving universities, governmental and non-governmental organizations, and producer associations from both sides of the Texas-Mexico border.

## Philosophical Themes

1. Dialogue between experts from both Mexico and Texas in determining the issues that are to be addressed.

In development work, it appears that there is a tendency to take a “north-south” attitude, i.e., technology from the north is superior to that in the south or, said another way, we know what is best for them because it works for us. What was found is that there is ample expertise in every country in which the author worked. However, many times, due to low salaries in “agriculture” well-trained scientists work in non-agricultural fields or are employed by agencies or universities with limited or no funding for research and development. Many of these scientists have completed undergraduate and graduate degrees from prestigious universities in the U.S. and other developed nations. The task is to encourage and facilitate national counterparts to identify these well-trained individuals and engage them in ascertaining problem areas that merit attention. Areas of common interest must not only be sought but also mechanisms for involving all potential partners to address these areas in collaborative and mutually-benefiting ways, and in developing quality proposals for external funding to carry this work out, must be explored.

Application: During 1998 and 2000, the CGRM and the Consortium organized and conducted five bi-national workshops. Three of the workshops were conducted in Mexico; two were in Texas. Four technical workshops focused on (1) livestock production systems, (2) conservation of natural resources and livestock marketing systems, (3) management of grazinglands, and (4) wildlife management. The fifth workshop was to synthesize major outcomes from the four technical workshops and finalize a proposal for improvement of forage-based production systems and socio-economic conditions in south Texas and northeast Mexico.

An executive committee composed of leaders from the CGRM and the Consortium identified experts from Texas and Mexico to serve on planning committees for each of the workshops.

The planning committees selected the most important topics that were to be addressed and identified experts from Texas and Mexico to address each of the topics. An expert from Texas and one from Mexico addressed each topic. In some cases, joint papers and presentations were made; in other cases there were separate papers and presentations. In all cases, there was interaction and exchange of information between experts in preparing the papers and presentations.

There were 49 presentations in the four technical workshops. This included 49 co-presenters from Texas and 56 co-presenters from Mexico. These experts came from 17 different institutions from Texas and Mexico. Each topic was presented in either English or Spanish and simultaneously translated to the other language. Proceedings for each workshop were published before each workshop in English and Spanish (Proceedings).

2. Representation from the groups that will ultimately benefit from joint efforts at all steps of the process.

Too many times, problem areas that have been targeted have either been identified up to 10 years prior to the submission of requests for proposals or have only marginally involved potential beneficiaries of the projects in their execution. In many cases, it appears that the problems that are being addressed have either been replaced by other more severe problems, intended recipients of the benefits of the projects have forgotten that they were asked, or there are now new potential recipients facing the same original problems. In nearly all cases, there are gaps in their participation in the development or implementation and their absence is likely to be more evident in the evaluation of outcomes. Representatives of the intended beneficiaries should be involved in all

steps of the projects that are developed, carried out, and evaluated.

Application: The four technical workshops were intended to (1) exchange latest information about topics of common interest between experts, synthesize this information, and share it with producers from both sides of the Texas-Mexico border in terms that they could readily understand and apply; (2) promote interaction and discussion among the participants, i.e., principally between producers and experts from the various institutions from Texas and Mexico; and (3) enable the participants, primarily the producers, to provide input to short- and long-term research, extension, and education needs. The goal was to gain as much input as possible to develop a longer term and sustainable bi-national effort.

Each workshop was designed to disseminate technical information through traditional presentations in auditorium settings. Then, each workshop included activities to promote informal interaction between and among participants, through such activities as a computer-based farm management session, a hands-on demonstration, and field days. Finally, participants worked in small groups to reflect on what they had been exposed to and to suggest short-term research, extension, or educational activities that could be undertaken with existent resources and undertaken in the longer term with additional resources. This input was captured and recorded by the executive and planning committees immediately after each workshop.

The fifth workshop focused on synthesizing the inputs received from the participants in the workshops and finalizing a comprehensive proposal. The proposal is composed of eight objectives to be completed in a five-year period and is intended to address issues that are of importance to producers on both sides of the Texas-Mexico border.

There were a total of 865 registered participants in the five workshops. Approximately, 400 were producers from Texas and Mexico. The

rest were faculty and students from universities and personnel from governmental and non-governmental organizations (Piña, 1998, 1998, 1999, 1999, 2000).

3. Sharing of costs for every activity that is conducted:

In our enthusiasm to show results as quickly as possible, often in unrealistic times, the inclination is to cover all expenses with project funds to expedite activities and participation. Often times, the donors place unrealistic expectations in the timeframe of the projects they fund. It is fundamentally important that potential beneficiaries and all partners cover partially their research, training, and development costs. If this is not done, the collaborative activities are not valued and, in reality, there is no collaboration. To achieve this goal, however, requires a clear vision of what is expected and patience and perseverance to insure that development groups are not pressured to cover all costs for the sake of harmony with national partners or the interest of a donor to see quick results from their investment.

Application: In building relationships with potential partners from Mexico, the A&M Agriculture Program consistently made it clear that it did not have funds to cover bi-national efforts, that common interest areas would have to be identified and funds sought as partners to address priority issues together. This was the foundation on which the first 14 collaborative projects were built. Although project funds were used for collaborative efforts, recipients of those funds had to contribute matching support, which was largely in-kind. This approach was carried over in the relationship that developed between the CGRM and the Consortium. All costs for communications, planning meetings, and the workshops were borne by the partner institutions. No costs incurred by institutions from Mexico were covered by the CGRM. For example, travel costs of A&M Program faculty



that presented in the workshops in Mexico were covered by the CGRM while travel costs for counterparts from Mexico for workshops in Texas were covered by their respective institutions.

Further, in the current set of eight bi-national projects each project has been awarded \$5,000 to start activities for accomplishing the eight objectives of the long-term effort. The funds are allocated to a CGRM member department provided that that department contributes a direct match of 50 percent (\$2,500) and the partner institution from the Consortium provides an equal direct match of 50 percent (\$2,500). Therefore, each project has a total of \$10,000 for its activities.

It should be noted that six of the eight projects received their \$5,000 grant from a projects sponsored by the W.K. Kellogg Foundation whereas two projects received their \$5,000 grants from the A&M Agriculture Program and the Unión Ganadera Regional de Nuevo León, a member institution of the Consortium.

Of interest is that the co-principal investigators from Texas in the set of 14 projects reported leveraging \$104,800 from other external sources while the co-principal investigators from Mexico reported leveraging \$424,225 (Annual Progress Report). The same experience is expected with the current set of eight projects

#### 4. Marketing component in all projects, whenever possible:

Fundamentally, development or “improving the quality of people’s lives” is dependent on economic development. Without added income to purchase the goods and services that enable an improved quality of life, development efforts may only make life a bit easier by taking away some of the pain of living in substandard conditions. Therefore, whenever possible, research, education, and development efforts should be linked to improving income. As such, the inclusion of marketing components in all

project activities must be considered and explored. Sometimes, research contributes to the principal investigators’ promotion and tenure and is conducted under the guise of development research, with little or no possibility of ever reaching an end beneficiary in such a way that it improves income.

Application: All eight of the currently funded bi-national projects include an economic impact analysis, and it is even more prominent in the longer-term proposal for which funding is being sought. Furthermore, in 1999, the CGRM and the Consortium, in collaboration with each other, submitted two proposals to the Fondo Regional de Tecnologia Agropecuaria based at the Interamerican Development Bank. Both included strong sections on marketing and economic analysis (Proposals).

#### 5. Student involvement at every opportunity:

Development requires long-term and sustained efforts. It requires not only the participation of mature and recognized leaders from the U.S. and a targeted partner country but also the involvement of young people, i.e., students. The author feels that it is a greater challenge to change the attitudes, beliefs, and values of older people than to influence the way young people perceive things. Development projects are excellent opportunities for students to experience development efforts and to interact with people, particularly other young people, who may be a bit different from them. Such experiences also heighten the importance of possessing skills with a language other than their own native language. The author envisions the day when every international interaction will include the participation of students at every step.

Application: To date four graduate and two undergraduate students from the A&M Agriculture Program have been intimately involved in the activities led by the CGRM. One graduate student conducted research and wrote a thesis on the major sources of information used by livestock producers in the state of Nuevo León (Freund, 1999). Another graduate student is conducting research on the governmental and non-governmental organizations that perform extension-type activities in south Texas, Tamaulipas, Nuevo León, and Coahuila. Also, during this time, the Department of Modern and Classical Languages, received a grant from the U.S. Department of Education, to establish a Spanish language certificate program for undergraduate students in the College of Agriculture and Life Sciences at Texas A&M University. This program requires that students take a course in Spanish taught by A&M faculty in Mexico, and encourages students to participate in internships at the same time (Proposal). Further, a recent grant from USAID will enable seven graduate students from Texas and seven from Mexico to participate in seven of the eight on-going bi-national projects.

6. Joint evaluation of outcomes for policy impact:

Regardless of the source of funding for a development project, what partner attracted the funding, or where the principal investigator is from, it is fundamentally important that all who are involved in a project are accountable for its outcomes. This is particularly important if the intent is to have a long-lasting impact on the external conditions in which a project is being carried out. Evaluation is not the sole responsibility of a single external evaluator; it is the responsibility of the team of individuals associated with a project. In this context, formative evaluation is extremely important as it enables making adjustments as a project evolves. Furthermore, in order to inform policy related to the problems being addressed a sound communication plan to complement the

evaluation/dissemination process is extremely important. Policy and decision-makers and key opinion leaders must be informed about policies, rules, and regulations that often impinge on development.

Application: Toward the end of the completion of the set of 14 projects, a networking conference of all the principal investigators from Texas and Mexico was held to share outcomes and lessons learned in carrying out the projects. In the relationship between the CGRM and the Consortium, the bi-national executive committee meets quarterly to review progress and plan next steps. Additionally, all principal investigators will meet as a group with the executive committee in the early stages of their projects. At the end of the first year the principal investigators will share their outcomes in a networking conference with producers from across the targeted region. Special attention will be given to inviting key policy setters and opinion leaders from the region to this conference. This series of interactions are intended to enable making mid-course corrections as necessary; it is a formative evaluation process in which all that are involved in the project are responsible for its outcomes. Throughout this process special attention will be given to disseminating outcomes from the projects via mass media as well as academic outlets.

## Conclusions

The six lessons presented can be the basis for postulates that can guide others who have interests in collaborative and mutually beneficial development work in cross-cultural environments. The lessons, learned by the author in the past 22 years of international development work, are serving as a foundation for interaction and bi-national collaboration between The Agriculture Program of the Texas A&M University System, through the Center for Grazinglands and Ranch Management, and counterparts in Mexico, through the Technical Consortium from Northeast Mexico. Currently, mini-challenge grant proposals that are being supported with partial external support from the W.K. Kellogg Foundation and a recent grant from USAID are heeding the lessons learned.

However, it must be recognized that to get to this point requires a clear vision of development work in a bi-national context, patience in working with faculty from a variety of disciplines and experiences, building a relationship with a counterpart group, and creating a shared vision of what is expected from the relationship. It also requires true collaboration in sharing responsibilities and costs, throughout the process.

Furthermore, it is important to recognize that while impact can be had at the community or work level, unless the external conditions that caused the problems to occur are addressed, there will be little long-lasting impact. In other words, public policies must be influenced.

## Educational Importance

This paper should be useful to educators who have interests in development work with Mexico or with other countries with whom travel and communication is relatively easy. It points out six succinct lessons that can be expanded upon and discussed in such a way that a series of other lessons related to each can be studied. In addition, this paper shows that true

collaboration resulting in effective development can be developed between and among institutions and organizations in cross-cultural settings. It also sets a framework for developing proposals that may increase their competitiveness with donors who have similar interests but who want to support projects that are comprehensive in nature, i.e., that extend beyond traditional approaches to development and deal with broader concerns, such as policy. Further, the paper points out that development work of this nature must be undertaken with a long-term perspective in mind, as quick results are not easily attainable. Therefore, educators must be prepared to engage in this kind of process for extended periods of time and be patient with the process.

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## After the Group: Extending the Farmer

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### Abstract

This paper describes two case studies in which farmers, as the result of group extension programs associated with adult education and action learning cycles, implicitly and explicitly are held to have the responsibility for transferring group learning to farmer networks outside the immediate group. The case studies look at both community-based and commodity-based programs. The discussion focuses on the potential difficulties for farmers and program organizers in following through on “second generation” delivery. “Extending the farmer” has theoretical and practical implications for practitioners and educators alike.

Australia has experienced the promotion of group extension services, since the 1980s. In part this is attributable to reductions in government expenditure paralleling the diminishing of public agency services (Curtis, 1993; Martin, 1994). Farmers seeking extension support, however, are encouraged to voluntarily and continuously acquire this information and technical advice through group extension. These meetings are generally targeted to particular farm and land management issues and are organised and facilitated as adult learning groups. Cameron & Chamala (1993: 333) state that the extension agenda of the Government is to promote and maintain self-reliant rural communities. The definition of “self-reliant” remains vague, but with regard to extension, it suggests communities evolving with minimal

government assistance. The first step in achieving “self-reliance” is to assess the quality of contact between extension messages and the target audience. Extension agencies tend to monitor participation as the indicator of satisfactory interaction between the extension message and the group. They suggest an optimal indicator of a successful program is how farmers outside the target group (the “second generation”) perceive the value of the programs or the importance non-participants place on acquiring the same knowledge. In many instances, group extension has exacerbated the tendency for the critical stakeholders, the rural communities, to be restricted to the implementation phase of extension programs, and have no part in the planning or evaluation of these programs (Staley 1994). There are attempts to integrate design, implementation and evaluation as part of an adult participatory learning process. In

Australia this includes community representation on boards and networks associated with extension programs, thereby linking ideas of community self-reliance to a more participatory model of self-help farmer learning groups. We suggest their theoretical compatibility is attractive to funding agencies as vehicles for change and innovation because the focus is on group participants taking responsibility for disseminating the extension ideas further.

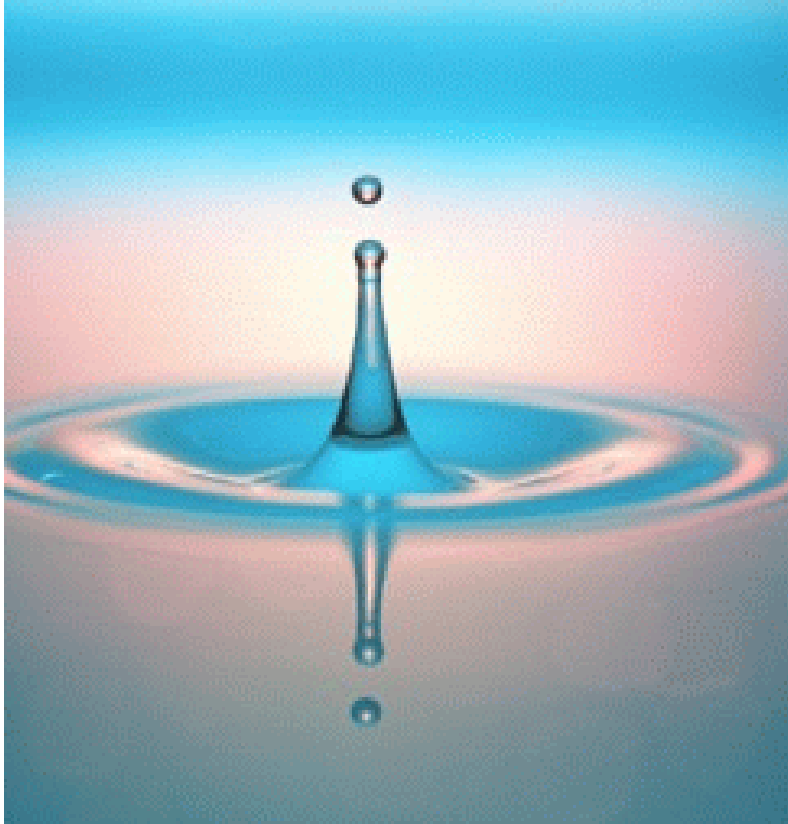
Group extension encourages adult learning and anticipates improving farm management practices and processes within the rural community through demonstration and positive interaction between farmers. We suggest there is an assumption that participants will charitably play the role of “extension change catalysts” for their farming communities. However, the mechanism for ensuring the expectation of community involvement beyond the group is largely undescribed. The delivery of group extension information tends to be informal and oral in character; thus suitable information that is readily transferable to the >second generation= requires careful planning, and that too remains a predominantly uncharted area. While the original group formation is generally voluntary, little is known about levels of voluntary participation beyond the initial participants and, Brookfield (1986) states that common understanding and community learning can only be stimulated if the act is voluntary. Therefore the current situation appears full of anarchic potential.

The model to this point can be imagined as follows: the extension idea(s) are as a stone thrown into the pond, and the water in the pond represents farming networks (Figure 1). The initial contact group are within the first circle of ripples and the idea(s) are transferred through the widening ripples. The subsequent ripples are as a result of the first ripple or group, contacting the farmers contained within the “second generation” of ripples. This image is significant. The ripples are not evenly dispersed,

nor is the ripple line continuous; the idea(s) themselves change as they move through the farming circles; the idea(s) are transferred dissimilarly and the membership of each circle is fluid.

In considering the applicability of our “ripple model” to the discussion, we turn to clarify the distinction between community and commodity-based extension programs. A community-based program is usually funded for the public good. The Government tends to provide funding for small initiatives to encourage experimentation and innovative approaches. There is typically no set target audience but rather an accumulation of different communities from both rural and urban environs that come together to resolve problems and/or community needs.

A commodity-based program, conversely, has a specific commodity target audience with the incentives to participate generally reflecting some type of market advantage. In most instances, these programs are operated and/or funded either privately by the farm households themselves or through industry research and development corporations. Thus the issue of “second generation” contact, to non-participants, may require different messages, transfer strategies and approaches because it is realistic to expect difference associated with this wider community.



The community-based case in this paper reflects a longitudinal study on Landcare farmers in southwest Gippsland Victoria, undertaken between 1993 and 1997 (Beilin, 1998). Landcare is a voluntary partnership between Governments, private agriculturalists and land managers for the sustainable use of land and water. Initially Landcare extension agents were largely State Government employees from conservation and production agencies--the technology experts--however, their role was to operate as facilitators. Lately, anecdotal evidence suggests that changes in funding have resulted in Landcare groups forming networks and facilitators are now network coordinators and more closely aligned to administrative and group funding issues.

The commodity-based extension case in this paper is part of a current research project, focussing on the dairy industry. The research reports on an 18-month study of a 3-year dairy

extension program, both funded by the National Dairy Research and Development Corporation. The extension initiative is on improving the competitiveness and production efficiency through decision-making. It utilises facilitated farmer groups. The facilitators are professional consultants with technical expertise in production relating to optimal farm management. The three groups involved in this study formed after a pilot program, and the current research project involves a partial evaluation of the extension initiative. The farmer groups are exclusive, and the wider community has access to the program by invitation to farm field days twice a year and through industry newsletters. By contrast with the first case study, therefore, "second generation" contact must be instigated from within the specific groups.

## Purpose

Information transfer as a process of adoption and diffusion of innovation was focused on technology transfer (Garforth, 1987). Although it may be seen as being applicable to technological change, adoption and diffusion has minimal relevance to sociological change and in the post-modern era, we acknowledge that individuals are diverse and social organizations and structures complex. Change can no longer be conceived as a straight line, paralleling “progress.” Nor can it be understood as tied to technological advances. It too encompasses diversity and complexity in individuals. The difficulty in transferring information from participants to non-participants to initiate change becomes the heart of this paper. In today’s extension, there is more importance placed on community learning utilising the learning experiences evolved within the farmer groups. However, the participants may not recognise wider community learning as a natural outcome of their participation in a program. They may also not experience a sense of responsibility with regard to transferring what they have learned to the wider community. In commodity based groups, in particular, where the catch cry is “continuous improvement” and where competitiveness is important, there is not an obvious reason why group participants would envisage a partnership between themselves and the wider community as a part of benefiting from the group extension program.

## Methodological Approach

Both the research projects involving the Landcare community-based program and the dairy extension commodity-based program utilised a participatory action learning approach. The action-learning model (Kolb, 1984), which follows a four-stage cycle of inquiry, action, evaluation and reflection, is widely accepted as a basic model for the way adults learn (Edmondston 1997). Effective adult learning is problem and experience centred; the experience

must be meaningful; the learning process must be voluntary; the objectives must be set and pursued by the learner; and, the learner requires feedback about their progress towards those objectives (Brookfield 1986). Reflection is also an important part of the process (Reason, 1994).

Five Landcare groups were studied over five years. This included attending 54 monthly meetings, field days and conducting two sets of detailed interviews with 18 Landcare family farm households. The interviewed households participated in a photo-elicitation process using a highly modified form of personal construct theory and detailed ethnographic narratives (Beilin, 1998; Beilin, 1999). Action learning in this study included the opportunity for the involved farmers to analyze their landscape practice through describing and reflecting on photographs they had taken of their farm landscapes. While Landcare focuses on conservation practices on productive land, the farmers used the photographs to demonstrate difficulties they were experiencing with government (mismanagement of roadsides); neighbors (fence lines and noxious weeds); industry support (placement of dairy sheds for milk delivery). In short, while the photographs were of the immediate scene, the reflective conversations generated a complex understanding of impinging values and practical realities. Generally speaking, Landcare is not exclusive in its membership, however as some groups held their meetings in private homes, an invitation to attend was needed, at least in the first instance. The reality in this area, however, was that most Landcare members were keen to encourage others to attend and advertised the meetings, tree plantings and availability of grants in their wider community.

The effectiveness of the group as a learning tool is the primary objective of the commodity based study. The study utilized various research methods including participatory observation, interviews and surveys. The wider dairying community were invited twice yearly to open days, and had access to monthly feature



newsletters, and periodical press releases. Observation and analysis of the monthly group activities by the researcher indicated that there was minimal communication between group members and the wider rural community. Consequently, an action research component was developed to explore the applicability of empowering group members to establish the relevance of their program outcomes with the wider farming community and establish “second generation” contact. This approach implicitly incorporated an evaluation of the existing program. It also provided the funding body and the researcher with a tool to assess whether these learning groups could develop a process to communicate program activities and outcomes to non-participants. Group members who volunteered to conduct the evaluation survey to determine the wider community's relationship to the target project were required to undertake a training program to ensure compliance with ethical requirements of the larger study. Each interviewer was required to complete 5 interviews with farming community members and report back to the researcher and the group on their findings. A total of 55 community household interviews were completed.

### **Results and Discussion**

Both studies noted that there are numerous group extension programs operating within any given farming community. There is also some crossover between participants and programs. The Landcare program has spawned over 4000 groups and involves an estimated 30 per cent of the farming population across the nation (Baker, 1997; Mues *et al.*, 1994), but in the area of the study, only 22 per cent of the farmers are members (Beilin, 1998); while the commodity-based program involves 10 per cent of the community (Andreato, n.a). The importance to funding agencies of these programs 'extending' to contact non-participants is demonstrated by these relatively low participation figures. The question remains as to whose responsibility it is for the transfer of information beyond the self-selecting groups to the wider community; and

whether it is a realistic expectation of funding bodies that indicators of successful group extension programs include the dispersal of these messages by group participants.

The preliminary findings from the commodity-based study indicated that the research method utilizing group members as community interviewers encouraged the reflective action learning cycle for the target group as a whole. In subsequent discussions of research findings, the researcher noted that the group had sufficient knowledge to modify their program to better suit both the groups' and the rural communities' needs. However, the framework of the original project design did not include a formal mechanism for making these changes within the group or the overall project structure. The question of the facilitator's role is central here. The facilitator is the official change agent thus their capacity to nurture and encourage the group is a critical factor in the success of the adult learning process. Brookfield supports this concept and states that facilitators should assist adults to effectively utilize local knowledge and resources to achieve the learning outcomes that learners have defined themselves (1986: 124). In this study, the facilitators did not have an investment in the long-term future of the groups. Their contracts are for the immediate project and their skills are in technical areas; and when broached, their abilities to train and manage the farmers as 'extension catalysts' is understood by them to be counteractive to their principal tasks. Yet the industry funding agency sees the dispersal of information from the farmer groups to the wider community as an indicator of a successful project.

The farmers recognized the value of the group in giving individual's confidence to talk about change. One farmer stated that “if I was asked to give an account of what I was doing on my own farm, I always integrated the extension program I am involved in to help demonstrate the rationale of my decision-making process and/or actions it gives the farming community a sense of understanding as to what the project is

about” (Sam, April 2000 in Andreata, n.a.). Equally, farmers indicated that it is important for group learning to extend into the community. They believed that: community learning leads to a robust rural community network that can rely on each other in times of hardship (ibid). Therefore, from the farmers’ perspective in this study, group extension and “extending the farmer” is a step towards a more self-reliant rural community.

The Landcare case study research demonstrates a different response with regard to dispersal of information from the group to the wider community. Several farmers offered to help neighbors plant trees in order to ensure non-participant farms became involved in corridors or networks in the region. In contrast, a third of the interviewed households complained that the government was withdrawing from its responsibility with regard to land management (noxious weed control, salinity and over grazing) and expecting local Landcare farmers to convince non-Landcare farmers to change their ways. The Landcare farmers did not think this would be a successful strategy, and all the interviewed farmers commented negatively on government withdrawing services while asking farmers to do more (Beilin, 1998). This case study also showed a significant difference between individual farm practices and Landcare group meeting discussions. Farmers took the information they needed or could strategically use from the meetings. Some discounted the practical Landcare applications, for example, suggesting they were unsuitable to their landscapes or impractical for the long-term well being of the farm family (ibid).

In general, groups go through a process of leadership transfer and fluxes of participation and heightened activity. The central viability of the groups over time often depends on key individuals rather than the contracted facilitators or coordinators. In the case of Landcare, the central funding encourages the group to keep going, but does little to assess the “health” of the key players. On the other hand, the

commodity-based program has an exhaustible funding period of three years, where on completion, a group has the option to continue with the group on a “user-pays” system or alternatively disperse. At present, the program does not encourage groups to be self-directed but rather directed at the discretion of a facilitator. At the end of the three-year commitment, the groups then have the option for appropriate training to assist in constructing a self-directed learning group (Andreata, n.a).

Group learning has the potential to encourage group responsibility to help change the bases of social learning and the environment within the farming community. However, experiential learning could be non-transferable. The issue of groups not being homogeneous and farming situations not always being the same magnifies the possibility of non-transferability. For this reason, we emphasize that group extension can be most influential at the process level and not in the ultimate application of management and practices.

### **Educational Importance**

Recognizing that Australian farmers currently face particularly difficult times in world markets may assist readers to contextualize the cauldron into which the issue of on-going information contact falls. The implicit assumption made by many Government agencies and industry cooperatives is that information empowered farm households have an obligation to their fellow rural communities. As extension educators our concerns include: that farmers taking on this responsibility may result in adverse consequences because non-participating farm families may misunderstand the implication of the message, not fully comprehend the process, or simply utilize part of the message only to find that the sum of these elements is not equivalent to the whole. As well, in highly technical programs such as those associated with commodity extension programs, the missing technological information may be critical to the outcomes experienced by the

intercepting “second generation” contacts. By reflecting on the two cases in this paper, the authors' purpose is to encourage discussion of these concerns.

Paulo Freire, working among the Brazilian peasants, imagined a learning cycle that would encourage each participant to expand and extend their learning as a part of taking responsibility for changing their lives (Crotty, 1998). As action researchers have noted, the moment of reflecting on what has been accomplished leads almost immediately to perceptions of what can next be tackled. The building blocks of adult learning transferred to group extension methods, offers farmer groups some insights. However, extension educators, reflecting as we have, on the “ripple model,” may experience some of the qualms that initially motivated this paper.

Landcare was instrumental in changing extension group methods for sustainable land management outcomes. Very quickly it was recognized that the technological issues were not the limiting factor to changing farmer management practices. Human resource management required a more sophisticated approach to group extension, and the language of participation and action research was applied. Conversely, many Landcare facilitators and coordinators did not have training in these areas and were more comfortable with scientific technology transfer, which reflected their initial training. The idea that eventually each group might form a “cadre” of activists, able to go out into the non-participating community and transfer a process or ideas for discussion was probably always there in the theory, but really not explored on-ground; nor were programs designed to be evangelical in this way. However, in retrospect, it is unclear how Landcare was meant to spread into the wider community if this did not happen.

The lack of facilitation skills among group members, and even among the initial group coordinators is an on-going issue. It is not the

fact that the commodity industry used private consultants that weakens the project outcomes in our view. The facilitators did not have a clear mandate from the industry to create the conditions that would nurture social change. Nor did they pass on the skills necessary to analyze process rather than technological intervention. There was little recognition of the skills and analysis required for group members to effectively communicate the program experiences beyond the group. If the public and private funders are serious about self reliance as a cornerstone of expected outcomes from their projects, then capacity building, facilitation and social dynamics are important components of the program. Participating farmers and community members would then have the ability to generate and facilitate second generation contact. If we are right in hypothesizing the centrality of each group in relation to the non-participant wider community, then we must create an active interface for engagement between the “generations.” Change catalysts need to explain the thinking and sorting within the information process rather than just provide the information to make changes. This active interface also allows information to be fed back into new extension ideas to create new ripples as illustrated in Figure 1; thus empowered farming networks will have the capacity and skills to create a change cycle that suits their situation.

The final issue in extending group learning is the ethical responsibility involved. Farmer groups who take responsibility for “empowering individuals” to enhance “community ownership” need clarification of their status and legal liabilities as volunteers. Activists operating without adequate resources or information are likely to experience dissolution and their activities, exacerbated by an unsupported “ripple effect” could lead to disenfranchisement among already marginalized farmers.

## Acknowledgments

Ms. Andreata's research is supported by the Dairy Research and Development Corporation. Dr R. Beilin and Dr. K Williams, University of Melbourne are supervisors of her study.

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**AIAEE**  
**Pre-conference Leadership Team Meeting**  
**April 4, 2001**

**Minutes**

Meeting was called to order by Wade Miller at the Marriott Hotel in Baton Rouge, Louisiana.

The summer 2000 Leadership Team meeting minutes were presented by Frank Brewer and approved.

John Richardson reviewed the work with the Conference hotel and issues related to the change in management from Hilton to Marriott. Also, an overview of the 2001 Conference “Emerging Trends in Agricultural and Extension Education” was presented.

John Richardson indicated that the 2003 Conference could be held in Raleigh, North Carolina and a bid would be offered to the membership.

Tours to LSU, SU and the state government complex will be conducted for members as a pre-conference option.

New member orientation will be conducted by Jim Diamond.

The opening session will be conducted by Wade Miller. It was announced that Mr. Ron Henson, First Assistant State Treasurer, will fill in for Mr. John Kennedy to welcome the membership to Louisiana.

Dr. William Richardson, Chancellor, LSU Agriculture Center, will present the keynote address.

It was also announced that a continental breakfast would be provided each morning, except Friday, when a full breakfast would be served. The Louisiana Reception is set as a reception – not a dinner. The Shrimparoo will be held at the Burden Research Plantation and will be a full dinner.

Session I will be in the Vermillion Room rather than the Feliciana room, which is being remodeled.

It was announced that all of the Education Tours were full. Tours will be offered as follows:

- ✓ Plantation Tour
- ✓ Agricultural Tour
- ✓ New Orleans Tour
- ✓ Bird Center Tour
- ✓ McGee’s Loading Swamp Tour

Steve Jones reported that the Conference has 152 paid registrants as follows:

135	regular registrations
11	spouse registrations
6	LSU volunteers
<hr/>	
152	registered with additional walk up registrations expected.

The Leadership Team thanked Satish Verma and John Richardson for the excellent work preparing for the Conference.

The proposed AIAEE Foundation proposal was discussed in detail. Barbara Ludwig indicated that the Constitution and Bylaws Committee had reviewed the request to establish an AIAEE Foundation. David Giltrow led a discussion related to a possible timetable and details to establish a foundation.

Wade Miller moved that the membership be presented with a proposal to amend the Constitution as follows “AIAEE may authorize the establishment of a foundation (AIAEE Foundation, Inc.) to raise funds to support the educational purposes outlined in the constitution and make distributions to the Association for International Agricultural and Extension Education. The AIAEE Foundation, Inc., will be managed and controlled by a Board of Trustees and have a constitution and bylaws approved by the Association and congruent with the mission, activities, and philosophy of the Association.

Section 1. The current president of AIAEE shall be a member of the Board of Directors of the Foundation.

Section 2. The Board of Trustees shall be members in good standing of AIAEE.

Motion passed.

If the membership is in support of the proposal, it will be included with a newsletter mailing, asking for a formal vote by the membership.

David Mustian, representing North Carolina State University and North Carolina A&T State University, invited the Association to bring the Association Conference to Raleigh, North Carolina in 2003.

Frank Brewer moved and it was seconded that the Conference be held in the Raleigh area in association with North Carolina State University and North Carolina A&T State University, and others institutions in the area. Motion passed.

Wayne Ganpat presented a report on the Caribbean Regional Chapter and its linkage to AIAEE. He reported that the chapter met several times, including hosting a seminar presented by Dr. John Richardson, AIAEE President Elect. A special thank you was given to John by the Regional Chapter for his presentation to the 80 members present.

Jim Diamond reported that there are 184 members in good standing from 33 countries.



James Christiansen reported on the Scholarly Activities Committee, cost savings and new formats for the Proceedings, including the use of the Web and CD format of the Proceedings of the 17<sup>th</sup> Annual Conference.

It was decided that the Leadership Team would recommend to the membership that the AIAEE Conference would be held in the Republic of Ireland in 2004.

The Leadership Team noted to recommend Gary Wingenbach to be the Editor of editions 9, 10 and 11 of the Journal.

Meeting adjourned

Respectfully submitted  
Frank L. Brewer, Secretary



**17<sup>th</sup> Annual Conference**  
**Association for International Agricultural and Extension Education**  
**Baton Rouge, Louisiana**  
**April 4-7, 2001**

**Minutes**

President Wade Miller called the meeting of 17<sup>th</sup> Annual Conference of AIAEE to order on Saturday April 7, 2001.

The Minutes of the 16<sup>th</sup> Annual Conference were presented by Secretary Frank Brewer. Motion to accept the minutes as presented was passed.

The treasurer's report was presented by Steve Jones. As of April 1, 2001

Starting balance- \$36,365.78

Expenses - \$22,012.47

Income - \$28,609.74.

Treasurers report was accepted as reported.

It was reported by President Miller that the results of the elections were as follows: President-elect - Gustav Düvel  
Secretary - Frank Brewer

The student Representative report was presented by Mikel Woods. He reported that 42 graduate students were in attendance. The student scholarship fund raiser included \$552 from the silent auction and \$87 from the wine tasting for a total of \$639. The new student representatives will be either: Mona Othman - Iowa State or Kelly Payson - University of Florida.

Jim Connors reported on the Editorial Board and Journal. He reported 27 papers had been submitted. This was an increase of 5 papers. There are currently 120 subscriptions to the Journal. There is a financial balance of \$9,499 up \$401 from the previous year. An associate editor for a French edition has been selected – Michelle Owens, and a second associate editor for Spanish edition, Anna Marie Gomez, will allow the Journal to be available in three languages. The Journal will be requiring authors to submit proposed articles electronically. It was announced that the editor for editions 9, 10 and 11 will be Dr. Gary Wingenbach from Mississippi State University.

A publication report was presented by Jack Elliot. It was reported that there will be three newsletters, a student listserv, and the web home page will be revised.

The awards and recognition committee nominated Mikel Woods for consideration by the Board to be appointed the new Chair. Presentations of past president plaques will continue. The committee discussed the development of new awards for the Outstanding Journal Article for the year, and Outstanding Graduate Student.

Barbara Ludwig reported on the Constitution and Bylaws Committee. Changes in the bylaws were discussed as they relate to the creation of a foundation.

Jim Christiansen reported on the work of the Scholarly Activities Committee. The committee recommends moving towards the printing of a summary of the abstracts of the Proceedings and the complete abstracts provided on CD at a substantial cost savings. The committee recommends that the proceedings be put on line in future years. The 17<sup>th</sup> Annual Conference has been put online and can be accessed at [www.aged.tamu.edu/aiaee](http://www.aged.tamu.edu/aiaee). A special thanks to James Linder at Texas A&M for his help in developing the web and CD offering.

The proceedings will continue to list paper titles and authors of papers not presented, so members can contact authors of topics that are of interest.

Jim Diamond reported on the membership committee. He reported 184 members in good standing from 33 Nations.

The possibility of multi-year dues payments was presented. Sale of logo pins and membership shingles has been good.

Wayne Ganpat, from Trinidad, reported on the Regional AIAEE Chapter activities.

No old business was presented.

New Business

The proposal to amend the Constitution as follows was discussed:

#### Proposed Amendment to Constitution

AIAEE may authorize the establishment of a foundation (AIAEE Foundation, Inc.) to raise funds to support the educational purpose outlined in its constitution and make distributions to the Association for International Agricultural and Extension Education. The AIAEE Foundation inc., will be managed and controlled by a Board of Trustees and have a constitution and bylaws approved by the Association and be congruent with the mission, activities and philosophy of the Association.

Section 1. The current president of AIAEE shall be a member of the Board of Trustees of the Foundation.

Section 2. The Board of Trustees shall be members in good standing of AIAEE.

Section 3. The Chair of the AIAEE Foundation, Inc. shall serve as an ex-officio member of the Board of Directors of AIAEE.

President Miller indicated that the proposal will be sent by mail to the membership for a vote.

The 2002 Conference details were presented by Gustav Düvel. The Conference will be held in Durban South Africa, May 27-31, 2002, with a pre-conference trip and a post conference option to view wild game. A two-day and five-day option will be provided. The conference

headquarters will be the Durban Holiday Inn located on the Indian Ocean. Room cost will be approximately \$60. A spouse program will be offered and conference tours will include a visit to the South Africa Sugar Association.

The 2003 Conference site selection was discussed. Membership voted to hold the Conference in Raleigh North Carolina.

Jim Phelan, University College Dublin, presented a bid for the Conference site in Dublin in 2004. Membership voted in support of the venue being the Republic of Ireland in 2004.

Four resolutions were presented to the membership by Resolutions Chair William Thuemmel.

Resolution one as in recognition of the Leadership and Planning of the AIAEE Conference by Wade Miller, President; John Richardson, President-Elect and Satish Verma, Past President. Also recognized, were James Knight Editor of the AIAEE newsletter and James Connors, Editor of the Journal.

Resolution two was in recognition of James Christensen leadership to scholarly activities.

Resolution three in recognition of the support of university administrators at the Conference site, including Louisiana State University, LSU Agricultural Center and Southern University.

Resolution four was in recognition of James Diamond's contributions.

All resolutions were supported and will be sent to the individuals and commendation letters with copies of the resolutions sent to their administrations.

A memorial was presented by Gary Leske on behalf of the life and career of the late Clifford "Kip" Nelson, who had served as the fourth AIAEE President.

Wade Miller introduced the 2001-2002 Leadership Team. A special recognition was presented to outgoing President Wade Miller, by the new President, John Richardson.

Michelle Owens was introduced as the new Executive Board Member at Large.

Conference adjourned.

Respectfully submitted  
Frank L. Brewer  
Secretary



**AIAEE Leadership Team Post Conference Meeting**  
**April 7, 2001**  
**Minutes**

The meeting was called to order by John Richardson.

Michelle Owens was introduced as the new Board Member at large for a one-year term replacing Gustav Düvel who is now President-Elect.

A Committee follow-up report was presented by Jack Elliot, indicating that Denise Davies has been appointed to work with the AIAEE web site. James Christiansen discussed Proceeding format changes in future years.

Mikel Woods reported that the Awards and Recognition Committee discussed adding additional awards for the Outstanding Journal Articles and the Outstanding Graduate Student. The leadership team suggested the committee continue to work on details for these proposals.

Michigan State University will investigate conducting a two-week graduate student overseas study program open to all states, for credit and non credit in conjunction with the Conference in Durban, South Africa. The overseas study will include pre and post conference educational programs in addition to the Conference. Contact Frank Brewer at MSU for suggestions or information.

Jim Diamond indicated the membership committee has nominated a co-chair person, Jerry Gibson.

New member packets will be sent with a welcome letter from the Association President.

Gustav Düvel discussed the 2002 Conference, including visits to Hluhluwe Game Park (2 nights), St. Lucia National Reserve and Kruger National Park.

President Richardson reviewed the 2001 Conference in Baton Rouge and encouraged everyone to complete their evaluation forms and mail them.

The Leadership Team will meet in Durban during the summer to complete plans for the 2002 Conference.

The process of appointing new committee Chairs, when openings occur, was reviewed. The intent is to maintain experience in these positions and allow for continuity.

Leadership Team adjourned to Executive Session.

Respectfully submitted  
Frank L. Brewer, Secretary





**Association for International Agricultural and Extension Education**  
**17<sup>th</sup> Annual Conference**  
**Baton Rouge, LA**  
**April 4-7, 2001**

**2000-2001 AIAEE Award Winners**

*Outstanding Service Award*

Dr. Gustav Düvel  
Professor of Agricultural Extension Director  
South African Institute for Agricultural Extension  
University of Pretoria  
South Africa

*Outstanding Leadership Award*

Dr. O. Donald Meaders  
Professor Emeritus  
Dept. of Agricultural and Natural Resources Education and Communication  
Systems  
Michigan State University  
East Lansing, Michigan USA

*Outstanding Young Professional*

Dr. Murari Suvedi  
Associate Professor  
Dept. of Agricultural and Natural Resources Education and Communication  
Systems  
Michigan State University  
East Lansing, Michigan USA

# Association for International Agricultural and Extension Education

**17<sup>th</sup> Annual Conference**  
**Baton Rouge, LA**  
**April 4-7, 2001**

## **Outstanding Posters**

### Outstanding Poster Presentation

Emerging Trends: a Human Resource Collaboratory for  
International Agricultural and Extension Education  
*Gary J. Wingenbach, Mississippi State University*

### 1<sup>st</sup> Runner-Up Outstanding Poster Presentation

Developing an Ecotourism Program for North Carolina Cooperative Extension  
*Lanny W. Hass, North Carolina Cooperative Extension*  
*Jerry D. Gibson, Virginia Tech University*

### 2<sup>nd</sup> Runner-Up Outstanding Poster Presentation

A Professional Development System for Extension Career Growth  
*Nick T. Place, University of Florida*

## **Outstanding Carousel Presentations**

# **Emerging Trends: a Human Resource Collaboratory for International Agricultural and Extension Education**

**Gary J. Wingenbach, Mississippi State University**

**Outstanding Poster presented at the 17<sup>th</sup> Annual Association for International Agricultural and Extension Education Conference, Baton Rouge, LA, April 4-7, 2001**

## **Introduction**

“Despite technological improvements, new tools, and guides, the Internet remains a somewhat primitive tool for collaboration, especially for those educators who cannot enjoy or do not have the time for learning. Achieving effective collaboration is not (easy). In part, the situation reflects the basic training of scientists (who) have been educated to focus on individual activity and achievement” (Executive Summary, National Research Council, 1993). A paradoxical situation of “publish or perish” versus “maximizing human effort” strains the very heart of most graduate-level courses. On one hand, educators must be concerned about their academic advancement; on the other hand, each educator knows that graduate-level courses should offer a diversity of scholarly perspectives. These and other human considerations shape and constrain the collaborations that do take place. In some instances, they influence the shape and duration of a collaborative relationship. Bottom-up motivation is an essential factor in the success of any collaboratory effort.

Creating an online collaboratory for International Agricultural and Extension Education is a multidimensional, intertwined project that on one level seeks to solve a problem common to all teaching disciplines and all institutions of higher education: the under-utilization of existing technologies, and on another level, seeks to study the creation, evolution and life cycle of an online collaboratory that was formed to address the problem.

## **Purpose**

The purpose is to demonstrate how an online educational collaboratory (AISE 8103) was formed to teach a graduate-level course in International Agricultural and Extension Education, while using the Internet as the primary means of collaboratory formation and teaching medium.

## **Major Points**

The formation of an online educational collaboratory requires a groundswell of motivation for establishing contacts throughout several professional levels, create a focus of advanced study, solidify the purpose of the collaboratory, standardize the Web authoring process and provide follow-up and feedback to collaboratory members over the course of the project. The AISE 8103 collaboratory is a unique mix of educators, practitioners, and scholars who share a common bond of practical experience in International Agricultural and Extension Education. Students enrolled in this course benefit from participation in the collaboratory by gaining new perspectives in International Agricultural Development through the experiences, discussions, exercises, and relationships resulting from their interaction with collaboratory members.

Contingency plans were developed to provide streamlined support of the online learning environment throughout the duration of this project.

### **Conclusions**

Perspectives and experiences from Iran, Papua New Guinea, and the U.S.A. were intertwined to formulate a unique learning environment for graduate students enrolled in this course. Discussions centered on real-world case studies, experiences and research projects spanning the milieu that comprises International Agricultural and Extension Education. Professional contacts were formulated and strengthened between graduate students and collaboratory members, resulting in advanced understanding of the factors impacting International Agricultural and Extension Education programs across the U.S.A. and in selected countries/regions around the world.

### **Educational Importance**

The major educational importance in this project is the maximization of Internet technologies used by students, practitioners, educators and the general public in their quest to learn about this collaboratory and take advantage of its curricular materials. It is expected that the unique collaborative efforts in creating and administering a graduate-level course in International Agricultural and Extension Education will stimulate future educational collaboratories throughout the profession.

## **Developing an Ecotourism Program for North Carolina Cooperative Extension**

**Lanny W. Hass, North Carolina Cooperative Extension**

**Jerry D. Gibson, Virginia Tech University**

**1<sup>st</sup> Runner-Up Outstanding Poster presented at the 17<sup>th</sup> Annual Association for International Agricultural and Extension Education Conference, Baton Rouge, LA, April 4-7, 2001**

### **Introduction**

Tourism is currently the number one industry in the world based on employment and gross income (www.world-tourism.org). People more than ever are seeking enriching adventures in their leisure and travel (Patterson, 1997). They are looking for experiences in nature, opportunities to discover new cultures, and personal challenges and discoveries. One of the off shoots of this quest is a fast growing segment of tourism, namely, ecotourism. Ecotourism is focused on nature, culture, and adventure. North Carolina is abundant with all three. It can be a viable and satisfying way of balancing environmental preservation with cultural and economic well-being. Ecotourism is responsible travel to natural areas that conserves the environment and improves the welfare of local people.

### **Purpose and Objectives**

North Carolina has traditionally had a strong tourism economy. Direct tourism spending last year in North Carolina consisted of \$11.9 billion (Source: NC Division of Tourism, Film and Sports Development/TIA Travel Scope). Eleven percent of 1999 visitors in North Carolina reported that outdoor recreation was the primary purpose of their trip. This amounts to 4,895,000 visitors (Source: NC Division of Tourism, Film and Sports Development/ TIA Travel Scope ).

North Carolina is currently third in the country in losing rural land to development (American Farm Land Trust, 1999). We are quickly over using our natural beauty and resources. A new paradigm must begin that discourages "loving what we have to death." Given all this, North Carolina Cooperative Extension has been involved in developing alternative sustainable approaches to tourism. In 1999 North Carolina Cooperative Extension set out to develop an educational program in ecotourism.

The objectives were:

- 1) To gather grassroots data in support of the educational effort.
- 2) To design and conduct a survey of N.C. Extension agents on their knowledge, skills and attitudes as it relates to educational programming in ecotourism.
- 3) To travel to several states and learn what other land grants are doing in this area.
- 4) To develop and conduct awareness meetings

- 5) To develop curriculum to conduct competency training in agritourism
- 6) To develop an evaluation systems that measures impacts of programs.

### **Major Points**

North Carolina Cooperative Extension is currently in its third year of the program and five of the six objectives have been accomplished. Grassroots support occurred. A survey was developed and conducted that measured knowledge, skills and attitudes of Extension agents. This helped us to design the curriculum. A comprehensive notebook with power point support was developed for each county in the state. This notebook included educational modules on the competencies needed to succeed in the agritourism business, fact sheets, specific county tourism data, evaluation forms and power point slides for each module. Four awareness meetings were conducted. From these meetings further programming is being done.

### **Conclusions and Educational Importance**

Currently North Carolina has ten new businesses that have been developed from these meetings and over fifty existing businesses adding value and income to their farm through ecotourism. Many other businesses also vertically integrated into the industry. For example, many of the businesses in a cluster are supporting the ecotourism business with their products and services (Cherokee Indian story tellers coming on board a raft trip).

## **A Professional Development System for Extension Career Growth**

**Nick T. Place, University of Florida**

**2<sup>st</sup> Runner-Up Outstanding Poster presented at the 17<sup>th</sup> Annual Association for International Agricultural and Extension Education Conference, Baton Rouge, LA, April 4-7, 2001**

### **Introduction and Purpose**

In 1998, a task force was commissioned to evaluate professional development of Extension faculty at the University of Florida. There were a number of issues and needs that were identified through this effort involving Extension administrators and faculty. The major categories of need included: a revised new faculty orientation and training program that is learner focused; a comprehensive approach to Extension faculty professional development based upon individual needs assessment and individual development plans; greater emphasis on educational process skill development; revised procedures for identifying essential in-service programs via needs assessment; leadership and management development among Extension faculty, and; a system for monitoring and rewarding participation in professional development programs.

### **Methods and information to be shared**

The Department of Agricultural Education and Communication has been charged with taking the lead in this area. A comprehensive organizational professional development plan has been developed within the identified needs, and a number of pieces have been implemented. For new Extension faculty, there are four components of their orientation and training program.

- A) A welcoming package that includes an informational packet, a resource notebook, and a videospecifically geared for new Extension faculty.
- B) Web-based individual learning modules focused on basic orientation and development needs of new Extension faculty. New faculty complete these self-paced modules within their first two months of employment with feedback to their immediate supervisor.
- C) A redesigned on-campus orientation and training program focused on adult learning principles and Extension faculty needs. The training is conducted over three sessions to be completed within the first year of employment.
- D) A structured Extension-mentoring program designed to provide support throughout the first year on the job.

For current Extension faculty, a Position Analysis Tool (PAT) has been developed. This competency-based self-assessment tool is designed to guide and focus an individual's annual professional development through Individual Development Plans (IDPs). This tool is also designed to provide a means for aggregating faculty needs to focus statewide professional development offerings. The overarching goal of this effort is greater career enhancement for all Extension faculty.

## **Educational Importance**

University of Florida Extension is dedicated to providing the best professional development possible for its Extension educators. The Extension professional development system represents a holistic approach that includes both staff development and professional improvement activities that lead to enhanced career growth. Through comprehensive and effective professional development, the organization has begun to realize a benefit from greater agent educational effectiveness, improved organizational attitudes and higher retention rates for Extension faculty.



**International Study Tour Programs at Michigan State University:  
Focusing on Belize and Guatemala**

**Frank Brewer, Michigan State University  
Nicole Webster, Michigan State University**

**Outstanding Carousel presented at the 17<sup>th</sup> Annual Association for International  
Agricultural and Extension Education Conference, Baton Rouge, LA, April 4-7, 2001**

Study tours provide an opportunity for Michigan citizens to experience the world through experiential learning in a different country. Michigan State University offers more than 140 study abroad and study tour programs throughout the summer and academic year. The following is a program that combines both a credit and non-credit program in the subject area of Natural Resources, Agriculture, and Environment.

This unique Belize and Guatemala Study Tour focused on understanding the people, natural resources, agriculture practices and development in a highly sensitive environment in Central America. Belize and Guatemala provide a microcosm of the conflicts, which can arise as affluent tourists, and foreign developers impose themselves on unsophisticated economy and fragile environment. Many elements compete for the fragile resource base of Belize, and create possibilities for social conflict as development proceeds.

Activities ranged from exploring historical sites to interacting with students and professionals at the local university. The emphasis was placed on exposure as well as active learning and participation. Many of the sites chosen provided a broad perspective of the issues, allowing participants to ask questions and formulate ideas. This served as an integral part of the program because each evening we debriefed and discussed events of the day.

The format of the program similar to other studies encouraged participants to probe current issues and ask questions of the presenters. Prior to departure, participants were given reading materials of current events that directly related to the daily topics. Daily leaders were assigned to lead group discussions. The desired effect was to inspire individuals to become aware of issues while expanding their scope of Central America.

Future study tours designed to globalize Michigan citizens include Brazil and Chile: Agriculture Production, Policy, and Marketing of Fruit, Livestock, and Crops; New Zealand: Sheep Production and Marketing; China: Agricultural Trade; and Germany and Ireland: European Union Agricultural Practices. Evaluation of study tour participants indicates that participation in study tours is highly effective in developing an appreciation of complex global organizations, industries, environmental issues, understanding other cultures, and providing an opportunity for Michigan citizens to interact with people throughout the world. These programs have now been incorporated into statewide leadership programs for Michigan Agriculture Commodity Groups including the Farm Bureau and the Sheep Breeders Association.



## **Managing Human Resources in Iran**

**Mohammad Chizari, Tarbiat Modarres University**

**James Lindner, Texas A&M University**

**Ahmad Mohsanie, Tehran University**

**1<sup>st</sup> Runner-Up Outstanding Carousel presented at the 17<sup>th</sup> Annual Association for International Agricultural and Extension Education Conference, Baton Rouge, LA, April 4-7, 2001**

### **Introduction**

The wise use of financial, physical, and information resources, and the productivity of the organization as a whole, depend on effective and efficient functioning of the human resources. It is, after all, people who do the work. Unfortunately, this area of opportunity has been neglected by many Extension Services, Iran is no exception. Lack of knowledge and understanding perpetuates this problem, particularly as it relates to recruiting, selecting, retaining, motivating, and evaluating Extension agents in Iran.

### **Methodology**

The population of this study included all extension agents (N=72) in the Central Province of Iran. The research design used for this study was a descriptive survey method. Content and face validity were established by a panel of faculty and graduate students in the Department of Agricultural Extension and Education at Tarbiat Modarres University, Tehran, and extension specialists in the Ministry of Agriculture. The instrument was pilot-tested with 10 extension agents in Tehran Province two weeks prior to the study, and needed modifications made. Questionnaire reliability was estimated by calculating Cronbach's alpha. Reliability for the overall instrument was .86. The final response rate was 94.4%.

### **Major Points or Information to be Shared**

- Sixty-six percent of respondents indicated problems with living arrangements were a major reason why Extension agents quit their jobs.
- Sixty-two percent of respondents indicated their post-secondary major influenced their decision to become an Extension agent.
- Fifty-three percent of respondents indicated that an interview combined with a written examination was the most appropriate method for selection and hiring.
- Over 60% of respondents indicated personnel evaluations employed a top-down authority pattern.
- Increased wages was the number one priority for motivating participants.

- Approximately half of the respondents indicated their work was monitored directly by their supervisors.

### **Conclusions or Lessons Learned**

- The lack of suitable living arrangements for Extension agents is a major factor associated with high turnover rates. Living arrangements are a basic need that must be met for agents to be motivated and perform their job.
- Recruitment at the post-secondary level should focus on students whose majors are in-line with Extension's mission and goals.
- Multiple hurdle approaches to selection and hiring are appropriate.
- The prevalence of top-down authority patterns may contribute to poor job satisfaction and little motivation.
- The absence of wage levels necessary to take care of basic physiological needs may prevent other motivational strategies from being effective. Pay appears to be an important link to higher Extension agent motivation.
- The significance of effective supervision in maintaining employee morale and productivity is indisputable; top-down authority and micro managing of Extension employees is inefficient and ineffective.

### **Educational Importance**

The educational importance of this study is focused on three areas: Extension agent perceptions, human resource management practices, and institutional management practices. Little is known about Extension agents' perceptions regarding managing human resources in Iran. The results of this study will contribute to the emerging body of associated literature. A better understanding of how agents perceive the human resource management practices including recruiting, selecting, retaining, motivating, and evaluating will help Extension be more effective and efficient. Top-down authority patterns of management continue to exist in Iran's Extension service. This may contribute to problems associated with financial, physical, and information resources, and the productivity of the organization as a whole.

## **You Be The Judge!**

**James Diamond, Delaware Valley College**

**2<sup>nd</sup> Runner-Up Outstanding Carousel presented at the 17<sup>th</sup> Annual Association for International Agricultural and Extension Education Conference, Baton Rouge, LA, April 4-7, 2001**

The word "developing" is on everyone's tongue. In newspapers, on television, and in the lecture hall, one reads or hears of the developing world, or underdevelopment, or the Third World. What do all these terms mean (deSouza, 1989)?

The adjectives used in Western countries to describe the poor countries of the world have had a curious and changing history in the past half century according to de Souza (1989). De Souza said that the terms "primitive" and "backward" were used interchangeably until Truman's Point IV Program was set forth in 1949, after which "undeveloped" became pre-eminent. In the early 1950s, the first years of the United Nations, the term changed to "underdeveloped." By the late 1950s and during the 1960s, many colonies gained independence and seats in the United Nations General Assembly. The need to consider the feelings of the new U.N. representatives led to a search for a more hopeful sounding word. The term "the developing countries," which was subsequently improved to read "the rapidly developing countries" was adopted. Because of de Souza's observations, these questions arise and need to be debated:

1. Is it condescending that some nations be referred to as "developing," "lesser developed," "third world," "fourth world," "underdeveloped," "less fortunate," "backward," "primitive," "undeveloped," "emerging," or "poor" while others as second world nations, and still others as first world nations?
2. Can a nation and its society be unquestionably judged and ranked into one of these categories merely based upon its economic status, social standards, political system, religious orientation or a combination of these variables?

### **Purpose and Educational Importance**

The purpose of this paper and its educational importance is to cause educators and public officials to think and debate about their using so-called derogatory adjectives that purportedly portrays judgment and negativism upon other societies. To debate these questions properly, varying points of view are needed to impede stereotypical conclusions. The debate should seek to know what is true and what is not. The author poses these questions to begin the debate:

1. What is a so-called developed nation?
2. When specifically does a country qualify to be considered a "developed," or "first world" nation?
3. How do world traders or educators or politicians benefit by naming countries first with an adjective that portrays their economic, political, social, or religious orientations?

4. Would it be reasonable to use terms that infer a sense of sameness, or equality in status, or an impartial counterpart? For example, terms such as "nation," "kingdom," "republic," "peoples republic," "state," "country," or simply using the "name" of the country such as Chili. Or in a broader sense, terms such as "Sahiel nations," "other nations," "African nations," "South American countries," "Latin American countries," or "Asian nations."
5. Would the world traders or politicians or educators view a nation differently if the adjective were to be deleted that describes its economic or political orientation?
6. Can nations retain the basic elements of their cultures and still be acknowledged as an equal within the world community of nations?
7. Can nations sustain their individuality and character and still enter into the age of science and technology?
8. Are professional educators and government leaders inclined to base their opinions on only mythical knowledge, or empirical knowledge, or both?
9. Do people within the "judged" society feel that their pride, dignity and integrity are being jeopardized?
10. If these terms can be considered derogatory, then are so-called developed societies in a subtle way passing judgment upon another society?
11. Are today's educators transmitting to students what they have come to know about the rich heritage of other races and societies around the world?
12. Or, are educators teaching the next generation to judge other societies by using derogatory adjectives that portray subtle negativism, bias, or judgmental undertones?
13. Why do public officials and educators, in carrying out their duties and responsibilities, perpetuate using these adjectives?

**17<sup>th</sup> Annual AIAEE Conference**  
**Paper Abstracts**

Editor's Note: The following are the abstracts from the papers presented at the 17<sup>th</sup> Annual AIAEE Conference. The entire papers are available on the AIAEE website at:  
<http://ag.arizona.edu/aiaee/conference/aiaee2001/proceedings.htm>

**Food Security and Socio-political Stability In the Balkans: The Role of Agricultural Education**

David G. Acker, Professor, Department of Agricultural Education and Studies  
Iowa State University

Stavros Androulidakis, Professor, Director, School of Agricultural Technology, Technological Educational Institute of Thessaloniki, Thessaloniki, GREECE

Bruce M. Lansdale, Consultant and Director Emeritus, American Farm School Chalkidikis, GREECE

Elizabeth K. Lansdale, Consultant, Chalkidikis, GREECE

Bradford K. Smith, Vice President, Peace and Social Justice Program, Ford Foundation  
Randall Warner, Coordinator (former), Alliance for Vocational Agricultural Training in the Albanian Region, American Farm School, Thessaloniki, GREECE

war, trade barriers, inappropriate national policies, inadequate agricultural research, poor health, population growth, gender inequity, and environmental degradation. Preventive development investments in Balkan food security are one element of a humane and cost effective approach to reducing future political conflicts and the concomitant costs of peacemaking and peacekeeping. But agronomic advances alone will not ensure food security. Agricultural education and its long standing ties to democratic processes presents one set of options for utilization in situations where both technical and social change are needed. However, these traditional agricultural education approaches require significant modification to be successful under the heightened tensions in the Balkans. Examples of strategies utilized by agricultural educators from Greece and other Balkan countries are included. The paper concludes with comments on the responsibility of various stakeholders as a key in building trust, stability and prosperity.

**Abstract**

The Balkan Region of Southeastern Europe has long suffered from political instability and armed conflict. Among other causes, the Balkan conflict is rooted in ethnic tensions exacerbated by competition for scarce resources such as land. Food insecurity, one outgrowth of this tension, is inextricably linked to political stability. The U.S. Country Paper presented at the World Food Summit in Rome in 1996 linked food insecurity to its antecedents of poverty,

## **Staying Relevant in the Info-biotechnology Age: An Assessment of the Challenges and Opportunities for Agricultural Extension in the 21st Century**

Adewale Johnson Alonge  
Instructor, Miami-Dade Public School System,  
Miami, Florida  
Human Empowerment and Development  
Alliance

### **Abstract**

Agricultural extension, worldwide, faces great challenges and opportunities as it strives to remain a major force for agricultural transformation in the dynamic era of the 21st century. In order to remain sustainable, extension will have to deal with emerging issues such as globalization, unprecedented technological advances in information and biotechnology, major structural change in the agricultural industry, the persistence of food shortages and yield gaps in the less developed countries, and the global trend toward privatization. The presentation is undergirded by a theoretical frame that draws from the emerging field of organizational learning and from structural functionalism. Using the tools of environmental and organizational scans, the presentation explores the challenges and opportunities confronting extension in the dynamic policy and technological environment of the 21st century. While acknowledging the role of private sector extension, the presentation cautions against the adoption of a “one-fits-all” solution to resolving extension’s challenges on a globe composed of a diversity of agricultural systems. Relying on historical precedents and on experience from the private sector, the paper points out the pitfalls inherent in the technological determinism, which seems to underlie some of the predictions regarding the impact of technological advancement on consumer and organizational behavior. Finally, the paper proposes principles that should undergird extension’s transformation for the dynamic environment of the 21st century.

## **After the Group: Extending the Farmer**

Ruth Beilin  
Stephanie Andreato  
Department of Resource Management and  
Horticulture  
Institute of Land and Food Resources  
University of Melbourne

### **Abstract**

This paper describes two case studies in which farmers, as the result of group extension programs associated with adult education and action learning cycles, implicitly and explicitly are held to have the responsibility for transferring group experiences to farmer networks outside the immediate group. The case studies look at both community-based and commodity-based programs. The discussion focuses on the potential difficulties for farmers and program organizers in following through on “second generation” delivery. “Extending the farmer” has theoretical and practical implications for practitioners and educators alike.



## **The Use of Photo Elicitation in Rural China as a Data Collection Method**

Denise Bjelland, Assistant Director  
International Agriculture Programs  
Iowa State University

B. Lynn Jones, Associate Professor  
Department of Ag. Education and Studies  
Iowa State University

### **Abstract**

The research described in this paper was conducted as part of a three-year University Affiliations Program funded through Educational and Cultural Affairs Office, US Department of State Department (formerly USIA). The research team from Iowa State University used photo elicitation as a vehicle for conducting interviews with rural peasants in China to determine their top concerns or “care abouts” for the future of their village. The purpose of the was to evaluate the process of using photo elicitation as a research tool and to compare peasant responses and Zhejiang University graduate student and professor responses to the question of the village peasants’ “care abouts.” This research was designed to initiate a dialogue with Zhejiang University regarding the importance of communication between extension agents and villagers in clarifying needs and setting priorities.

## **Factors Influencing Adult Volunteer 4-H Leadership in Louisiana**

Ismet Boz  
Department of Agricultural Economics  
Kahramanmaras Sutcu Imam University,  
Turkey

Satish Verma  
Professor of Extension Education  
School of Vocational Education  
Louisiana State University,  
Baton Rouge, LA

### **Abstract**

The main purpose of this study was to determine contributions adult volunteer leaders make to 4-H and the principal factors influencing adult volunteer leadership in Louisiana. A random sample of 218 adult volunteer 4-H leaders from 10 selected Louisiana parishes were the participants of this study. The data collection instrument was pre-tested for reliability and yielded a .96 Cronbach’s Alpha internal consistency coefficient for its scale items. Data collection was completed in November 1999. The study found that leaders’ contributions to 4-H program in Louisiana show similarity with the average US volunteer 4-H leader in terms of miles driven in a personally owned car and personal money spent for 4-H. However, in terms of hours spent for 4-H volunteer tasks in a year, the average Louisiana volunteer 4-H leader spent less time than the average US volunteer 4-H leader. The study showed that a profile of the Louisiana 4 -H volunteer leader is a married woman, 31-50 years of age, a school teacher, with an average of 1.29 children in 4-H. The study found that the initial and continuing motivators that influenced volunteers to become 4-H leaders initially and to continue serving in the same position were mainly concentrated on “affiliation,” “achievement,” and “altruism.” Respondents who received an orientation program before initiating volunteer service found it useful. They basically do not volunteer

for the sake of recognition but for youth. They receive adequate recognition and support for their volunteer service.

### **Emerging Trends: Collaborative Programming Between Michigan State University, the Republic of Ireland, and the Department of Agriculture and Rural Development in Northern Ireland**

Frank Brewer, Professor  
Michigan State University

Seamus Lillis  
Consultant in Community Development and  
Doctoral Candidate  
Department of Agribusiness Extension and  
Rural Development  
University College Dublin, Belfield, Ireland

#### **Abstract**

The purpose of this paper is to describe and document the methods, funding, and impact from collaborative initiatives between Michigan State University, The Republic of Ireland, including University College Dublin, Teagasc (the Irish Extension Service), and the Department of Agriculture and Rural Development in Northern Ireland.

Underlying successful multi-country programs are threads that blossom, prosper, and build upon each other. One of those threads is the realization that all parties can learn from each other, and benefit from cooperative programming. Through the many visits to and from Michigan State University, the Republic of Ireland, and Northern Ireland from 1990 to the present, the importance of agriculture and rural development to all three economies and the desire to learn from each other has built the base from which cooperative programs have emerged. This cooperation has led to hundreds of university faculty, students, community leaders, and agribusiness representatives traveling to and interacting and learning from

each other while building lifelong linkages. These programs of outreach and scholarly activities have built upon their success and opened doors for additional programs and cooperation. Although no large grant was ever generated, together, these programs have generated over one million dollars of funding from the participants and a multitude of interested sponsors.

#### **Benefits of Participating in a Collaborative International Common Education Program**

Thomas H. Bruening, Associate Professor  
The Pennsylvania State University

#### **Abstract**

Study abroad programs are increasingly being seen by undergraduate students in the United States as a way to better understand culture, language, and technical information in an international context. But is there a reciprocal benefit to the students that interact with US students? What do our international partners gain when they interact with American students?

One objective was to determine the impact of the program on MSAU students. Another objective was to determine what the students learned in the program. This study focused on collecting qualitative data from a cohort group of ten Russian students who participated in pilot study abroad project.

Russian students indicated that they improved their language skills, knowledge of US culture and had a greater understanding of their own agriculture as a result of this program. Students' self esteem improved and their confidence in their ability to question was stronger as a result of the program. Russian students learned teaching methods that they will be able to use in their future teaching activities.

If the benefits gained from this program could be replicated in other parts of Russia, it could

serve as a model for change in Russian system of higher agricultural education.

### **Emerging Trends in Extension Delivery: Implications for the Banana Industry of the Windward Islands**

Dunstan A. C. Campbell  
University of West Indies Outreach  
c/o Ministry of Agriculture  
Forestry Department  
Union, Castries, St. Lucia

#### **Abstract**

Extension systems are constantly changing, adapting to new environments. Over the last decade or so, globalization and its effects in terms of free market competition, productivity and efficiency has created new paradigms for the operation of both public and private sector extension. Extension systems worldwide are reacting to these effects. Developed countries have resorted to privatization to face the new challenges, while developing countries are looking towards commercialization and decentralization. The Banana Industry of the Windward Islands with its quasi private sector extension system is seeking new ways of meeting the challenges of globalization. Commercialization of the Banana Extension Systems in the Windward Islands is being proposed as the way forward. In that proposal, it is being recommended that the issues of method of delivery, method of financing, management and coordination should be addressed.

### **Impact of Technical Assistance Resulting from USDA Emerging Initiatives in the Newly Independent States**

Mary Lou Carlson, Ph.D. Candidate  
The Pennsylvania State University

#### **Abstract**

This paper presents findings that are part of a larger impact evaluation currently being undertaken on a USDA technical assistance program, the Cochran Fellowship Program. Specifically examined in this study are self-reported participant professional and organizational outcomes that correspond to the Cochran Program objectives. Indicators for the seven outcomes examined were developed and a survey instrument was designed. Cochran Program participants from three counties in the Newly Independent States were the population sample (N = 151). Advantageous to this study is the excellent response rate (98%). The Cochran Program had an impact on participant's professional and organizational knowledge and skills, attitudes, continued contacts, job changes, organizational changes, and trade-related activities. Governmental, public, and private organizations developing or managing international short-term training programs should find this study useful. Agricultural and extension educators engaged in international development can learn from the findings in designing and evaluating technical assistance programs.

### **The Role of Extension Education and the Cuban Agricultural Knowledge and Information System**

Alejandrina Carrasco, Graduate Assistant  
David Acker, Professor  
Iowa State University

#### **Abstract**

This paper examines the case of the Cuban Agricultural Knowledge and Information System (AKIS) and its contributions to food security in that country. Specifically, the role of extension within Cuba's AKIS is described. Cuba was selected purposefully as an important case to examine because 1) Cuba has pioneered a unique people-centered development model to deal with obstacles of economic scarcity, 2) the Cuban approach to extension has undergone a rapid and radical change to adjust to an external shock, 3) in terms of development indicators, Cuba compares very favorably with other Latin American and Caribbean countries, and 4) the Cuban case may have important implications for sustainable agriculture and food security in other countries.

The AKIS developed by Cuba is one in which farmers, extension services, educational centers, and research institutes interact together in a logical and coordinated manner. Such a model might appropriately be called a centrally coordinated agricultural knowledge and information system.

### **Educational Needs of Semimigrant Nomads of Charmahal Va Bakhtiari Province, Iran Regarding Sheep and Goat Management and Production**

Mohammad Chizari, Associate Professor  
Solaymon Bahmani, Graduate Student  
Tarbiat Modarres University

James R. Lindner, Assistant Professor  
Texas A&M University

#### **Abstract**

The purpose of this study was to describe the perceptions of semimigrant nomads in Chaharmahal va Bakhtiari Province, Iran with respect to sheep and goat management and production practices. A random sample of 368 semimigrant nomads was selected using

stratified random sampling techniques. Data were collected through personal interviews with each selected participant. The highest overall learning needs of participants were animal nutrition, shelter and equipment, and rangeland management. Participants indicated a preference for hands-on programming over other types of delivery methods.

Nomads thought winter was the most appropriate season for offering educational programs. Nomads wanted to attend programs in their villages. Low literacy rates, migratory patterns, and specialized learning needs present a special challenge for Extension and the Ministry of Agriculture in regards to developing and delivery needed training.

### **Developing Organic Farming in Portugal: Challenges to Training and Extension**

Artur Cristóvão, Professor  
Timothy Koehnen, Associate Professor  
Dulce Vilas Boas, Researcher  
Universidade de Trás-os-Montes e Alto Douro  
Vila Real, Portugal

António Strecht Ribeiro, Consultant

#### **Abstract**

This study provides an overview of the evolution of organic farming in Portugal. It shows that this special farming sector is still very small, representing a limited number of operators and farmed land. It shows, as well, that major progress has occurred in recent years, especially since the mid 90's, and that there are favourable conditions to promote the use of organic production methods. However, the involvement and commitment of public authorities is still very incipient, far from the desirable. Most public institutions, namely those within the Ministry of Agriculture, lack specialised staff, and efforts in such fields as research, education, training and extension have been reduced. In the Regional Agricultural Services there are no extension agents dealing

with organic farming, neither are consistent efforts made to implement experimentation or demonstration projects. The growing number of vocational schools and higher education institutions involved in organic farming should be underlined. There are new courses being created or planned, at undergraduate or graduate level. There is a growing number of researchers and projects, in line with a need to increase the consistency and quality of the programmes, and to build strong networks of concerned people. In the private sector, AGROBIO, has been, since 1985, the key actor. It has promoted training, dissemination of information, and stimulated field trials. It has worked with farmers, consumers, researchers, technicians and political decision makers. It has collaborated intensively with other Associations. Step by step, farmers, consumers, development agents and other actors have been building a framework to sustain the development of organic farming in Portugal. But the road ahead is still quite long, as many initiatives are new and there is a lack of qualified people.

### **Perceptions Regarding Preferred Educational Information Sources by Farmers: Implications to International Agricultural Extension Education**

Awoke D. Dollisso, Research Assistant  
Robert A. Martin, Professor and Chair  
Iowa State University

#### **Abstract**

The purpose of this study was to identify and analyze the perceptions of farmers regarding their preferred sources of educational information and to draw implications for program planning. Participants perceived that magazines, neighbors, and Extension were main sources of agricultural information.

Respondents used Data Transmission Network (DTN), relatives and television less frequently for agricultural information. Over 60% of the participants reported the Internet as the least frequently used source for agricultural

information. Overall, the participants of this study used mainly magazines, neighbors, Extension Service, and radio for agricultural information.

### **Administrator, Faculty, and Support Staff Perceptions of Distance Education Technologies**

Kim E. Dooley, Assistant Professor  
Theresa Pesl Murphrey  
Visiting Assistant Professor  
Texas A&M University

#### **Abstract**

As higher education institutions increase their use of technology to further distance education initiatives, it is important to recognize the role that perspectives within the institution play in formulating a strategy for effective development and implementation of distance education. This study seeks to provide insight to these perspectives by examining the strengths, weaknesses, opportunities, and threats (SWOT Analysis) associated with using distance education (DE) technologies from the perspective of administrators, faculty, and support units within higher education. Analysis revealed that respondents recognized the opportunity to utilize DE technologies to improve instruction and reach new audiences through collaboration and new courses/programs, however, needs were expressed to expand policies/procedures to address critical issues (i.e., incentives, support, training, quality control, careers, and communication channels). The perspectives of administrators, faculty and support units were not found to be dramatically different, in fact many of the perspectives were the same. Based on Rogers' attributes (1995), it was concluded that the rate of adoption of DE technologies could be enhanced through revised policies/procedures and the development of strategies to address critical issues.

## **Livestock Marketing in Northern Namibia: Cultural Versus Economic Incentives**

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South African Institute for Agricultural  
Extension  
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Africa

### **Abstract**

In an endeavour to improve the livestock production and particularly the marketing of livestock in the Northern Communal Areas of Namibia, this study analyses the perception of livestock farmers in this regard. The findings show that the decision making is significantly influenced by numerous socio-cultural considerations, which in many cases even overshadow the economic ones. This is manifested in the low off-take percentage, the lacking interest in commercial production, and the fact that the sale price offered to the farmer is not the most important consideration when deciding to whom to sell.

## **A Proposal for Taking the University to the People: Developing an Extension Model for Russia in the 21st Century**

M. Craig Edwards, Assistant Professor  
University of Georgia

Gary E. Briers, Professor and Associate Head  
Glen C. Shinn, Professor and Head  
Texas A&M University

### **Abstract**

The United States Land Grant University System receives credit for much of the economic and social prosperity that America enjoys. Cooperative Extension, in particular, is associated with the success of the American agricultural and natural resource system. Currently, Russian agricultural producers and rural communities are undergoing extreme

economic and social hardships as Russia transitions to a market economy. This paper describes selected philosophical/conceptual bases that support the development and implementation of a “model” extension system in the Oryol Oblast of the Russian Federation. A proposal is discussed outlining three major problem areas to be addressed by the system—structural, information exchange, and skill building. Proposed enabling strategies, organizational units, and anticipated outcomes are described. If Russia’s transition to a market economy is to be successful, the educational and informational needs of its agricultural producers and communities must be addressed. An extension system may be a pragmatic and reliable solution.

## **Evaluating Farmers’ Knowledge and Awareness of Integrated Pest Management (IPM): Assessment of the IPM Collaborative Research Support Project in Uganda**

J. Mark Erbaugh  
International Programs in Agriculture  
The Ohio State University

Joseph Donnermeyer  
The Ohio State University

Paul Kibwika  
Department of Agricultural  
Extension/Education  
Makerere University  
Kampala, Uganda

### **Abstract**

Increasing farmer participation in the development and implementation of IPM programs has emerged as a strategy for increasing the application of IPM among small-scale farmers.

The IPM CRSP (Collaborative Research Support Program) has been applying a farmer participatory IPM strategy at on-farm research sites in Eastern Uganda since 1995. The

main purpose of this study was to evaluate the impact of project (IPM CRSP) activities on IPM knowledge and awareness change among two hundred sampled farmers. The evaluation instrument was developed through an iterative process of farmer participation with scientists and extension agents. It used a summated ratings scale consisting of four attributes to measure farmers' knowledge of IPM, and indices to measure pest management knowledge of specific crops. Comparison groups composed of project participants (29%) and non-participants (71%) were used to test the hypothesis that increased project participation would be associated with more knowledge of IPM and crop specific pest management knowledge. An analysis of variance indicates that those who participated in more IPM activities have greater knowledge of IPM than those who have not participated.

T-test results of crop specific pest management knowledge indicate significant knowledge differences between participants and non participants. This provides preliminary support for the participatory research and extension approach being used by the project. However, project beneficiaries appear to be few and may be socioeconomically advantaged.

### **Building Partnerships Through International Agricultural Programs of Universities**

Arlen Etling  
International Programs Director  
Institute of Agriculture and Natural Resources  
University of Nebraska-Lincoln

#### **Abstract**

This case study describes how international programs in agriculture at the University of Nebraska were revitalized. After the Dean's position was replaced by an interim, part-time director, the International Programs Division (IPD) experienced a loss of staff, low morale, and a reduction in the budget. A new full-time director was appointed after an internal search.

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Using a collaborative program-planning process, needs assessment techniques, and management guidelines, the IPD was rebuilt. Partnerships were forged which led to grants, contracts and new proposals. Results and impacts of the new program, at the end of the new director's first year, are documented.

### **Globalization and its Implications**

Arlen Etling  
International Programs Director  
Institute of Agriculture and Natural Resources  
University of Nebraska

#### **Abstract**

Globalization is a term that is increasing in popular usage. It is not, however, well understood. This philosophical paper attempts to broaden understanding of globalization and discuss its implications for agricultural and extension educators as well as AIAEE. Two keys to a broader understanding are presented: 1) aspects of a comprehensive definition, and 2) differing perspectives on globalization. A reference section provides the beginning of a bibliography for those who wish to study globalization further.

### **Looking for the Trees in the Forest: Farm Typology as a Useful Tool in Defining Targets for Extension**

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University of the West Indies, St. Augustine,  
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#### **Abstract**

Interventions designed to improve the livelihood of small farmers cannot be everything to

everybody. One extension strategy or education package simply cannot meet the needs of a diverse farming system. The small farm system in the Caribbean is still regarded as a fairly undifferentiated entity and interventions are designed from this mindset. This study, conducted among small farmers (<1 ha.) in Trinidad, addresses this issue, asking the basic questions: Do all farm systems constitute one group and should they be treated as such? Data were obtained from 176 randomly selected commercial-oriented small farm units on pertinent characteristics of the farmer, the farm and associated incomes. A Multivariate analytic technique, Non-hierarchical Cluster Analysis was used to establish and assess latent groupings. Results confirmed the existence of subgroups within the sample. This suggests that even among “small farm systems” an appreciable level of diversity exists. Having established the existence of sub-groups, profiles were developed using Univariate Analysis of Variance of the sub-groups identified to highlight their characteristics and associated farm incomes. The identified sub-groups were significantly different in farm income generated, the experience, training, goals, and entrepreneurial ability of the farmer, as well as the farms' size, capital and resource bases and technology used. Actions based on such information would result in more appropriate and effective policies and strategies.

### **Mozambique's Move Toward a Pluralistic National System of Rural Extension**

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William M. Rivera , Associate Professor  
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#### **Abstract**

This paper examines Mozambique's current move toward the development of a pluralistic

national system of rural extension. The Government's present PROAGRI agricultural policy framework, funded by the World Bank, has resulted in the development of a National Extension Master Plan that calls for the advancement of an Integrated National Extension System (SISNE). SISNE envisages an institutionally pluralistic system of extension, utilizing both public-sector and private-sector extension providers to disseminate agricultural information to farmers. This pluralistic system is to be promoted in part through an outsourcing initiative in two districts of two different provinces, Nampula and Zambezia. Aside from setting the stage for discussion, this paper has two purposes. The first is to examine the problems and challenges that confront Mozambique's public-sector extension service in developing a pluralistic extension system. The second purpose is to consider the consequent role of the public sector and its responsibilities as both a provider of public-sector extension services and as a coordinator, overseer and regulator of private sector provision. The paper concludes with a consideration of the meaning of Mozambique's move toward a pluralistic national rural extension system both for its own purposes and the development of similar purposes in other developing countries.

### **Perceptions of International Students Regarding the Impact of HIV/AIDS on the Agricultural Sector in Sub-Saharan Africa**

Tasha M. Hargrove, Research Assistant  
Iowa State University

B. Lynn Jones, Associate Professor  
Iowa State University

#### **Abstract**

HIV/AIDS has had a drastic and devastating impact on sub-Saharan Africa. There are over thirty-four million people living with HIV/AIDS in the world today. Seventy-one percent of all individuals infected live in sub-Saharan Africa.



Very little attention has been devoted to the impact of HIV/AIDS on agricultural production and agricultural extension in sub-Saharan Africa. Due to the impact of this disease on sub-Saharan Africa, this disease can no longer be viewed as a health issue, but must be viewed as a development issue. The overall purpose of this study is to examine the perceptions of international students from sub-Saharan Africa regarding the impact of HIV/AIDS on agricultural production and extension in their home countries. Specifically, this study (1) describes the impact of HIV/AIDS on farm households, (2) discusses the implications for agricultural extension education, and (3) identifies potential strategies that may be used by extension when planning programs for communities that have been devastated by HIV/AIDS. Using qualitative techniques, seven students from a large mid-western university were selected to participate in this study. The students were from sub-Saharan Africa countries with HIV/AIDS prevalence rates above ten percent. When asked to describe the impact of HIV/AIDS on the agricultural sector, the respondents indicated that HIV/AIDS has its greatest impact on the most productive members of African's society. This has resulted in severe labor shortages. Potential solutions to combating the impact of HIV/AIDS include implementing programs that are culturally sensitive, require less implementation time, and incorporate the needs of rural women.

### **The Current Agricultural Situation in Romania: a Theoretical Perspective**

Jon A. Hogg , Teaching Assistant  
Lance Kieth , Assistant Professor  
Matt Baker , Professor and Chair  
Department of Agricultural Education and Communications  
Texas Tech University

#### **Abstract**

The purpose of this theoretical paper was to formulate broad policy recommendations for  
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increasing agricultural production in Romania. The methods and data sources for this scholarly pursuit involved an in-depth literature review of Romania and its components and an in-depth analysis of the current situation in Romania based upon two of the authors' direct observations of farming practices and interviews with stakeholders including farmers, university officials, representatives from the Ministry of Agriculture, and others. The historical/socio-political context of agriculture was presented, bio-physical factors and production systems were discussed, and cultural norms were described. The authors concluded by recommending improvements in the transportation, storage, and marketing infrastructures as well as the development of a comprehensive system of agricultural education.

### **Whom Do You Trust? The Influence of Culture, Gender and Geography on Consumer Perceptions of GMO-labeled Products**

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University of Florida

Janas Sinclair  
Assistant Professor  
Department of Advertising & Public Relations  
School of Journalism & Mass Communication  
Florida International University

Michelle O'Malley, Assistant Professor  
A.Q. Miller School of Journalism and Mass Communications  
Kansas State University

#### **Abstract**

This study was designed to describe and determine the effect of demographic variables, including gender, ethnic background and urban/rural geographic location, on consumers' trust and acceptance of agricultural biotechnology. To conduct the study, a sample

population was drawn from three geographically and ethnically diverse locations and a survey questionnaire was administered in an attempt to measure respondents' attitudes, perceptions and intent to purchase GMO labeled products. Results indicated that although most of the subjects surveyed for this study thought GMO food items should be labeled, more than half of the sample indicated they would consider purchasing foods labeled as GMOs. Whether or not subjects would consider purchasing GMOs, however, depended on their ethnic background, gender, and geographic location. Males and non-Hispanic whites were most likely to consider buying GMOs and more than half of the Hispanics would also consider buying GMOs. Most non-Hispanic blacks, however, reported they would not consider buying GMOs.

### **Perceptions Regarding Sustainable Agriculture: Emerging Trends for Educating Extension Educators**

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Iowa State University

### **Abstract**

There is a growing public interest in sustainability and environmental conservation. This growing public concern implies the need for focusing extension programs on sustainable agriculture. This emerging trend is developing and continuing. However, the question is whether extension educators have been prepared to carry out this task. The focus of this study

was to identify agricultural extension educators' perceptions regarding sustainable agriculture practices. This study used a survey design and was conducted with a random sample of 415 agricultural and natural resource extension educators in the north-central region of the United States. It was found that the term "sustainable agriculture" as a concept was somewhat ambiguous to many agricultural and natural resource extension educators. However, the respondents had positive perceptions regarding the benefits associated with sustainable agricultural practices. These positive perceptions did not vary with the respondents' age, gender, level of education, experience or inservice training. Many extension educators perceived that the diffusion of sustainable agriculture practices, such as integrated pest management, is more an educational process than mere delivery of information about a technology. This finding implies the necessity to focus educational programs on subject matter as well as on the teaching and learning process in order to prepare agricultural extension agents to carry out their responsibility as educators rather than being mere information providers. This implication of the study for extension education program planning transcends national boundaries and has meaning to all extension systems.

### **The Challenge of Supporting Rural Youth for Sustainable Agricultural Development and Rural Livelihood: a Case of Uganda**

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Kampala, UGANDA

A. R. Semana  
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Faculty of Agriculture, Makerere University  
Kampala, UGANDA

## **Abstract**

The youth are the strength of any nation the world over. However, many developing countries like Uganda are yet to recognize the potential of the youth particularly in rural development where the majority of the population live. A survey of 200 youth and 34 key informants in two districts of Uganda revealed a divergence in understanding of who the youth are between the implementers of rural development programs and policy. The initiative to support young men and women to live a meaningful life in the rural are as originates more from the private or Non-Government Organizations (NGOs) than the public sector. In addition, the nature of existing rural youth clubs does not empower the young to exploit their potential to the fullest as the leadership of most youth clubs are dominated by the adult youth (above 18 years). Although the young men and women below 18 years are regarded as children and are expected to be dependent, they contribute significantly to the family survival by way of family income and food security. However, the youth are faced with many problems, the major ones being the lack of access and control of production resources, and having to acquire education that does not prepare them for the work they are likely to do in the future.

### **Organic and Non-gmo Production: a New Challenge for Agricultural Education**

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University of Minnesota

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Northland Organic Foods Corporation  
Northland Seed & Grain Corporation  
University of Minnesota

## **Abstract**

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With farmers around the world facing dismal economic forecasts and increasing environmental degradation, agricultural educators and Extension personnel have the responsibility to assist them in seeking options. Organic and non-GMO production provide viable alternatives that can contribute to the increased success of farmers, both within the United States and internationally. Obstacles such as negative perceptions and attitudes, lack of research-based information, and rapidly changing barriers to organic and non-GMO production must be addressed by Agricultural Education and Extension.

### **Swidden Agriculture in a Forest Society: Livelihood Strategies in the Maya Biosphere Reserve Community of Uaxactún, Petén, Guatemala**

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Former Graduate Student  
Farming Systems Research and Extension  
University of Florida

Peter Hildebrand  
Professor  
Food and Resource Economics  
University of Florida

Matt Baker  
Professor and Chair  
Department of Agricultural Education and Communications  
Texas Tech University

## **Abstract**

Milpa, or slash and burn agriculture, is one of many livelihood strategies utilized by most households in Uaxactún, a small Guatemalan community located inside the borders of the Maya Biosphere Reserve. Participatory Rural Appraisal and Rapid Rural Appraisal revealed that although household livelihood systems are primarily based on the extraction of non-timber forest products (NTFPs), milpa is of

fundamental importance. These approaches also suggest that households shift in and out of subsistence as they respond to changes in their sources of cash earnings. Ethnographic linear programming supports this premise, showing that households also modify their livelihood strategies in response to changes in the environment. How households choose to strategize and the intensity with which they participate in each livelihood activity, however, is driven by their composition and the household ratio of consumers to producers. These two factors not only determine their cash and nutritional needs, but also the size of their labor force, enhancing or inhibiting their ability to support themselves.

### **Two Decades of Progress in Globalizing U. S. Extension Systems**

Barbara G. Ludwig  
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The Ohio State University

#### **Abstract**

The paper highlights the results of a 2000 study of U.S. Extension directors who described their Extension systems related to efforts to globalize. Barriers were also identified. Fifty land-grant directors participated. Directors recognize that globalization of Extension is underway and will become more integrated into future Extension programming. In 1990, 40 states identified no or minimal efforts to globalize. Positive changes in globalizing were seen between 1990 and 2000 with 35 Extension systems moving towards globalization. By 2010, 14 directors project that globalization will be integrated into extension programming and 30 project that globalization will continue. The barriers most likely to limit globalizing of state Extension systems were: limited financial support, a lack of time, lack of clientele support, and globalizing not being viewed as a programming priority. Over 150 comments from directors add richness to the quantitative results reported.

### **Potato Extension and Training Information System (Petis): a Multimedia Agricultural Information System in Mauritius**

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Christian Travailleur  
Mauritius Sugar Industry Research Institute,  
Reduit, Mauritius

#### **Abstract**

To improve their competitiveness in the global market, potato growers in Mauritius need access to timely, relevant information for decision-making. Given the increased access to the Internet in the island, a study was carried out to determine whether a computer-based information system could provide potato growers with the needed information. Potential users of the information system generally communicate in non-written languages and have low computer literacy. Following an information needs analysis of potato growers in Mauritius, a prototype agricultural information system, the Potato Extension & Training Information System (PETIS), was developed with a user-friendly multimedia interface that an illiterate grower could use. The innovation consisted of using graphical icons representing agricultural practices coupled with audible explanations in local languages to facilitate navigation through the information system. Technical information on potato production was also provided through audio files. An assessment of the prototype information system by the target users showed a high level of acceptability and potential for future information systems to adopt this design. The PETIS acts as a showcase for the feasibility of developing information

systems to satisfy users with low literacy levels in non-English, non-written language environments, a common characteristic of communities in developing countries. This paper describes the development of the PETIS and presents the information system. Lessons learned from this study, relevant to the application of Information Technology for agricultural information dissemination, are also presented.

### **AI AEE History: Is the past a Prelude to the Future?**

O. Donald Meaders, Professor Emeritus  
Michigan State University

Ray A. Ostos, USDA Liaison/MSU Extension  
Julian Samora Research Institute  
Michigan State University

### **Abstract**

This paper provides a brief history of the beginning of the Association for International Agricultural and Extension Education. It also looks at minutes from board meetings, copies of the reports from annual meetings, copies of both the newsletters and journals which were available to the authors. The review of materials has been selective in terms of some changes in the constitution regarding elected members of the board as well as the purposes and objectives of the Association. Some attention has been given to the ways members have been involved in presenting papers at the annual meetings, for the development of a manual on how to organize, and a visioning process to look at the future for the organization.

A brief look was given at two major changes that have occurred during the years that the Association has been in operation. Finally, a brief statement has been made as to the educational value of this paper.

### **Farmers' Adoption of Recommended Technology for Rice in Larkana District of Sindh Province of Pakistan**

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### **Abstract**

The unrealized potential increase in rice production in Pakistan may be the result of not applying recommended technology. The primary purpose of this study was to identify Larkana district farmers' use of recommended technology for rice production. A survey of 150 randomly drawn rice farmers (92% of land in rice) was conducted using professional enumerators (8% probability of error). Between 73% and 84.5% of the farmers reported applying an appropriate rate of plowings, seed, fertilizer, and irrigation, suggesting that a need to disseminate appropriate technology information exists. Farmers (62.2%) reported that conferences were the most beneficial method of instruction. Radio was rated as the most satisfactory source of information for rice production followed by agricultural extension agents. Farmers (63.5%) valued extension agent farm visits as a service that should be performed. Approximately 25% of farmers rated improving agricultural education programs and access to loan facilities as priorities in planning for improved rice production.

### **Agricultural and Extension Education Volunteers: Crucial Stakeholders**

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Agricultural and Extension Education  
North Carolina Cooperative Extension Service  
North Carolina State University

### **Abstract**

Shrinking budgets, competition for non-mandated government funds, organizational downsizing, changing agricultural context, and a need to embrace increasing clientele promote the consideration of revisiting the importance and contributions of organizational volunteers. Increasing vertical integration of agricultural enterprises and fewer professionals because of downsizing to provide education or services to many audiences contribute to this view. Suggested new roles of volunteers are those of advocacy and doing what other agency personnel have done in the past. The present study was a descriptive survey of Extension volunteers in one state. Major results depict the typical volunteer for this study to be a married, white female who is over 50 years of age, a college graduate, above average income, and no children at home. Major reasons for volunteering included: personal satisfaction, building friendships, use one's knowledge base, and about one-in-three of the volunteers had volunteered to deal with a pressing community issue. Volunteers reported that they contributed on the average one hundred hours, their perception of monetary value of their service was \$1,700 per year, they had received 24 hours of training, and had been volunteers for an average of ten years. The major activity that the volunteers reported for the past year was "extending information" to someone through group instruction or one-on-one delivery. Recruitment of volunteers and roles that they play may need to be revisited in the context of globalization and privatization. A key element in recruiting volunteers worldwide may be to match an individual's interest with community issues where the volunteer's major role would be one of advocacy.

### **The Contents, Problems, and Possibility of Teaching General Agriculture Through the School Systems in Korea**

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Chyul Young Jyung  
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Department of Agricultural and Vocational Education  
College of Agriculture and Life Sciences  
Seoul National University  
Suwon, Korea

### **Abstract**

Agricultural literacy has become an issue in Korea. The purpose of this study was to explore the contents, problems, and possibility of teaching general agriculture through the public school systems in Korea. The survey included all teachers in the elementary, middle, high schools in September 1999. Seven hundred sixty five teachers responded and the response rate was 73.6%.

This study showed the low possibility of teaching general agriculture through the school systems in the future because there were more female teachers and younger teachers in schools. The first reason for teaching agriculture by teachers was to increase students' literacy on the subject matter. However, there were few sequences between grades and subjects. The contents of general agriculture for elementary, middle, and high school students were not enough for informing the society. If general agriculture is instructed to enhance student's agricultural caliber, it should be organized and integrated systematically into the curriculum according to the level of school systems.

### **Production Constraints and Training Needs of Women in Fish Processing in the Central Region of Ghana**

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Michelle Owens  
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### **Abstract**

This study was undertaken to assess the production constraints and training needs of women fish processors in the Central Region of Ghana. The study involved 150 women fish processors and 19 agricultural extension agents (AEAs) in the study area. Descriptive statistics, t-test and the Borrich Needs Assessment Model were used in the data analysis and organization of the results.

The assessment of fish processing technology transfer and adoption indicated that the degree of adoption of fish processing practices ranged from slight to moderate adoption. The exception was only seen with the construction and use of Chorkor smoker (oven) which registered relatively higher adoption (3.5 on a 5-point Likert scale). Inadequate capital to run their business was the most crucial constraint mentioned by the women fish processors. Other important constraints mentioned were the high cost of wire mesh and fish conveying bowls, transportation, fuel wood, and poor quality of fresh fish due to the use of dynamites in fishing by some farmers. The areas considered by fish processors as constituting their greatest training needs were how to acquire credit, management of storage pests, record keeping, workings of co-operatives, storage of fresh fish and marketing strategies.

The Ministry of Food and Agriculture (MOFA), NGOs, and Research Institutions should collaborate to work out a training program to upgrade the competencies of their staff and fish processors in fish processing technologies. Government at the local level (e.g. District Assemblies) and NGOs should design a sustainable loan scheme to support fish processors with seasonal business loans.

### **Tertiary Education for Mid-career Level Extension Personnel: Ghana Case Study**

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### **Abstract**

What can you show employees if you can't show them the money? The answer sounds almost simple-minded: Improved job performance and satisfaction. The poor performance of African national extension systems is often linked to the low educational level and dwindling motivational levels of most frontline extension personnel. In reaction to this situation, an university educational program was developed in Ghana with an innovative curriculum including supervised practical field experience. All levels of mid-career level extension personnel can apply to the program and 76 of these non-traditional students had graduated from the program with a B.Sc. degree in Agriculture Extension at the time of this study. Results of a national survey of graduates from this academic program indicate that improved educational opportunities for experienced extension staff results in direct benefits for the students themselves as well as for the national extension service, the farmers and even the university lecturers. Graduates of the program reported increased levels of confidence and competency in their jobs as a result of the B.Sc. degree program. Supervisors of the graduates reported an improvement of total work rate, human relations and supervisory skills. Lecturers reported better academic performance over traditional students. And farmer clients cited improved agriculture production as a result of working with the extension graduates.

### **Off-farm Employment and Agricultural Education in Ireland**

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Dublin, Ireland

James Frawley  
Teagasc, Rural Economy Research Centre  
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Michael Wallace  
Dept. of Agribusiness Extension and Rural Development  
University College Dublin  
Dublin, Ireland

### **Abstract**

Developments in modern agriculture have led to doubts regarding the long-term viability of current production systems. The changing structure of the Irish farming sector is part of a European wide trend where the emerging model of agriculture is one comprised of a small number of highly developed commercial farmers and a larger number of rural households who obtain income both on and off the farm. Early studies viewed the take up of off-farm employment as a temporary adjustment process—a way of supplementing farm income when it was low, but that view has been replaced over the last decade by research that notes its persistence over time. The importance of assessing the effect of this trend is manifold. Off-farm employment among farm households affects farm organisation, the future structure of agriculture, public policies to aid farming families, public policies to maintain rural communities, and the delivery of educational and training services to the farming sector.

### **Six Lessons Learned in International Development and Their Application in the Context of Collaborative Texas-Mexico Agricultural Development**

Manuel Piña, Jr.



Associate Professor  
Department of Agricultural Education  
Special Projects Director  
College of Agriculture and Life Sciences  
Texas A&M University

### **Abstract**

Six international development lessons and their underlying philosophical themes are presented as postulates, and examples of their application in Texas-Mexico agricultural development are presented. They are influenced by the author's 22 years of experiences in three development settings – an international agricultural research center, an international foundation, and a land-grant university. The six lessons are: there must be (1) dialogue between experts from both Mexico and Texas in determining the issues that are to be addressed; (2) representation from the groups that will ultimately benefit from joint efforts at all steps of the process; (3) sharing of costs for every activity that is conducted; (4) a marketing component in all projects, whenever possible; (5) student involvement at every opportunity; and (6) joint evaluation of outcomes for policy impact.

These lessons are serving as a foundation for interaction and bi-national collaboration between The Agriculture Program of the Texas A&M University System and a consortium of universities, governmental and non-governmental organizations, and producer associations from northeast Mexico.

Fourteen completed and eight on-going bi-national projects, funded largely by the W.K. Kellogg Foundation, abide by these lessons. This paper should be useful to educators who have interests in development work with Mexico or with other countries with whom travel and communication is easy and for which cross cultural factors exist. It also sets a framework for developing proposals that may increase their competitiveness with donors who not only want to support projects that are

comprehensive and interdisciplinary but also have potential for informing policy setters.

### **International Experience: Pathways to Personal and Professional Growth**

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Assistant Professor  
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Institute of Food and Agricultural Sciences  
University of Florida

Steven G. Jacob , Assistant Professor  
Department of Family, Youth, and Community Sciences  
Institute of Food and Agricultural Sciences  
University of Florida

Mary P. Andrews  
Associate Professor; Director, International Extension Programs  
Department of Family and Child Ecology,  
Michigan State University

Nancy E. Crago  
CFCS, Penn State Cooperative Extension  
The Pennsylvania State University

### **Abstract**

A study was conducted to determine factors that lead to greatest impact among individuals and near-associates from an International Extension project. The project focused on the participants of the Polish-American Extension Project (PAEP). Data was derived from a 19-page questionnaire that was completed by over 95% of the participants. The purpose of this study was to determine the specific components of international involvement that lead to personal and professional impact among Extension professionals and near-associates. Like variables were grouped and summated to create variable blocks for analysis. Items that were not indexed were used as individual variables. These indexed and individual variables were correlated with three dependent variables: the

extent of personal and professional impact on PAEP participants, extent of impact on immediate and extended family members of PAEP participants, and extent of impact on colleagues and clientele of PAEP participants.

This study has revealed the importance of international involvement for enhancing global impact among Extension professionals, colleagues, clientele and family members. Those who have an opportunity to live and work in another country not only contribute to the development of that country, but they also contribute numerous mutual benefits within America. Lessons and practices were learned from this study that can lead to enhanced international impact across participants and near-associates based upon endeavors that are properly designed and implemented. This study shows that there are three important training junctures for international assignments: before one goes (pre-training), while one is there (reinforcement), and after one returns (de-briefing).

### **Household Composition: Implications for Tailoring Research and Extension Programs**

Carlton Pomeroy  
Doctoral Student, Interdisciplinary Ecology  
University of Florida

Amy Gough  
Graduate Student, Farming Systems Research  
and Extension Specialization  
University of Florida

Matt Baker  
Professor and Chair  
Texas Tech University

Peter Hildebrand  
Professor, Food and Resource Economics  
University of Florida

### **Abstract**

The small farmer in the Dominican Republic experiences economic insecurity and deteriorating environmental conditions. Utilizing on-farm research, the Association of Coffee Producers of Los Cacaos and the Center for Planning and Ecumenical Action implemented a crop diversification project in the coffee-producing region of Los Cacaos. The purpose of this study was to examine household economic stability upon the introduction of passion fruit (*Passiflora* spp.), mapuey (*Dioscorea cayenensis*), and ñame (*Dioscorea rotundata*). The researchers used a mixed methodology approach to identify cash, food, credit, and labor associated with the livelihood system of six households with varied compositions, and to examine the influence of the traditional agricultural system versus the adoption of alternative crops (passion fruit, mapuey, and ñame) upon simulated models of the six households with varied compositions. The data revealed that households with increased labor displayed higher potential annual year-end cash for discretionary spending while those with minimal labor, specifically female-headed households, did not. Findings support the importance of examining household composition when developing and tailoring on-farm trials for low resource farmers.

### **Linking with Agricultural and Social Government Programs for Scaling-up Non-governmental Organization (NGO) Rural Development Projects in Mexico**

Aníbal Quispe  
Profesor Investigador Adjunto  
(Adjunct Research Professor)

Leobardo Jiménez – Sánchez 2  
Profesor Investigador Emérito  
(Research Professor Emeritus)  
Estudios del Desarrollo Rural  
Colegio de Postgraduados  
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Mexico

### **Abstract**

In the last ten years, the number of NGO rural development projects has been increasing in Mexico. Many of them have been successful in their pilot phase of 2 or 3 years. Evaluation studies questioned how to deal with these projects in order to expand the experiences to other communities. In response to this, in Mexico, the representatives of some NGO projects and state programs decided to share resources for scaling up. This evaluative research identified some evidence of the scaling-up results and the processes of six projects. A survey method, face-to-face interview and direct observation were used to collect information from the beneficiary small farmers, technicians, and coordinators of the projects and the representatives of the state programs. Two of the six projects were very successful for scaling- up their experiences because of the successful linkages: while one of them mostly linked with the state program, the other one did it with the local institutions and organizations. For the other two projects, the scaling-up experiences were fairly successful; and for the last one, there were no scaling-up results. Eight factors were identified that favored or hindered the results: 1) the quality performance of the NGO staff; 2) the degree of communication between the project and program personnel; 3) the financial and other resources of NGOs; 4) the resources availability of the government programs for the projects; 5) the degree of participation and organization of the farmers in the project; 6) the expectations of the new beneficiaries of the technologies and experiences of the projects; 7) the nature of the introduced technologies and organization; and 8) the socioeconomic and political context in which the projects were operating.

### **Evaluating International Agricultural and Extension Education Projects: Problems, Challenges, and Strategies**

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Summer 2001

Department of Agricultural and Extension  
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### **Abstract**

This study examined evaluation issues related to international agricultural and extension education projects. Objectives of the study were to: 1) identify and describe problems and challenges to evaluating international agricultural and extension education projects, 2) review evaluation models that are appropriate for international agricultural and extension education projects, and 3) suggest strategies to address evaluation issues related to international agricultural and extension education projects. Data sources included books, journal articles, conference proceedings, evaluation reports, and government documents. Interviews with faculty engaged in international agricultural and extension education projects and personal experience of the author also served as data sources. Findings revealed that there are many challenges to evaluating international agricultural and extension education projects. These include: 1) lack of time resulting in inadequate plans to evaluate projects, 2) extensive reliance on single method of evaluation, 3) lack of readily available evaluation instruments, 4) cultural and language problem, and 5) limited skills in planning, implementing and interpreting evaluation results. Four evaluation models appropriate for international agricultural and extension education were also identified and described. Based on the information obtained through literature and faculty interviews, a new framework to evaluate international agricultural and extension education projects was proposed. Recommendations included: 1) development of an evaluation model matrix for key program areas/projects in international agricultural and extension education, 2) creation of an evaluation information/resource exchange, and 3) a training program to build evaluation capacity of international agricultural and extension educators.

**Field-Testing New Methodologies for Planning and Implementing Extension Programs: A Comparison of Innovative Extension Projects In India and the United States**

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Joint Secretary & Extension Commissioner  
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Ministry of Agriculture, Krishi Bhawan  
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Additional Commissioner (Extension)  
Department of Agriculture and Cooperation  
Ministry of Agriculture, Krishi Bhawan  
New Delhi, India

**Abstract**

This paper is a comparative analysis of two parallel efforts to improve farm income by assisting farmers to diversify into high value commodities, organize into functional groups (social capital) and, thereby, take advantage of emerging end-use markets. These two projects are being simultaneously implemented in six states of India and in one state in the U.S. These two projects have many similarities in terms of needs assessment, strategic planning, technology dissemination, and encouraging farmers to organize into marketing alliances to gain market access for value-enhanced farm products. Some important project differences are described, including the field-testing of an integrated extension system in India that utilizes formal mechanisms for stakeholder involvement in program planning and development. Preliminary reviews by both stakeholder groups and external review teams indicate that both projects are achieving or exceeding their respective goals and objectives.

**Outsourcing of Extension Service –A Case Study**

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Department of Agriculture, Conservation & Environment  
North West Province, South Africa.  
Rustenburg, South Africa

**Abstract**

Discussions on the current extension services provided by the government to the developing agriculture in South Africa identified privatization of extension as an alternative option to improve and increase delivery in this sector. One such option is outsourcing of the service to external agencies that have comparative advantage over the government provided extension service, which the Department of Agriculture, Conservation & Environment took as their pilot project.

Four extension officers and the areas that they serve were targeted for this pilot project. They were outsourced to the University of Pretoria as the implementing Agent. This paper describes the method and procedures that were followed to run the project. It describes fully the responsibilities of the Agent and the Department, the progress made and some problems that were experienced.

This experience could serve as an example to other governments who would like to embark on a similar venture.

**Bridging the Gap Between Extension-research Through On-farm Adaptive Research (Ofar) Philosophy**

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Botswana College of Agriculture

Gaborone, Botsqana

### **Abstract**

A huge body of technology information is available at almost all the Research stations and Universities in Africa. However, the adoption of these technologies has been very slow and selective. In most cases, farmers pick out only one or two elements from a multi-component package, thereby losing the advantages of technical complementarity. This paper proposes that the Research-Extension-Farmer links can be strengthened through the On-Farm Adaptive Research Philosophy (OFAR) comprising of the Diagnostic phase, Field test phase, and the Demonstration phase. The institutional framework for operating the OFAR philosophy, especially in the Southern Africa Developing Countries (SADC,) are discussed.

### **Evaluation of the International 4-h Youth Exchange (IFYE) Program**

Mary Elizabeth Williams

Layle D. Lawrence

Stacy A. Gartin

Dennis Smith

Kerry S. Odell

Dept of Agricultural and Envir. Education  
West Virginia University

### **Abstract**

This study examined the extent to which the International 4-H Program achieved its objectives regarding cross-cultural attitudes and perceptions, life leadership skills, and host country culture knowledge through the six-month International 4-H Youth Exchange (IFYE) Program. The population consisted of the 21 IFYE six-month representatives of 1999. A descriptive census survey was used to collect data for the study. Each participant completed pre- and post- exchange evaluations while attending the program orientation and debriefing at the National 4-H Center. The major finding of this study was the representative's significant

gain in host culture knowledge. The IFYE representatives' positive cross-cultural attitudes and perceptions existed before the exchange experience. The experience, however, results in greater appreciation for the United States, strengthens awareness of world issues, improves communication skills, and overcomes misperceptions about the host country. IFYE representatives developed their life leadership skills, but not to the extent originally expected. Further evaluations through qualitative methods were recommended.

### **The Influence of International Study Abroad Programs on Agricultural College Students**

Lijuan Zhai

Office of Institutional Research

San Diego Community College District

Scott D. Scheer

The Department of Human and Community  
Resource Development

The Ohio State University and OSU Extension

### **Abstract**

The purpose of the study was to determine the influence of participation in a study abroad program (SAP) on college students' level of development in terms of global perspective, attitudes toward cultural diversity, and self-efficacy. In addition, this study also sought to investigate students' changes in their career interests, attitudes toward both host and home countries, knowledge and skills they gained from SAPs, and motivation for participation in SAPs. The sample consisted of 18 out of 21 students who went to study abroad programs in summer 1999. Data were collected via interviews. Qualitative data obtained from interviews were analyzed using inductive data analysis. It was found that students' global perspective was enhanced by the SAPs along with intercultural sensitivity, in which participants were more aware of and open to cultural diversity. The experience provided new challenges to participants and assisted them in

becoming more confident. Study abroad students were also more likely to develop favorable attitudes toward their host country accompanied by some criticism toward the United States. Students gained new knowledge and skills from study abroad experience. Personal interests, peer influence, desire to experience something different and cost were important factors in motivating students to participate in SAPs. The findings have implications on understanding outcomes of SAPs in higher education, especially in colleges of agriculture.

### **Assessment of Tertiary Agricultural Education in Ghana**

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Coast, Ghana

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Agricultural and Extension Education  
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Alex Carson  
Professor of Crop Science

Festus Annor-Frempong  
Lecturer of Agricultural Extension  
School of Agriculture, University of Cape  
Coast, Ghana

### **Abstract**

This study assessed the perceptions of different stakeholders of the agricultural education system in Ghana, including administrators of the tertiary agricultural training institutions, lecturers, students, farmers, researchers and employers. It also assessed relevance of the current agricultural education programmes in the tertiary agricultural education institutions in the country. Both quantitative and qualitative research methods were used. The study revealed

that respondents lacked awareness of the vision and mission statements of the agricultural training institutions. Very limited formal linkages existed among the institutions and the larger community in Ghana. The curricula of the institutions were mainly theoretical, lacking practical off-campus occupational experience activities. Moreover, emerging issues in agriculture, including population, HIV/AIDS, gender and youth, systems thinking, agribusiness, and entrepreneurship that are of major concern to the larger society were being neglected. While many administrators and academic staff of these institutions preferred specialization at the diploma and undergraduate levels, the majority of respondents outside the training institutions expressed the need for generalist training. They wanted to insure that students acquired a substantial knowledge base in other complementary areas to improve their employment opportunities.

The study revealed a need for the training institutions to regularly review and revise their curricula. Such curricular reviews and revisions should involve key stakeholders of the agricultural education system. Moreover, the training institutions should clearly state their vision and mission statements and publicise them among students, administrators, academic staff and the larger community.

## CALL FOR PAPERS

to be presented at the  
**18th Annual Conference of AIAEE, Elangeni Holiday Inn, Durban, South Africa**  
**May 27 through May 31, 2002**

AIAEE will accept summaries of proposals for professional papers to be presented at the 18<sup>th</sup> annual conference that relate to issues in international agricultural and extension education. Topics related to the 2002 conference theme of “*Approaches and Partnerships for Sustainable Extension and Rural Development*” are encouraged, but all submissions will be given full consideration. Both research and theoretical/philosophical theme-based papers will be considered. In order to submit a proposal, at least one author must be an AIAEE member. Contact Dr. Steve Jones, AIAEE Treasurer, University of Minnesota, 240 Vo Tech Bldg, 1954 Buford Avenue, St. Paul, MN 55108-6078 USA, for membership information. (Tel: 612-625-1287/Fax: 612-625-7031), e-mail: [sjones@tc.umn.edu](mailto:sjones@tc.umn.edu), or download membership information from the AIAEE web site at <http://www.aiaee.org/>.

New members are invited. For additional information on AIAEE, please view our web site at: <http://www.aiaee.org>. Please contact your professional in-country and international colleagues about the opportunity to submit a proposal. Each proposal is limited to no more than four pages (title page and three pages of text) and requires the following information:

1. Separate title page with names and addresses of author(s) (full contact information, including position and/or title, mailing address, fax number, telephone number, and e-mail address of the author responsible for receiving communications from AIAEE). **E-mail address is especially important.** As a footnote on the title page, please indicate if you are willing to be considered for participation in the poster session or the carousel roundtable session, should your proposal not be accepted in the paper sessions.
2. The summary should not exceed three double-spaced pages of text (1-inch margins, 12-point, Times New Roman font).
3. Please follow the prescribed format when submitting proposals: (a) Introduction, (b) Purpose of the paper, (c) Methods and data sources; OR theoretical/philosophical themes (the problem or issues, with attention to the reasoning used), (d) Results, products, and/or conclusions, and (e) Educational importance and application.
4. File copies are to be submitted electronically as an attached file to an e-mail message. Please use Microsoft Word 1997 or a later version when developing the proposal, and save it as a Rich Text File (.rtf extension).
5. In the event an author does not have access to a computer with e-mail capability so as to be able to submit electronically, paper proposals will be accepted. In that case, four copies of the paper proposal must be sent.
6. More than one proposal may be submitted.

The deadline for submitting paper proposals is **October 25, 2001**. Please send paper proposals to: Dr. Matt Baker, Department of Agricultural Education and Communications, Texas Tech University, Box 42131, Lubbock, TX USA 79409-2131. Tel: (806) 742-2816. Fax: (806) 742-2880. E-mail is [matt.baker@ttu.edu](mailto:matt.baker@ttu.edu). Each paper proposal will be peer reviewed by three respected agricultural and extension education scholars. Corresponding authors of paper proposals will be notified in November 2001 and paper specifications will be given to those accepted for presentation. Presenters will be required to register for and pay the conference registration charge.



## CALL FOR POSTERS

### for Approaches and Partnerships for Sustainable Extension and Rural Development at the 18th Annual Conference of AIAEE

**Elangeni Holiday Inn, Durban, South Africa  
May 27 through May 31, 2002**

AIAEE is accepting poster proposals related to issues in international agricultural and extension education. Topics related to the 2002 conference theme are encouraged, but all submissions will be given full consideration.

#### Purpose

To present visually a concept or idea that reflects innovative models of research, educational programming, or evaluation. Each poster proposal requires the following:

1. A **title page** with name(s) of author(s) including complete contact information (address, telephone number, fax number, and e-mail address).
2. A **one-page abstract** that includes introduction, purpose of poster, major points or information to be shared, conclusions, and educational importance.

#### Poster guidelines

1. Maximum size 4' x 6' (122 cm x 183 cm)
2. Posters will be on display one entire day of the conference; presenters are expected to be present during group times set aside for viewing posters and during an evening reception.
3. Must be an AIAEE member to submit a proposal--see below for membership information.

Awards are given for the top three posters. Criteria and points used to judge the selection of outstanding posters are:

Technical content or information	20
Originality or innovativeness	20
Creativity of presentation or ideas	15
Conveys message (easily understood)	15
Importance of topic	15
General appearance (5 points each):	
1) well planned design,	
2) easily read and neat, and	
3) well constructed.	15
Total possible	100

**Deadline for submission is October 25, 2001.**

Send three (3) hard copies or one (1) electronic copy of the proposal to:

Dr. Jimmy R. Lindner, Department of Agricultural Education, Texas A&M University, College Station, TX 77843-2116 USA. (Phone: 979-458-2701; Fax: 979-845-6296; E-mail: [j-lindner@tamu.edu](mailto:j-lindner@tamu.edu)) Contact Dr. Lindner for more information.

*For membership information, contact Dr. Steve Jones, AIAEE Treasurer, MAST International, University of Minnesota, 240 Vo Tech Building, 1954 Buford Avenue, St. Paul, MN 55108-6078 USA (Tel: 612-625-1287; Fax 612-625-7031. E-mail: [sjones@tc.umn.edu](mailto:sjones@tc.umn.edu).*

## CALL FOR CAROUSEL ROUNDTABLE DISCUSSIONS

**for**  
**Approaches and Partnerships for Sustainable Extension and Rural Development**  
**at the 18th Annual Conference of AIAEE**  
**Elangeni Holiday Inn, Durban, South Africa**  
**May 27 through May 31, 2002**

AIAEE is accepting proposals for refereed abstracts at carousel roundtables related to issues in international agricultural and extension education. Topics related to the 2002 conference theme are encouraged, but all submissions will be given full consideration.

### Purpose

To present, using a written and oral format, abstracts of research, theoretical advances, or explanations of an issue for discussion.

### Parameters

Carousel roundtables are small group presentations of abstracts. Each presentation is allotted 15 minutes. Presenters will lead the carousel roundtable discussion six times to rotating groups of AIAEE members and conference attendees during a time set aside for carousel presentations. Copies of the one-page abstract should be available at the presentation. Presenters must be AIAEE members to submit a proposal--see below for membership information. New members are encouraged to submit proposals.

Each carousel roundtable proposal requires the following:

1. A **title page** with name(s) of author(s) including complete contact information (address, telephone number, fax number, and e-mail address).
2. A **one-page abstract** that includes introduction, method, major points or information to be shared, conclusions or lessons learned, and educational importance. (10-point font is acceptable).

More than one carousel roundtable proposal may be submitted.

**Deadline for submissions is October 25, 2001.**

Send one (1) electronic copy of the proposal or three (3) hard copies to:

Dr. Jimmy R. Lindner, Department of Agricultural Education, Texas A&M University, College Station, TX 77843-2116 USA. (Phone: 979-458-2701; Fax: 979-845-6296; E-mail:

[j-lindner@tamu.edu](mailto:j-lindner@tamu.edu)) Contact Dr. Lindner for more information.