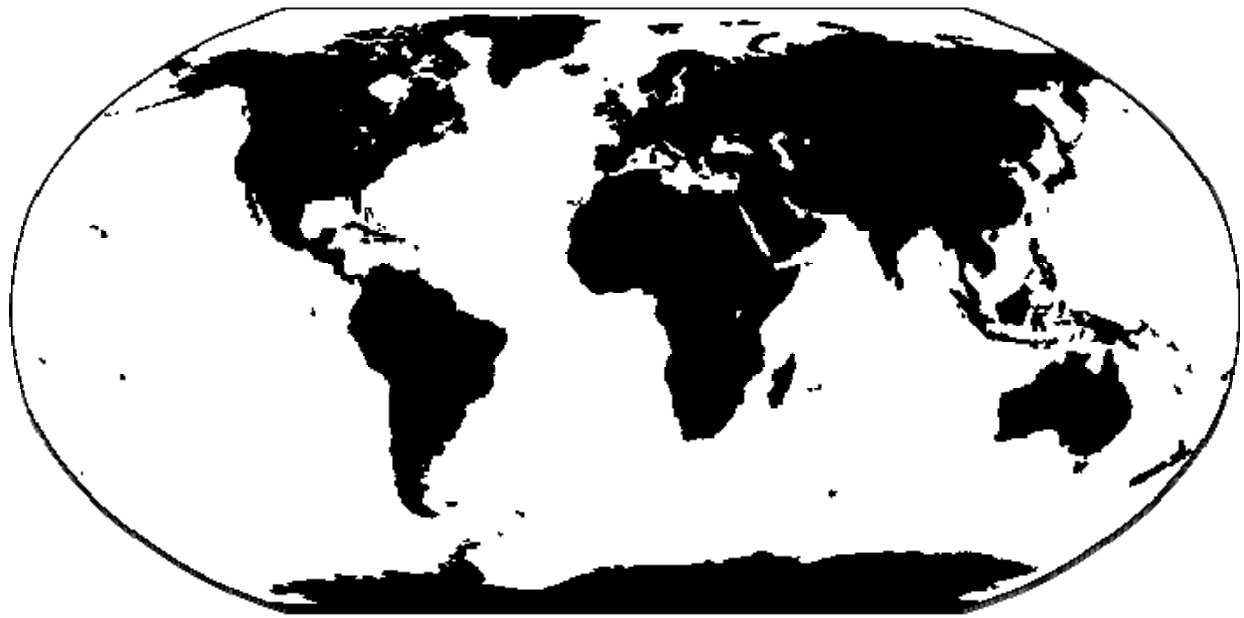


Volume 16, Number 2

Summer 2009

*Journal of
International Agricultural
and Extension Education*



AIAEE

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 (JIAEE)* is the official refereed publication of the Association for International Agricultural and Extension Education (AIAEE). The purpose of the *JIAEE* 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 develop implications for international agricultural and extension education. **Manuscripts, or portions of manuscripts, must not have been published or be under consideration for publication by another journal.**

Three types of articles are solicited for the *JIAEE*: Feature Articles; Commentary Articles; Tools of the Profession Articles; and Book Reviews.

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. For publication in the *JIAEE*, feature articles must pass the *JIAEE's* **double blind, referee process**, where peer reviewers evaluate manuscript content and ensure readability. Reviewers are selected from the AIAEE membership. In the double blind, referee process, all references to authors are removed before the manuscript is sent to reviewers. Feature Articles may be submitted for peer review a total of three times before they are no longer acceptable for publication in the *JIAEE*.

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 *JIAEE*. Commentary articles are reviewed by two members of the Editorial Board for appropriateness, readability, and relevance to the *JIAEE*.

Tools of the Profession Articles

Tools of the Profession articles report specific techniques, materials, books and technologies that can be useful for 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, readability, and relevance to the *JIAEE*.

Book Reviews

Book reviews summarize new publications relevant to the field and provide a critical assessment.

Subscriptions

Subscriptions may be acquired online at <http://www.aiaee.org/jiaee/journalsub.asp>, or by filling out the form located at the end of this journal.

Individual member rates are \$110/year for a printed copy or \$70/year for electronic version. Individual memberships and subscriptions are payable to **J. Mark Erbaugh, AIAEE Treasurer, The Ohio State University, 113 Ag. Admin. Bldg., 2120 Fyffe Rd., Columbus, OH 43210.**

Library/subscription agency rates are \$150/year (printed copies only). All library subscriptions must be made payable to *JIAEE* and mailed to **JIAEE Editor, 2116 TAMU, Department of Agricultural Leadership, Education, and Communications, Texas A&M University, College Station, TX, 77843-2116.** Please visit the *JIAEE* Web site at <http://www.aiaee.org/journal.html> and the AIAEE Web site at <http://www.aiaee.org/index.html>

Journal of International Agricultural and Extension Education

Volume 16

Number 2

Summer 2009

Editorial Board.....2

From the Editors.....5

Commentary Article

An Assessment of the Implementation and Outcomes of Recent Farmer Field Schools
to Improve Vegetable Production in Trinidad and Tobago7
David Dolly, University of West Indies

Feature Articles

Internationalizing Leadership Development: Important Components within
Educational International Leadership Experiences.....21
Kristina Ricketts, University of Kentucky
Chris Morgan, University of Georgia

Improving Agricultural Extension Human Resource Capacity in a
Decentralized Policy Context: A Ghanaian Case Study.....35
Ernest Okorley, University of Cape Coast
David Gray, Massey University Palmerston North
Janet Reid, Massey University Palmerston North

The Market-link Imperative: Refocusing Public Sector Extension47
William Rivera, Institute of Applied Agriculture

25th Annual AIAEE Conference: San Juan, Puerto Rico, May 24-28, 2009 **“25 Years of Strengthening International Agricultural & Extension Education”**

Professional Paper Presentation Abstracts.....61

AIAEE Award Winners for 200987

Journal Article of the Year for 200889

Call for *Journal* Managing Editor for 2010.....91

Editorial Board

The editorial board consists of the editors, the past editor and other members representing regions of the world.

Editors

James R. Lindner, Editor
Agricultural Leadership, Education &
Communications
Texas A&M University
2116 TAMU, 228 Scoates Hall
College Station, TX 77843-2116
Ph. 979-458-2701
Fax 979-845-6292
j-lindner@tamu.edu

Traci Irani, Associate Editor (Tools)
Agricultural Education and Communications
University of Florida
220 Rolfs Hall
Gainesville, FL 32611-0502
Ph. 392-0502 ext. 225
irani@ufl.edu

Kim E. Dooley, Editor
Agricultural Leadership, Education &
Communications
Texas A&M University
2116 TAMU, 223 Scoates Hall
College Station, TX 77843-2116
Ph. 979-845-6923
k-dooley@tamu.edu

Maria Navarro, Associate Editor
(Commentary)
Agricultural Leadership, Education &
Communications
The University of Georgia
105 Four Towers
Athens, GA 30602-4355
Ph. 706-542-0262
mnavarro@uga.edu

Gary J. Wingenbach, Past Editor
Agricultural Leadership, Education &
Communications
Texas A&M University
2116 TAMU, 218 Scoates Hall
College Station, TX 77843-2116
Ph. 979-862-1507
g-wingenbach@tamu.edu

Mohamed M. Yacoub, Associate Editor
(French)
Higher Institute for Agricultural
Cooperation
P.O. Box 198 Hadayek Shoubra
Cairo, Egypt
mmyacoub@yahoo.com

James Hynes, Associate Editor
(Book Review)
Curriculum and Instruction
Sam Houston State University
228 Teacher Education Center
Huntsville, TX 77341-2119
Ph. 936-294-3576
Jwh009@shsu.edu

U.S./World Representatives

Adewale Johnson Alonge, Ph.D.
Miami-Dade Public School System
9034 SW 163 Terrace
Miami, FL 33157
alongej@yahoo.com

Mike McGirr
USDA-CSREES
800 9th Street
Waterfront Centre
Washington, DC 20024
Ph. 202-205-3739
mmcgirr@csrees.usda.gov

Margaret Brown-New Zealand
AgResearch Ltd
Grasslands Research Centre
Tennent Drive, Private Bag 11008
Palmerston North 4474, New Zealand
Ph. 64-6-356-8064
margaret.brown@agresearch.co.nz

Wade Miller
Department of Agricultural Education &
Studies
Iowa State University
217E Curtiss Hall
Ames, Iowa 50011
Ph. 515-294-0895
wwmiller@iastate.edu

Barnabas Dlamini
Agricultural Education and Extension
University of Swaziland
PO Luyengo, Swaziland
Ph. 268-527-4021
bmd@africaonline.co.sz

Michelle Glenn
Institute of International Agriculture
Michigan State University
319 Agriculture Hall
Ph. 517-355-0174
East Lansing, MI 48824

David Dolly
University of West Indies
Agricultural Economics and Extension
St. Augustine, Trinidad and Tobago
Ph. 868-662-2002 Ext 3206
farmdavid42@hotmail.com

Jim Phelan
School of Biology and Environmental
Science
UCD Agriculture and Food Science Centre
University College Dublin
Belfield, Dubine 4, Ireland
Ph. 353-1-716-7793
James.phelan@ucd.ie

N. R. Gangadharappa
Agricultural Extension
University of Agricultural Sciences
GKVK Campus, Bangalore- 560 065
Karnataka, India
Ph. 91-80-23330153 Ext. 367
nrganga@yahoo.co.in

Anita Zavodska
Barry University
12860 SW 15th Manor
Davie, FL 33325
Ph. 305-981-5224
azavodska@mail.barry.edu

Association for International Agricultural and Extension Education Officers

Gary J. Wingenbach, President
Texas A&M University
2116 TAMU
College Station, TX 77843

Glen Shinn, Secretary
Texas A&M University
2116 TAMU
College Station, 77843

David Lawver, President Elect
Texas Tech University
Box 42131
Lubbock, TX 79409

J. Mark Erbaugh, Treasurer
The Ohio State University
113 Ag. Admin. Bldg., 2120 Fyffe Rd.
Columbus, OH 43210

Pete Vergot III, Past President
University of Florida IFAS Extension
155 Research Road
Quincy, FL 32351

Barnabas Dlamini
Board Member-at-Large
University of Swaziland
PO Box 1711
Manzini M200
Swaziland

Alexa Lamm, Graduate Student
Representative
University of Florida
PO Box 110540, 310 Rolfs Hall
Gainesville, FL 32611

From the Editors

This summer edition of the journal includes the abstracts and membership awards and JIAEE awards from the conference held in San Juan, Puerto Rico on May 24-28, 2009. The conference theme was “25 Years of Strengthening International Agricultural and Extension Education.” We solicited “birthday letters” from the membership to recognize this notable achievement for the organization.

As we celebrate the birthday of our organization, it is important to reflect on how our organization, and the journal, has evolved over time. Dr. Jack Elliot, a former journal editor and president of AIAEE commented in his birthday letter:

Beginning the journal was a labor of love. The original journal white paper team of Satish Verma from Louisiana State University, Bill Seiders from the University of Illinois and me (then at Michigan State University) presented our work at the first AIAEE meeting held west of the Mississippi River in 1991 at St. Louis, Missouri. Wade Miller from Iowa State and Anne Fox from Oregon State were added to the team to form the first journal editorial board. The first issue of volume one was distributed during the 10th anniversary of the association. Some of the original strategies such as publishing the outstanding research presentations have been modified as the journal sought to improve its prestige within the journal world.

Today the journal includes editorial board members from throughout the world. As our organization has grown, the journal has also expanded to include a broader range of topics and authors. We look forward to our next 25 years!

If you would like to contribute to the development of the *JIAEE*, we are seeking a new managing editor. The term would begin in January, 2010. You will find a call for the managing editor at the end of this issue.

Sincerely,



James R. Lindner, Executive Editor and Kim E. Dooley, Managing Editor
Journal of International Agricultural and Extension Education

An Assessment of the Implementation and Outcomes of Recent Farmer Field Schools to Improve Vegetable Production in Trinidad and Tobago

David Dolly
Agricultural Economics and Extension
University of West Indies
farmdavid42@hotmail.com

Abstract

Following major initiatives by the Commonwealth Agricultural Bureau International and Trinidad and Tobago's Ministry of Agriculture Lands and Marine Resources, 14 Farmer Field Schools (FFS) were conducted from August 2003 to January 2006 in seven extension districts in Trinidad and Tobago, West Indies. This paper assesses these schools according to the six key elements highlighted by Simpson and Owens (2002) regarding the FFS approach in Africa. The researcher attended school field days and interviewed 12 master trainers. The researcher surveyed a population of 24 participants and a sample of 16 non-participants. The researcher interviewed six volunteer participants and observed the efforts of the central planning process over the course of a year. The school has relevance and responds to local concerns (Key 1). The school used participatory mechanisms which generated new knowledge regarding location-specific crop husbandry practices (Key 2). Information flows and farmer-to-farmer participation were usefully productive (Key 3). There is a new initiative to build useful organizational relationships (Key 4). Relationships between scientists, extension workers, and farmers improved (Key 5). The FFS can be integrated into existing programs but would need more administrative support and funding (Key 6). In one community, the FFS participants were different from a sample of non-participants in several ways. There were similarities between the findings of this assessment and those of Simpson and Owens (2002). Recommendations included the continued use of the FFS among small producers in Trinidad and Tobago, and further assessment of quantitative benefits, including the rates of adoption and diffusion and cost effectiveness.

Keywords: Farmer Field School Systems, Extension Program Effectiveness

**Internationalizing Leadership Development:
Important Components within Educational International Leadership Experiences**

Kristina G. Ricketts

Community & Leadership Development
University of Kentucky
k.ricketts@uky.edu

Chris Morgan

Agricultural Leadership, Education, and Communication (ALEC)
University of Georgia
acm@uga.edu

Abstract

The purpose of this study was to identify the most salient components to be included in an international leadership experience. A three round Delphi procedure was used to solicit expert opinions concerning the aspects needed to provide an effective international leadership experience. Results revealed a variety of important components that broke down into two categories: knowledge gained and concrete experiences. Specifically, the five highest rated knowledge components were: respect for other cultures; effective global interaction; critical thinking about leadership models students embrace; recognition of the interconnection between different contexts and an acquaintance with local indigenous people. The top five concrete experiences were: multicultural experiences focusing on local values; interaction with local students; frequent debriefing, personal logging and self-reflection through the process; incorporation of three learning stages – prework, experience, postwork – within the overall experience and a gamut of specific encounters with what is working in the local society and what is not. Educators may consider these expert suggestions when developing curriculum or coursework for international experiences focused in leadership, whether for traditional students, non-traditional students or Extension agents. Ideally, incorporation of these factors into leadership programs will encourage the development of more globally minded leaders.

Keywords: international experience, Delphi, leadership, concrete experience, curriculum development, global mindedness

**Improving Agricultural Extension Human Resource Capacity in a Decentralized Policy
Context: A Ghanaian Case Study**

Ernest L. Okorley

Department of Agricultural, Economics and Extension
University of Cape Coast
leokorley@yahoo.com

David I. Gray

Institute of Natural Resources,
Massey University Palmerston North
d.i.gray@massey.ac.nz

Janet I. Reid

Institute of Natural Resources,
Massey University Palmerston North
j.i.reid@massey.ac.nz

Abstract

Agricultural extension provision in many developing countries is affected by the quality of the extension staff. To understand the factors that can improve the capacity of extension staff in a decentralized extension context, a single-case study of a successful district level public extension organization in Ghana was studied. To improve the capacity of extension staff, the case study emphasized the importance of combining formal needs-based training and an organizational learning culture. The study suggests that traditional training in technical areas and extension methods is not sufficient in this context. With the shift from a top-down to bottom-up management approach, managerial staff need a new training in participatory management and administration. With a cross-sector pluralistic system, they also need training about the mechanisms that will facilitate coordination, collaboration and lobbying within the extension system. Also, with a broader focus and roles of district extension, the field staff would need a broader knowledge base of technical expertise that takes into consideration indigenous knowledge of farmers, and attitudes of searching for knowledge that they do not have, or for seeking out others to provide the necessary knowledge. The study highlighted the importance of fostering an open environment where extension staff feel comfortable to meet, interact, share information and ideas, and motivated to work.

Key Words: Agricultural Extension, Decentralization, Human Resource Development, Training, Staff Motivation, Organizational Learning

The Market-link Imperative: Refocusing Public Sector Extension

William M. Rivera

Institute of Applied Agriculture

University of Maryland

wr@umd.edu

Abstract

This paper reviews and compares two market-driven strategies: contract farming and producer marketing cooperatives. In passing, the paper critiques the single-minded contract-farming emphasis adopted by the New Partnership for African Development and its Comprehensive Africa Agriculture Development Program (NEPAD-CAADP). Pursuing ideas put forward by Burt Swanson, the International Food Policy Research Institute and the World Bank, the paper concludes with recommendations for reorganizing extension systems in less developed countries.

Keywords: Agricultural extension, contract farming, producer cooperatives, institutional innovation, training.

Association for International Agricultural and Extension Education
25th Annual Conference
Professional Paper Presentation Abstracts

Editor's Note: The following abstracts, listed by primary author's last name, were derived from professional papers presented at the 25th Annual AIAEE Conference.

Knowledge Gaps and Training Needs of Afghanistan's Agricultural Extension Agents

Doe Adovor, Michigan State University

Juan Estrada-Valle, Development Alternatives Incorporated (DAI)/AAC

Runsheng Yin, Michigan State University

The primary focus of this study is to determine the knowledge gaps and training needs of Agricultural Extension agents from the Eastern region of Afghanistan. Survey responses from all Extension Agents stationed in Laghman, Kunar, Nangarhar and Nuristan provinces are reported in this paper. Since the study targeted the entire population of Extension Agents (N=104) in all Afghanistan's four eastern provinces, no sampling procedures were used. Furthermore the results may be generalizable only to the study population. A seven part questionnaire consisting of 4-point Likert scales was used to solicit response from the extension agents. Cronbach's alpha coefficients for 92 cases and 147 items produced a reliability statistics of 0.92 suggesting that the study scales have a relatively high internal consistency. Descriptive statistics were used to analyze the data. All the survey respondents were married males between the ages of 22 and 60 years. Respondents consider themselves specialists in six major areas: Vegetable production (26%), Plant Protection (16%), Farm management (10), Fruit production (6%) and Agronomy (5%). Majority of respondents (> 60%) specialize in production oriented agriculture with less than 35% specializing in Market Extension. While most respondents claim to have high knowledge of Market Extension and crop production methods, an actual knowledge tests administered to the respondents during a 30 day training section covering extension delivery processes and vegetable and fruit production techniques revealed a rather low level of knowledge of these areas. Self-perceived knowledge of Farm Management and Financial techniques was generally low.

Keywords: Agricultural Extension, Marketing Extension, Extension Agent, Knowledge, Perception

Female Students' Participation in the University Mid-Career Agricultural Extension Training Programme in West Africa: Constraints and Challenges

Mercy Akeredolu, Institute of Rural Polytechnique and Applied Research

Many studies in Africa indicate that the poor achievement of the continent's agricultural targets in terms of efficiency, sustainability and equity is largely due to the predominant practice of directing training and resources to men only. The SAFE training program set up in Universities for mid career agricultural extension staff of the ministry of Agriculture has only recorded 21% female participation so far. Some of the issues highlighted in this study include: the need for policy shift in favour of women to enable research and extension to focus more on women; low educational level of most women; inability of women to rise up to decision making positions; need for role models within the agricultural extension service system; mid-career women in agricultural extension service need to improve their skills and competence; and mid-career women need education and training to reduce the influence of culture and religion on their attitudes. Analysis of the major challenges to women participation in the mid career training programme of the three universities also indicate the following: limited scholarship opportunities

that target professional women; family problems; communities' low perception of women's talent and potential; limited access to information on opportunities for further education; lack of implementation of the various Governments' Affirmative Action; the perception of agriculture as a domain of men; and socio-cultural/religious barriers. Among the recommendations for improved women participation in the mid-career agricultural extension training programme were: putting in place admission policies that ensure at least 25 % of set places for female extension agents; instituting a scholarship scheme for female mid-career students; setting up of policies to employ more female agricultural extension worker as well put up other types of mid career programme more suited to professionals like the sandwich and the distance learning programmes.

Keywords: Mid-career professionals; female students; participation; challenges; Mid career training programme

Issues, Trends and Constraints in Integrating Technology into K-12 Education: A Comparative Analysis of Japan, Trinidad and United States

Adewale J. Alonge, Africa-Diaspora Partnership for Empowerment & Development

The paper analyzes trends, constraints and issues in integrating ICT in selected schools in Japan and United State and in on-going technology integration program in Trinidad. Data on Japan and U.S. was collected through the Japanese Fulbright Memorial Fund U.S. Japan teacher exchange program using questionnaire survey and a combination of participant and non-participant observation. Trinidad data was collected using an open-ended qualitative survey of teachers using a SWOT analysis framework. Data analysis included SPSS program, anecdotal reports and content analysis of qualitative data. Major findings included very positive perceptions among teachers in all three countries concerning the potential transformative impact of ICT in the teaching-learning process. Japanese schools evidence a surprisingly low level of technology integration compared to their U.S. counterpart. However, ICT integration in the U.S. has had less than transformative impact as teachers continue to infuse low level ICT programs to teach traditional curriculum. Barriers to technology integration included poor training, lack of skill, rigid administrative structure (especially in Japan) and poor technical support. Paper concludes by noting that technology operates within a social-institutional milieu, and until effort to integrate ICT in the educational systems takes full cognizance of this technology-social institutional interaction, ICT will continue to fail to achieve its maximum transformative potential.

Keywords: ICT; Technology integration; International Comparison; SWOT Analysis

Revisiting Storytelling in Ghana: A Possible Link to Leadership Development Through the Agricultural Extension Service

Felix K. Amenumey, University of Minnesota

Bradley C. Greiman, University of Minnesota

The purpose of this study was to explore the current status of storytelling in Ghana from the perspective of agricultural extension directors. Specifically, this study determined barriers to storytelling experienced by families, identified skills and values learned through storytelling, and identified uses of storytelling within the Ghana agricultural extension service. Ghana and other countries in sub-Saharan Africa (SSA) face a number of development challenges. Formulating solutions to these development challenges will require effective leadership. Based on culture-fit theory and a conceptual model that recognizes storytelling as a connection point for leadership development in SSA, it is important to gain an understanding of the current status of storytelling. This exploratory study was an attempt to fill this gap in the literature.

This study concluded that storytelling in families has challenges centered around leisure time priorities, image of storytelling, and technology. It is implied that the barriers to storytelling might be an indication that storytelling is becoming a dying tradition in the SSA culture. However, this study found that storytelling has a number of merits. Ghana agricultural extension directors reported that they learned skills and values such as problem-solving, honesty, responsibility, listening, and respect by their personal involvement in storytelling. It was further concluded that storytelling is used within the Ghana agricultural extension service as a communication technique, teaching method, and bringing about a common understanding within the organization.

Keywords: Ghana, leadership, organization, storytelling, sub-Saharan Africa

Assessment of Technical Efficiency of Farmer Teachers in the Uptake and Dissemination of Push-Pull Technology in Western Kenya

D. M. Amudavi, Egerton University

Z. R. Khan, International Centre of Insect Physiology and Ecology

J. W. Wanyama, Kenya Agricultural Research Institute

C. A. O. Midega, International Centre of Insect Physiology and Ecology

I. M. Nyangau, International Centre of Insect Physiology and Ecology

J. Pittchar International Centre of Insect Physiology and Ecology

A. Hassanali, International Centre of Insect Physiology and Ecology

J. A. Pickett, Rothamsted Research

Use of farmers as extension agents to disseminate new technologies to others is increasingly being adapted in smallholder farming systems constrained by low adoption of technologies. This paper examined technical efficiency of farmer teachers in the uptake and dissemination of a 'push-pull' technology (PPT) for control of Striga weed and stemborers in Western Kenya. A total sample of 112 farmer teachers (FTs) and 560 follower farmers (FFs) who had adopted the PPT were randomly selected and interviewed between July and August 2007. The farm production constraints significantly reduced with an overall 53% margin following PPT uptake. Overall, there were considerable benefits from training resulting in significant differences in understanding and applying of PPT. The FFE strategy had a significant multiplier effect in increasing PPT uptake. The average efficiency by FTs was 78% while FFs had 71% suggesting that the interviewed farmers operated below the frontier output levels. The efficiency differences are significantly explained by farmer teachers' interactions with neighbouring farmers, farmers' memberships in local groups, type of farmer, farmer's age, marital status and farmer's level of education. Improving capacity of farmers to operate as extension agents can be achieved by providing incentives and training, increasing field demonstrations, providing Desmodium seed and credit for other needed inputs to accelerate PPT transfer.

Keywords: Push-pull technology; Farmer teachers; Follower farmers; Farmer-to-farmer extension; Technical efficiency.

The Comparative Role of Intervening Variables in Understanding Farmers' Adoption Behavior

Charles Annor-Frempong, World Bank

Gustav H. Düvel, University of Pretoria

The paper compares the influence of intervening variables and the characteristics of the farmer and the farm (independent variables) on the adoption behavior of farmers for recommended maize agronomic practices. The purpose was to identify the most important determinants associated with behavior change. A total of 107 farmers out of a population of 214 were randomly selected from two adjoining districts of South Africa and Lesotho. Chi-square and correlations and regression analyses were used to determine the relationship between the independent (characteristics of the farmer and farm) and intervening

variables. Clear differences occur between the independent variables (which included age, gender, education, farm size and total area under maize cultivation) in regard to their influence on adoption behavior, but these influences also vary significantly between the practices. It was also found that an independent variable can have a big influence in the adoption of one of the recommended practices but not on the others. In general, their influence is limited, and together their total contribution in explaining the variance in adoption (R^2) varied between about 20 to 40 percent. The influence of the intervening variables, which are primarily need, perception and knowledge related, was much more consistent and much bigger, measured both as correlations and regressions. The total contribution (R^2) of intervening variables varied between 50 and over 70 percent, which clearly supports the research hypothesis, namely that their prediction and explanation value in terms of behavior is much bigger than that of independent personal and environmental factors.

Keywords: Adoption, Intervening variables, Behavior change, Decision-making, Innovations

Understanding Hispanic Farmers and Their Educational Needs: A Case of Southwestern Michigan

Bernardo Lopez Ariza, Universidad Autónoma Chapingo
Carretera Gómez Palacio, Cd Juárez
Murari Suvedi, Michigan State University

The growth of the Hispanic population in farming and food systems presents new opportunities as well as challenges for agricultural service agencies. This study was conducted in four counties of southwestern Michigan to serve as baseline information when assisting small, minority and disadvantaged farmers. This paper is based on survey data collected through personal interviews with 82 farmers. Findings show that Hispanic farmers manage mainly blueberry farms using family labor and rely on past experience to operate their farms. Hispanic farmers are not a homogeneous group and one extension or education model may not be useful for all the Hispanic farmers. Educational programs focusing on farm management, state and federal regulations, and methods to access help from farm services agencies during the first years of farm ownership are needed. The methods used to disseminate agricultural information and education must be sensitive to Hispanic farmers' characteristics, and could include multimedia such as DVDs, CDs, or MP3 audio.

Keywords: Hispanic farmers, Needs assessments

Agro-ecotourism in Costa Rica: A Participatory Rural Appraisal Case Study

Jessica M. Bagdonis, The Pennsylvania State University
Emily Hand, The Pennsylvania State University
Ginger Larson, The Pennsylvania State University
Melanie Sanborn, The Pennsylvania State University
Thomas H. Bruening, The Pennsylvania State University

In Costa Rica, agro-ecotourism, a merger of ecotourism and agro-tourism, is gaining importance as a viable economic development activity. In this paper, we consider the theoretical frameworks that link agriculture, ecology and tourism. Then we discuss the methods through which we conducted a modified participatory rural appraisal (PRA) of an agro-ecotourist association in the Limon region of Costa Rica. We conclude our paper by making recommendations for further development of the agro-ecotourism association in Costa Rica.

Keywords: Agro-tourism, Participatory Rural Appraisal, Costa Rica, Farmers Networks

A Model for Developing a Well-Prepared Agricultural Workforce in Egypt

R. Kirby Barrick, University of Florida

Mohamed M. Samy, Midwest Universities Consortium for International Activities (MUCIA)

Michael A. Gunderson, University of Florida

Andrew C. Thoron, University of Florida

Agriculture is an important sector of the economy of Egypt. While a system of Agricultural Technical Schools (ATS) is in place in Upper Egypt, there has not been put in place an effort to help ensure that students in those programs are adequately prepared to enter the workforce and be productive. The model that was developed begins with the needs of agricultural business and industry and the perceived preparedness of ATS graduates to enter the workforce. The differences between need and preparedness generate a skill-gap that serves as the basis for curriculum design. Curricular change includes skill development, internships, decision-making and leadership, with input from the external advisory council. Coupled with curricular improvement, the model allows for faculty development to assist ATS instructors in active learning, competency assessment, leadership activities and internship supervision. A train-the-trainer model utilizes agriculture faculty members from Egyptian universities to provide on-going instruction.

Keywords: model development, secondary schools, Egypt, agricultural education, train-the-trainer

Promoting Youth Development in a Territorial Context: The Case of the Yeguaré Region, Honduras

Ivan M. Borja, United Nations Development Program

Kim E. Dooley, Texas A&M University

The purpose of this research was to determine the impacts of the implementation of a territorial model of development in the Yeguaré Region of Honduras. The research question looked to determine the impact of the territorial approach on the youth development of the region. The purpose was achieved through the following research question: (a) What has been the impact of the youth participation, and vocational education for the youth in the Yeguaré Region? This study used mix methods. Quantitative and qualitative methods permitted to gather and analyze different types of data of the project. The quantitative analysis included descriptive and inferential statistics. The qualitative analysis elaborated and expanded the quantitative analysis. Three themes related to the impact of the territorial model of development in the Yeguaré Region emerged during the research. Youth leadership and entrepreneurship, youth expectations and future plans, and occupational status and welfare of the families were the emergent themes for youth development. The contribution of this study to the field of sustainable development was to expand the knowledge about the impacts of a territorial model of development in rural Honduras. Also, policymakers and project stakeholders may use this information to plan, design and implement effective development programs, and may decrease project expenditures, increase income, and benefit the communities.

Keywords: Youth development, Honduras, territorial approach, international development

Using Mobile Technology in an Extension Leadership Development Program

Hannah Carter, University of Florida

Lisa Hightower, University of Florida

Mobile learning is changing the way education is viewed worldwide. This new style of learning, which has already been applied by a number of corporations, may offer similar benefits to adult education programs offered through Extension. Mobile learning may offer Extension a way to extend their

educational reach to adults outside traditional classrooms or lecture halls. One statewide Extension program explored mobile learning within an agricultural leadership program. The program is geared toward opinion leaders in agricultural and natural resources industries in the state, and focuses on 11 face-to-face seminars that occur within the state, around the country, and culminates in an 18-day international seminar. Mobile learning was utilized in this program to increase the participants' educational experiences between these seminars, as well as offer continuing education to those who had graduated from the program. The purpose of the study was to explore the relationship between mobile technology, in the form of iPods, and the professional development experience of participants in this program. The study took a mixed-methods approach. Results of the study found that participants had a "great deal" of comfort with the iPods and listened to podcasts on a variety of topics. The most popular benefits of using the devices were the ability to share information, the mobility of the device, and access to educational content. The value of mobile learning in Extension programming is the ability to take advantage of "learning episodes" and extend Extension programs to individuals who might not otherwise have had the opportunity.

Keywords: Mobile Learning, Technology, Leadership Development, Extension Teaching Methods, Adult Learning

The Impact of Cross-cultural Training Experiences on Malian Journalists Who Report on Agricultural and Environmental Issues: Did Their Views on Job Duties, Media and Ethics Change?

Dwayne Cartmell II, Oklahoma State University

Cindy Blackwell, Oklahoma State University

Shelly Sitton, Oklahoma State University

Craig Edwards, Oklahoma State University

James W. Hynes, Sam Houston State University

Tracy Irani, University of Florida

Mali's transition to a functioning democracy, including a future with national food sufficiency and a sustainable environment, is best served by a free press system. This study provided evidence a cross-cultural professional development program could influence the planned behaviors and subjective norms of Malian journalists. The journalists were mostly males and varied in their professional experiences. Five months post-professional development, the journalists indicated their opportunity to "develop a specialty" was the most important aspect of their job. They perceived the most important function of news media was "to provide analysis and interpretation of complex problems" and "to get information to the public quickly." The participants viewed none of the ethical issues as being more than slightly justifiable. In comparing Malian journalists' views five months after professional development training, the participants placed more importance on salary and, to a lesser extent, fringe benefits post-training. Participants developed a greater appreciation for helping people and developing a specialty, and placed more importance on staying away from stories not supported by factual information. The journalists viewed the role of media in discussing national policy, setting the political agenda and being an adversary of business as more important post-training. The journalists' views of the justifiableness of ethical issues mostly decreased. The most noteworthy decreases were on issues of disclosing rape victim names, paying people for information, and using hidden microphones and cameras. It is recommended similar training experiences should be conducted with other journalists in Mali and in fledgling democracies around the world.

Keywords: Attitudes, Journalists, Mali, Media Ethics

An Evaluation of Selected Technology Tools for Extension Work: Use, Satisfaction, and Practice Change

Gregory A. Davis, The Ohio State University
Graham R. Cochran, Ohio State University Extension
Jerold R. Thomas, Ohio State University Extension

Increased access and use of technology is changing the way Extension professionals connect with each other and with clientele. To learn more about e-learning tools that could be used in training for Extension professionals or teaching, we conducted an evaluation of technology tools used during a training program. Technology tools for communication, project management, course management, creating podcasts, and others were deployed with 40 Extension professionals. Both immediate and follow-up evaluations were used to measure usefulness, use, and how tools were being used. Participants also provided written responses addressing how they were applying technology tools to other areas or their life and work. Tools that facilitated communication, project collaboration, and course management were highly rated. Overall, many (83%) participants appear to have adopted use of at least one of the technology tools and can share specifically how they are using them in Extension work.

Keywords: distance education tools, e-learning, evaluation

Training for Extension Professionals Using Blended e-Learning Tools: A Case Study

Gregory A. Davis, The Ohio State University
Graham R. Cochran, Ohio State University Extension
Jerold R. Thomas, Ohio State University Extension

In this paper, we share our experiences in planning, teaching, and evaluating a program for Extension professionals that was taught using blended e-learning methods of teaching. The authors were involved in a training program for Extension professionals called Blended E-Learning that taught a combination of knowledge economy-related subject matter content and technology content to 40 participants in 2007 and 2008. Immediate post-program and follow-up evaluations were conducted using fixed response and open-ended questions about subject matter content and technology tools. Participants reported significant gains in knowledge, awareness, and ability to share subject matter concepts with others. Furthermore, follow-up evaluations showed that over one half of had adopted use of technology content in their extension teaching or to aid in program and/or curriculum development. Based on our experience and evaluation results, we share recommendations including a need to focus the scope of subject matter content, hold an initial face-to-face orientation, use project work to engage participants, and invest ample planning time as one would with traditional face-to-face instruction. Overall, the program shared in this article serves as a case study for teaching using e-blended learning in a way that has documented impact with learners.

Keywords: distance education, e-learning tools, program evaluation

Assessing the Impact of a Farmer Field Schools Project in East Africa

Kristin Davis, International Food Policy Research Institute
Ephraim Nkonya, International Food Policy Research Institute
Daniel Ayalew, International Food Policy Research Institute
Edward Kato, International Food Policy Research Institute

Farmer field schools (FFS) are a popular education and extension approach worldwide. However, there is limited or conflicting evidence as to their effect on productivity, poverty, and empowerment, especially in East Africa. This study attempts to provide rigorous evidence to policymakers and other stakeholders on

the effectiveness of FFS in reducing poverty and empowering farmers. The researchers examined a FFS project in Kenya, Tanzania, and Uganda. Using a variety of methods, including a household survey, the authors describe participation in FFS and its effects on productivity, empowerment, and poverty. They find that households with younger heads and those who were also members of credit and savings organizations tended to participate in field schools. Female membership was 50%. Reasons for not joining FFS included lack of time and information. Adoption was significantly higher among the FFS farmers for nearly all of the major technologies, with the major technologies being improved crop varieties, soil fertility management, pest control, and livestock management. FFS had a significantly larger impact on crop productivity in Kenya than in Tanzania and Uganda; however, in the latter countries, women farmers' productivity was significantly higher than men's. Regarding poverty, there were differences between the three countries and also between FFS and non-FFS in various poverty indicators. While qualitative data suggest that FFS contribute to empowerment of individual farmers, these differences were not very apparent in the survey results, and more refined means should be used to show such evidence in future.

Keywords: Farmer field schools, impact, East Africa

Setting Agricultural Research Priorities: The Case for the Agricultural Sector in Swaziland

Barnabas M. Dlamini, University of Swaziland,
Marietta Perez-Dlamini, University of Swaziland

The present descriptive study determined the research priorities in Swaziland agricultural sector as perceived by agricultural experts in field crops, horticulture and livestock sectors, and used triangulation of desk review, Nominal Group Technique and a modified Delphi technique. Findings revealed that the priorities from national policies are tied-up with the country's greatest challenge of mitigating the effects of HIV and AIDS on food security, reduction of poverty, and sustainable development. The findings further revealed that forty-three areas in field crops sector needed research. Seven areas in horticulture were considered mostly in need of research. Eleven research areas were considered to be of high priority in the livestock sector. A considerable number of research areas in field crops, horticulture and livestock indicated that the current research system has not adequately addressed research needs, despite the efforts made by the private sector, the University of Swaziland and the Ministry of Agriculture and Cooperatives, for the country to achieve self-sufficiency in food production. From the findings, it was recommended that the research priorities should be used as basis for directing the limited resources in conducting agricultural research. The participation of all stakeholders would facilitate efficient use of resources, to enhance collaboration amongst research institutions. The University of Swaziland should develop research priorities aligned to national policies and objectives to facilitate funding for research by both government and donor agencies.

Keywords: Research priorities, agricultural research, agricultural sector.

Longitudinal Impacts of a Faculty Abroad Program: 1994-2007

Kim E. Dooley, Texas A&M University
Lauren A. Rouse, Texas A&M University

When surveyed, faculty generally believe that study abroad is desirable or essential, that it is important to work with people from different cultural backgrounds, it helps people to function effectively in another culture within their profession, and enhances knowledge of current international issues and affairs (Dooley, Dooley & Carranza, 2008; Towsic, N.D.). Sending faculty to programs abroad can therefore enhance academic potential (Özturgut, 2007). The 10-day Faculty Abroad Seminar (FAS) sponsored through the Office of Mexican and Latin American Programs at Texas A&M University was developed to

contribute to the internationalization of faculty by directly exposing them to the culture, history, government, business, and language of Mexico. The main objective was for faculty participants to incorporate applicable global experiences into their teaching and research programs. The purpose of this study was to determine the longitudinal impacts of the FAS on participants from 1994–2007 in terms of teaching and research collaboration. As faculty participants reflected about their teaching and research impacts, a higher percentage of respondents had teaching impacts compared with research impacts (74 percent and 64 percent, respectively). In describing personal impacts participants' comments supported the belief that the Faculty Abroad Seminar changed them, personally, and professionally.

Keywords: Faculty Abroad, International Experience, Mexico

An Assessment of the Needs of Georgian Secondary Agricultural Educators

Dennis W. Duncan, The University of Georgia

Brian Parr, Auburn University

Jason Peake, University of Georgia

John C. Ricketts, University of Georgia

Jennifer Williams, University of Georgia

Nestan Tsitsishvili, Georgia Institute of Public Affairs

This purpose of this study was to determine the perception of secondary educators involved in Future Farmers of Georgia (FFG) schools throughout the country of Georgia concerning their needs for furthering the existing framework of agricultural education. The researchers used a modified Delphi method to meet the aforementioned purpose of this study. The population for this study consisted of the high school agricultural education teachers and their administrators who were participating in the FFG Program (n=14). The teachers represented seven different school districts. Qualitative data collected from the probe (first round) was used to generate a series of 46 statements. In the second round participants were asked to rank the 46 statements using a five point Likert-type scale. Due to recent events in the Former Republic of Georgia, the third round could not be conducted. Therefore, the researchers concluded that the round two data would be used to meet the purpose and objectives of this study. Participants strongly agreed that the FFG program strengthens leadership skills among their students and students have become more involved in practical/labor activities. They also agreed that gaining knowledge and skills from the FFG program will improve the future development of agricultural education in the country. Participants also strongly agreed that improvement of schools' materials, technology, and equipment are necessary to improve the FFG program. Participants were either neutral or agreed with the following statements: due to the FFG program, academic performance has been increased among students; and students have greater academic success in history and geography.

Keywords: Georgia, Caucasus, Delphi, Needs Assessment

Citation Structure: An Analysis of the Literature Cited in the Journal of International Agricultural and Extension Education from 1997 to 2006

Leslie D. Edgar, University of Arkansas

The Journal of International Agricultural and Extension Education (JIAEE) has been a primary outlet of international agricultural development and education publishing and research dissemination. The purpose of this study was to assess ten-years of JIAEE to determine literature cited. The study used a quantitative content analysis design. Analyzed in this study were 144 research articles published in JIAEE issues I and III, from 1997 through 2006. There were 2,286 cited literature works identified in the journal. The average number of citations per article was approximately 20. Cited works from premier agricultural education journals were tracked for citation frequencies, in terms of author(s) and year of publication. A

total of 234 references were made to premier journals in agricultural education. Citation analysis indicates that JIAEE relies heavily on books published prior to the 1990s. Published articles also cited other journals, and conference proceedings produced within the international agriculture arena. JIAEE does not exhibit compactness, indicating that it reaches past its citation boundaries and into interrelated areas of other disciplines. However, it does exhibit weak self-identity meaning it does little to build upon research previously cited in JIAEE.

Keywords: Journal of International Agricultural and Extension Education, cited literature, content analysis, citationology, interrelatedness to extension, interrelatedness to agricultural education

Strengthening Faculties of Agriculture in Africa through Collaborative Post-Graduate Degree Training by U.S. and African Universities: The HEPAD Experience

J. Mark Erbaugh, The Ohio State University

Eric Crawford, Michigan State University

Ekwamu Adipala, Regional Universities Forum for Capacity Building in Agriculture

From the 1960s through the 1980s, U.S. universities, foundations, and the U.S. Agency for International Development (USAID) provided major support for higher education institution building and post-graduate degree training. Commitment to these programs largely disappeared during the 1990s. Signs of renewed commitment have appeared within the last five years, but many donors are seeking more effective and less costly capacity building and training models before launching major new investments. This paper draws insights for improved post-graduate training models from a project implemented by a partnership of two U.S. and three East African universities, called “Higher Education Partnerships for African Development (HEPAD): Long-term Training for Regional Agricultural Development in East Africa: Kenya, Tanzania, and Uganda.” The project was funded by the U.S. Agency for International Development from 2005-2008 as one of three pilot projects designed to provide guidance for an intended major program of USAID reinvestment in strengthening African universities, particularly Faculties of Agriculture. An important goal of the project was to identify ways of improving the cost-effectiveness of post-graduate training of African agricultural scientists, and the relevance of that training to national development goals. The paper summarizes issues, challenges, and lessons learned from this project. The contributions of the “sandwich program” training design and other program features to training effectiveness and cost savings are presented. Recommendations are made for improvements in long-term training design, faculty development, and project management.

Keywords: Agricultural Education and Training (AET), university partnerships, long-term degree training, capacity building, sandwich degree training

An Examination of Customer Satisfaction in the GGAVATT Program in Veracruz, Mexico

Sebastian Galindo-Gonzalez, University of Florida

Glenn D. Israel, University of Florida

The GGAVATT (Livestock Groups for Technology Validation and Transference) is a technology transfer program for livestock producers developed in Veracruz in the early 1980s. In this program, neighboring farmers were organized into groups of a minimum of 10 participants to receive technical advice from a research institution through a group advisor. The purpose of this study is to investigate the satisfaction of the GGAVATT participants in Veracruz, Mexico. Data were collected from 406 group participants and 38 group advisors during the spring of 2007 on: (a) the overall satisfaction with the GGAVATT program, (b) the quality of the experience with different elements of the program, (c) the demographic attributes of the respondents, (d) the demographic attributes of the group advisors, and (e) the economic performance of the group. The study showed that participants' satisfaction with advisors, group interaction, and the

overall GGAVATT program was quite high and comparable to levels observed for extension clients in the US. Although participants' satisfaction with advisors and group interaction was quite high, there were significant differences associated with client and advisor attributes that are important to consider in order to maximize the quality and impact of extension programs. The results from this study suggest that advisors with another job may need to receive special training to help them increase the effectiveness of their delivery methods and conflict resolution skills.

Keywords: customer satisfaction, group extension, GGAVATT, homophily.

Participatory Agricultural Development in Nepal: Discrepancies between Policies, Views and Experiences

Nav R. Ghimire, Iowa State University

R. John Petheram, The University of Melbourne

John M. Perkins, The University of Melbourne

The objective of this study was to understand the government's aims in promoting farmer participation in agricultural development in Nepal, and to explore the experiences of farmers in a Sustainable Soil Management Program. Focus group discussions and in-depth interviews were held with farmers, policy makers, and extension staff to collect mainly qualitative data. Data were also collected on the stated aims of farmer participation from government policy and program documents and from staff and officials. Findings suggest large difference between the official aims of farmer participation stated in national policy documents, interpretations in government's program documents, views by extension staff and the experiences of farmers. Government policy stresses close coordination among research, extension and farmers but in practice farmers' needs and priorities were not considered in program design. Extension staff directed farmer participation in the program mainly to generate the data for program reporting, while farmers often participated mainly for the 'incentives' offered. These results point to a need for stronger interaction and coordination between national policy makers, participatory practitioners, and farmers on setting the aims and type of participation in agricultural development, and in evaluating their achievement. Emphasis should be given to approaches based on co-learning between extension and farmers, to ensure that interventions developed are appropriate to farmers' needs and resources. The finding that national policies on farmer involvement in development programs are not followed in program implementation suggests a serious need for awareness training and incentives systems for extension staff.

Keywords: participation, coordination, program evaluation, incentives, co-learning

Farmer Field School Completers', Non-Completers', and Non-Participants' Perceptions of Integrated Pest Management: The Case of Trinidad and Tobago

Samuel Goff, Texas A&M University

James R. Lindner, Texas A&M University

David Dolly, University of the West Indies

The Farmer Field School (FFS) approach to agricultural extension and education was designed to enable farmers to engage in decision-making processes on the ecology of their own fields. Since 2002, the Trinidad and Tobago Ministry of Agriculture Lands and Marine Resources has conducted FFSs focused on building farmers' capacities for employing integrated pest management (IPM) practices, thus enabling them to discontinue dependency on pesticides as the primary pest-control measure. The purpose of the study is to identify and analyze 1) the relationship between participation status (i.e., completion, non-completion, or non-participation) and selected socio-demographic characteristics, and 2) the relationship between participation status and perceptions regarding the use of pesticides, their willingness to take on

the financial risk of adopting new farming methods, and the compatibility of IPM with local agricultural practices. The sample population (N=109) consisted of farmers classified as FFS completers (n=56), non-completers (n=15), and non-participants (n=38) from five FFSs in Trinidad.

FFS completers possessed a greater concern for the environment than did non-completers and non-participants, are more likely than non-completers to be willing to take on the financial risks involved in the adoption of IPM on their farms, and believed more strongly than did non-completers that IPM is compatible with agricultural practices and the market in Trinidad and Tobago. With the results of the study, MALMR may employ strategies that impair or eliminate the factors leading to non-completion and non-participation, thus making FFS more accessible, increase participation, and enable more farmers to benefit from an agro-ecological approach to farming.

Keywords: pesticide agro-ecosystems analysis non-formal education

Service-learning Benefits Gained by Agricultural Students in Costa Rica: A Case Study

Wilmara Corrêa Harder, Tarleton State University

Thomas H. Bruening, The Pennsylvania State University

Sandra Graham, Tarleton State University

David Drueckhammer, Tarleton State University

The purpose of the study was to determine the benefits of engaging agricultural students on a service-learning program in Costa Rica. This study used qualitative methodology to collect and analyze data. The context of this study was an upper-level undergraduate course that evolved five-week in-class preparation and a twelve-day study abroad service-learning project in Costa Rica. A new partnership emerged between The Agroecotourism Association of La Argentina de Pocora, Tarleton State University, and EARTH University. Six students participated in the program and they wrote in total 72 journals. Upon returning to the U.S. students developed a website for the Agroecotourism Association of La Argentina de Pocora. An open coding process was used to recognize patterns and themes on students' journals. Three independent reviewers read each journal and the content were categorized. Students gained knowledge, fulfillment, and gratitude from participating in the service-learning program. Students also gained knowledge regarding tropical agricultural, sustainable production, and organic foods. Short-term study abroad programs that have service-learning components help students acquire cultural awareness and gain greater worldviews. Service-learning within the international agricultural context is not widely studied and accomplished. This study abroad program was a unique teaching and learning experience that could be used as example by many other educators across the nation. However, results from this case study could not be generalized. Programs like this could be used to promote in-depth learning opportunities and engage students in meaningful activities that will help them make the transition from academics to communities.

Keywords: Service-learning, study abroad, agricultural students, journals, and international development

Internationalizing Plant Protection through Extension: The International Plant Diagnostic Network

Carrie Lapaire Harmon, University of Florida

Pete Vergot, University of Florida

J. Xin, University of Florida

T. Momol, University of Florida

S. Miller, The Ohio State University

Global tourism and industrial trade are unwitting partners in the movement of exotic and invasive plant pests and pathogens. Coupled with natural movement by wind and storms, these factors are increasing the transfer plant pests and impacting agricultural operations around the world. It is important to develop

plans for protecting agriculture through early detection and accurate diagnosis of new plant pests arriving in our ports or becoming established in our ecosystems. The National Plant Diagnostic Network (NPDN) was developed in the U.S. in 2002, and has been used as a model in the development of other international networks of plant protection partners. The International Plant Diagnostic Network (IPDN) is a growing linkage of such partners in Central and South America, the Caribbean, Africa, and Eastern Europe. Important objectives of each of these two networks include training for diagnosticians, development and exchange of diagnostic and communications Standard Operating Procedures (SOPs), and use of Laboratory Information Management Systems (LIMS) to track samples and connect experts and diagnosticians around the world. The development and use of standard operating procedures (SOPs) for techniques and communication encourages trust between entities and allows for scientifically-based trade decisions. Many of these efforts are utilizing established connections with university and regulatory specialists, extension faculty, and producers. Rather than reinventing the wheel, the diagnostic networks aim to increase the number and quality of plant protection tools available for use within the existing Extension system.

Keywords: Agriculture, Detection, Diagnosis, Exotic, Protection

Participatory Innovation Development and Extension in Ethiopia: A Case Study

Marta Hartmann, University of Florida

This paper describes a case study of the implementation of the process of participatory innovation development (PID) in Ethiopia. PID is an unconventional method to agricultural Extension and research efforts. It is an approach that promotes an engagement in a process that strengthens the capacities of agricultural services to support community-lead initiatives. This method is based on local innovation, social learning, and farmer-led experimentation. In this case study fieldworkers examined the creation of the Bedasa Grain Bank as a socio-economic local innovation. The researchers assessed the potential for participatory innovation development; i.e., Extension training and collaborative research. Through the use of participatory tools farmers, members of the Bank, identified strengths and challenges in scaling up their innovation; and developed a plan to investigate marketing and other training possibilities for capacity building. Although this study describes a context-specific case, the wider sharing of innovations discovered and developed by promoting local innovation provide ideas and inspiration for local experimentation elsewhere, so that new ideas can be adapted to other settings.

Keywords: Agricultural Development, Extension, Local Innovation, Participatory Approaches, Rural Development.

Using Modernized Relic Technology to Better Enable Sustainable Agricultural Practices in Developing Countries: A Philosophical and Practical Reorientation for Mali's Farmers

James W. Hynes, Sam Houston State University

M. Craig Edwards, Oklahoma State University

Theresa Pesi Murphrey, Texas A&M University

Sustainable agriculture is important because it is a vital business component practiced by forward-thinking entrepreneurs (Geraci, 2004), including smallholder farmers and the industries that complement their work. Accordingly, the purpose of this paper is to share how the use of scale appropriate, relic agricultural technology may offer a viable approach for improving or further developing sustainable agricultural practices in a country with limited resources such as Mali. By using existing animal husbandry skills combined with education to use innovative relic technology, animal powered farm equipment, Malians can achieve an increase in food production, meaningful cottage industry development, and maintain their existing rural society. The approach shared is critical for a country that

has essentially no oil resources and limited funds. The authors propose introducing low cost technology to provide sustainable food production and drive the creation of complementary businesses. The long-term sustainable outcome would be stacked-entrepreneurial enterprises (McDonald, 2008) built on serving the agricultural and related employment needs of Mali's rural villages.

Keywords: agricultural education, relic technology, sustainable agriculture

Selected Factors Affecting the Performance of Women's Self-Help Groups in Western Kenya

Billy A. Jivetti, University of Missouri-Columbia

M. Craig Edwards, Oklahoma State University

Women frequently encounter greater limitations and fewer opportunities than men, especially in regards to income-generating activities. They may face social and economic constraints that perpetuates poverty and spans generations. However, significant opportunities exist in the informal, small-scale enterprise sector for which women may be advantaged. Community groups are popular institutions in Kenya's rural areas; groups help provide services that the government may have failed to deliver. So, it is important to examine such affiliations as they may promote sustainable, local development. The purpose of this study was to describe selected factors affecting the performance of women who belonged to self-help groups in the Shaviringa Location, Vihiga District of Western Kenya. Semi-structured, focus group interviews were used to collect data from 11 groups, including 64 women. Factors that the groups' perceived affected their performance included issues related to marketing, transport of goods produced, lack of motivations (intrinsic and extrinsic), general group governance, management, and leadership. Most women's self-help groups were involved in entrepreneurial activities including some form of business ventures. However, it is recommended that the women's self-help groups be provided training in the development of business plans and guidance about how best to avoid redundancy or undue duplication of income-generating projects and activities.

Keywords: Education, Kenya, Poverty, Women's Groups

Communicating Agricultural and Health-Related Information in Low Literacy Communities: A Case Study of Villagers Served by the Bougoula Commune in Mali

Assa Kanté, Oklahoma State University

Florence Dunkel, Montana State University

Ashley Williams, University of Missoula

Sam Magro, Montana State University

Haoua Traoré, Peace Corps

Abdoulaye Camara, Institut D'Economie Rurale

When villagers in Bougoula Commune in Mali were asked to rank their preference for receiving information about problems related to water, new technologies and communications (NTCs) and mass-media channels ranked the lowest. The respondents preferred interpersonal communication channels with the chief of the village followed by meetings, Extension agents and peer farmers, which were rated equally. Both genders seemed equally concerned about disease ranking malaria as the highest concern. The study showed gender differences, however, with regard to water-related infrastructure issues. Males were more interested in dams, wells, and bridges. Females were interested in issues that affected their traditional and daily duties, such as water pumps, access to water, and pollution by pesticides. Thus, issues may need to be addressed separately, according to gender. Careful attention also needs to be paid to the channels through which the educational information is sent. The authors recommend the

empowerment of opinion leaders to transmit appropriate information effectively to villagers because of referent power and their influence within their homophilic groups.

Keywords: low literacy; Mali; participatory assessment.

The Use of Micro-grants to Mitigate Gender Inequity in Afghanistan by Empowering Rural Farmers and Agribusiness Entrepreneurs

Timothy Kock, Oklahoma State University

Shyenne Krysher, Oklahoma State University

M. Craig Edwards, Oklahoma State University

Gender inequality is a worldwide problem; Afghanistan is no different. Women account for 60% of the population and are the primary agricultural producers and caregivers for their families. However, they are usually the last to receive developmental aid. To increase long-term sustainability in developing countries, NGOs need to design projects that benefit women. This qualitative study describes the outcomes of a micro-grant program targeting Afghan women but also included males. The grant recipients were empowered to increase family incomes, send their children to school, and support community development projects. These were positive indicators of social change in Afghanistan and may represent outcomes with applicability in other developing countries facing similar challenges.

Keywords: Afghanistan, Entrepreneurs, Gender Equity, Micro-grants

International Implications for Focusing Research in Career and Technical Training and Workforce Development

Jeanea M. Lambeth, Phoenix Union High School District

Theresa Pesi Murphrey, Texas A & M University

Jack Elliot, Texas A & M University

Richard M. Joerger, Minnesota Colleges and Universities

Education and educational research is shaped by philosophy, psychology, and ever changing educational policies. Previous studies have expressed a need for relevant and focused research for agricultural education, career and technical education, workforce development education, and internationally, vocational education. A need for a relevant and timely research agenda exists for the field of career and technical education. The problem is that it is not known what these research foci should be, or if known, whether or not there is consensus within the profession. Obtaining such insight underlies the primary purpose of this study which was to gather opinions of nationally dispersed experts and identify common research topics through a consensus-building process. A mixed methodology was utilized in the study through the use of the Delphi technique (Linstone & Turoff, 2007). This method utilized a process of six iterations of instruments conducted during 2007 and 2008, using a panel of identified experts with knowledge and understanding of the issue or issues being studied. Based on the findings from this study, two models were developed to depict the National Career and Technical Education Research Agenda. The educational importance of this study is grounded in the fact that focused research in career and technical education and international vocational education will allow future planning and funding of research that can be relevant across the profession. Based upon the opinions of the expert panel, a sustained effort for research should be made by scholars in collaboration with national and international associations and organizations.

Keywords: workforce development; career & technical education, vocational education; training; research agenda

Reflective Writing in Study Abroad Programs: Hunting a Story in South Africa

Ginger Larson, The Pennsylvania State University
Thomas H. Bruening, The Pennsylvania State University
Jacklyn A. Bruce, The Pennsylvania State University

Universities are challenged to effectively prepare students to enter a global workforce equipped with the knowledge and communication skills to perform in an interdependent world. Short-term study abroad programs have shown the highest increase in participants, but strategic methods must be explored in order to make the most use of such little immersion time abroad. One such method is reflective writing. During a short-term study abroad course in South Africa, eight students kept reflective journals. This qualitative study used purposive sampling to gain greater insight into the thinking and meaning-making students conducted while studying abroad. Research objectives examined students' self-awareness in the global community, changes in cultural paradigms, and desire to prescribe and become a part of solutions. Reflective writing proved to be a valuable educational tool to solidify learning and engage students in an international setting while permanently capturing student observations and emotions.

Keywords: reflective writing, study abroad, perspectives, self-awareness, experiential learning

Lessons Learned from a Camp Health Aide Safety Program for Farm Workers

Diane Mashburn, University of Florida
Paul Monaghan, University of Florida
Amy Harder, University of Florida
Glenn Israel, University of Florida
Tracy Irani, University of Florida

Migrant farm workers face a disproportionate risk of injury on the job. This study looked at the risks faced by citrus harvesters in Florida and developed an intervention to reduce the most common injuries by promoting the use of safety eyewear. Using two methodologies, community-based social marketing and camp health aides (CHAs), the project developed a curriculum and safety intervention that changed the behavior of migrant workers. In 2007, the intervention was evaluated for effectiveness and to better understand the factors that influenced worker acceptance of new safety technology. Citrus harvesting crews that had a CHA promoting the use of safety glasses had higher use rates and the activities of the CHA were found to influence the decision of workers. The age of citrus workers was also significant, suggesting that future interventions should develop targeted programs aimed at distinct groups. The results have significance for Extension programs that seek to improve safety of agricultural labor and also those wishing to utilize social marketing methodologies or camp health aides in innovative ways.

Keywords: social marketing, camp health aides, behavior change, farm workers, evaluation

Extension's Role in Organizing Producer Groups: a Case Study from Orissa, India

Sanat Mishra, Orissa Community Tank Management Project
Burton E. Swanson, University of Illinois

This paper outlines the procedures and outcomes of a new extension model in India that sought to organize producer and self-help groups within four districts in the State of Orissa. This new program activity was carried out as part of an overall decentralized, farmer-led, market-driven extension model that was pilot-tested as part of the Innovations in Technology Dissemination (ITD) component of National Agriculture Technology Project (NATP) funded by the World Bank during 1998-2005. First,

this new extension model sought to integrate research and extension activities in each participating district through a new Agriculture Technology Management Agency (ATMA). Second, each ATMA worked to integrate the efforts of the district extension system, local non-governmental organizations (NGOs) and farm leaders to collaborate together in forming different types of Farmer Interest Groups (FIGs) and women's Self Help Groups (SHGs) across each district. The primary goal was to enable these farmer groups to pursue appropriate high-value crop, livestock or other enterprises that would increase farm household income. The procedures used to organize these groups are outlined in this paper. Once organized, these FIGs and SHGs became involved in the extension program planning process through the ATMA Governing Boards at the district level and Farmer Advisory Committees established at the block or subdistrict level. The purpose was to identify key problems and priorities among these different farmer groups. As a result of this new extension strategy, nearly 1,400 producer groups were organized in five years across these four project districts.

Keywords: farmer organizations, bottom-up extension, rural livelihoods

The Impact of Technologies Diffused by the Tikonko Agricultural Extension Centre (TAEC) on Farmers of the Tikonko Chiefdom in Sierra Leone

Samba Moriba, Oklahoma State University

Joseph B. A. Kandeh, Njala University

M. Craig Edwards, Oklahoma State University

Sierra Leone is a west African nation with about two-thirds of its population engaged in agriculture but it cannot feed itself. Agricultural activities were disrupted in Sierra Leone by a decade-long Civil War that created a great need for improved farming technologies. The Tikonko Agricultural Extension Centre (TAEC) operates in the Tikonko Chiefdom to assist local farmers in improving food production through the fabrication and repair of farm tools to be adopted and used by farmers. This study was conducted to investigate the impacts of TAEC's technologies on farmers and their communities in the Tikonko Chiefdom. The target population consisted of 318 farmers who used TAEC's technologies; the list of farmers was obtained from the Centre. A sample for the study ($n = 74$) was obtained through simple random sampling using a table of random numbers. A structured survey questionnaire was completed through one-on-one, oral interviews of farmers; 23.3% of the target population was interviewed. A majority of the farmers interviewed agreed that they readily adopted and used TAEC's technologies. Moreover, most farmers strongly agreed that their introduction to and subsequent adoption of TAEC's technologies had considerable impact on their farming practices and communities. The relevance of TAEC's technologies to farmers in Tikonko Chiefdom was evident. Providing appropriate technologies that can be adopted by low income farmers stands to increase their productivity and self-reliance while improving their nations' food security. It is undeniable that technologies contributing to food sufficiency and alleviating poverty are needed throughout much of the developing world.

Keywords: Farming; Sierra Leone; Technological Innovations

Perceptions and Assessments of Armenian University Faculty Members Who Participated in a Professional Development Seminar in 2007

Brian Parr, Auburn University
Jason B. Peake, University of Georgia
Dennis W. Duncan, University of Georgia
Maria Navarro, University of Georgia
Glen Shinn, Texas A&M University

The Armenian State Agrarian University (ASAU) is one of the largest of the twenty state funded higher education institutions in the country. ASAU administrators have recently focused their efforts toward aligning the ASAU with the standards set forth in the Bologna Process. In 2006, ASAU partnered with the United States Department of Agriculture Foreign Agricultural Service and Texas A&M University to implement the Agricultural Education Reforms Initiative (AERI) to initiate an educational reform process and help prepare the university to be accredited by the European Union. Consequently, professional development seminars were designed and delivered to ASAU faculty by faculty members from a land-grant university in the USA. The participants attended a seven-day professional development seminar on teaching and learning methods in April 2007. When questioned about the change of quality of education in Armenia since 1991, the participants' answers varied from "much worse" (22.2%) to "somewhat improved" (72.2%). Faculty members were optimistic about the future of agricultural education in Armenia; over 50% indicated that they thought that agricultural education would improve during the next five years. Topics that the participants indicated held the greatest importance to their professional development included "Utilizing the Problem-Solving Method of Teaching and Learning," and "Characteristics of Effective Teachers." Participants also believed they held the highest ability to implement principles related to the following topics: "Utilizing the Problem-Solving Method of Teaching and Learning", and "Contextual Learning". This study provides data that will be helpful for providers of future collaborative professional development to provide effective programming.

Keywords: Armenia, Faculty Development, Bologna Process

Identify Key Components and their Value in Development of an Effective Chinese Business by United States Agricultural Companies: A Delphi Study

Jiajiang Peng, Purdue University
Roger Tormoehlen, Purdue University
B. Allen Talbert, Purdue University
Mark Russell, Purdue University

The purpose of this study was to identify key components and their importance in development of an effective China business by U.S. agricultural companies. This study utilized the Delphi techniques and three rounds were conducted. A group of 37 professionals completed the first round with 34 of the original 37 professionals completing the second and third rounds. The panel generated 63 key components that U.S. agricultural companies should consider when entering the Chinese market. Of the 63 key components, the panel rated 11 to be essential, 44 to be very important, and eight to be moderately important. Furthermore, the 63 key components were grouped into nine groups: ethics and trust, language and culture, Chinese market, political and economic climate in China, product advantages and customer service, human resource and labor, networks and partnerships in China, Chinese business practices, and legal counsel and intellectual property in China. The value of the ethics and trust group is greater ($p < 0.05$) than the other eight groups with the ethics and trust group considered to be essential, while the other eight groups were considered very important. In conclusion, the key components generated in this study were all important and have significant value and therefore should be included in an educational training program targeted at U.S. agricultural companies wishing to successfully develop a China business.

Keywords: Key component, Value, Educational program, Business development, China

An Exploratory Investigation of the Influence of Donated English-language Books Upon the Reading Fluency Scores of Students From Rural Tanzania

Patrick Plonski, University of Minnesota

Richard M. Joerger, Minnesota State Colleges and Universities

An enormous shortage of text and library books exists throughout Africa. Accordingly, millions of donated text and library books have been shipped by a number of non-profit organizations over the past 20 years to Africa through funding provided by public, private, and government organizations. While some research shows that books increase student literacy rates, inconclusive data is available regarding the impact of donated English-language textbooks upon student achievement. This study examined the influence of donated English-language text and library books from the United States upon Tanzanian tenth grade student reading fluency scores. A mixed methods research model was used in a comparative case study in four schools in the Dodoma/Singida region of Central Tanzania, East Africa. Results showed students experienced increased English-language reading fluency scores when provided with books. In addition, the interview data revealed that teachers and administrators believed donated English-language books did not do cultural harm and served to improve student educational capacity. It was concluded that while this was an initial study, the findings may serve as one source of information to justify book donation programs in the developing world and that additional research with other students from Tanzania and other developing countries is warranted.

Keywords: Africa, education, development, literacy, reading

Using Group Facilitation Skills to Provide Training for Extension Modernization

John Preissing, University of Wisconsin Extension

Tom Cadwallader, University of Wisconsin Extension

Arlen Albrecht, University of Wisconsin Extension

Modernizing an extension service means more than incorporating in new technologies in the distribution of information and educational programs. Extension services are often faced with the challenge of serving a wider array of client and community needs as they struggle to balance local resources with global demands for both raw commodities and niche products while they are under increasing pressure to downsize. An effective modern extension service needs access to the latest research information and educational technologies but those resources are of little value if they don't meet the unique needs of the people and communities they serve. A modern extension service must also be skilled in human development and group process skills that uncover the unique needs for those they serve and build the capacity within them to sustainably meet their needs. This paper describes how a team of faculty members from the University of Wisconsin Cooperative Extension Service engaged the Guyana Ministry of Agriculture Extension Service in successfully incorporating those capacity building skills in their modernization effort through a combination of formal workshops and modeling group process skills in two agricultural communities.

Keywords: Facilitation skills, extension exchange programs, Group process skills,

A Brain-Based, Experiential Learning Framework to Guide International Experiences

T. Grady Roberts, University of Florida

B. Lynn Jones, Iowa State University

The purpose of this article is to create a theoretically-based experiential framework for international experiences based on cognitive science. Such a framework will help agricultural and extension educators

facilitate learning activities before, during, and after an international experience that have positive cognitive and affective impacts on students. The framework was developed through content analysis and synthesis of learning theory and cognitive science literature. It was concluded that cognitive science and contemporary learning theory provide a solid framework to help agricultural and extension educators facilitate learning before, during, and after an international experience. A model was developed to guide educators through his process. Before an experience, it was concluded that educators should focus on reflection. The authors also concluded that during an experience educators should implement activities for learner reflection. Finally, it was concluded that after an international experience educators should also facilitate reflection activities.

Keywords: cognitive science; experiential learning; international experiences; reflection;

A Case Study on Utilizing Cacao-based Agroforestry Systems to Replace Low Productivity Crops on Hillsides in Honduras

Jesús Sanchez, Honduran Agricultural Research Foundation
Aroldo Dubon, Honduran Agricultural Research Foundation
Don Breazeale, Honduran Agricultural Research Foundation

The purpose of this paper was to describe the methodology followed by the Honduran Agricultural Research Foundation (FHIA) when implementing an income generating project that improved the quality of life of 445 poor, rural producers (including 95 women) of the hillside and piedmont areas of the Honduran north coast and at the same time protected and maintained the natural resource base of the area. As a result of these programming efforts, a total of 2,450 rural family members now have increased their yearly incomes from an average of \$400 / hectare to approximately US\$2,500 per hectare utilizing perennial crops alone. Through the introduction of new cacao plantings coupled with other high-value commodities such as plantains, tropical fruits and fast-growing tropical woods, the risks inherent in hillside farming were spread out over more enterprises. These new plantings in most cases only took up about one-half of the land area for a family; therefore, they still had ample room to produce their own basic commodities for home consumption. In addition, through the introduction of high-value perennial crops and the removal or restriction of grazing to more appropriate areas, producers had very little need to continue using slash and burn practices. Finally, the improved environmental conditions on their lands have greatly reduced rain-caused erosion, improved air and water quality, protected remaining forests and provided for reforestation efforts. Important lessons learned were also described in order that other organizations might be able to replicate these positive results.

Keywords: cacao, agroforestry, deforestation, income generation, sustainability

Post-Conflict Agricultural Development: Lessons Learned in Eight Provinces in Iraq

Glen C. Shinn, Texas A&M University
Gary E. Briers, Texas A&M University

Applications of rapid rural appraisal and needs assessment strategies in a post-conflict environment in central Iraq are the foci of this paper. The project objectives evolved into a systems approach using qualitative and quantitative methods to improve agricultural practice, extension and training, community development, security, and policies for governance. The design called for a case study and a description of pre-deployment activities of an assessment team, initial organization and adjustments, and techniques for internal and external communication. Particular attention was given to agricultural specialties, crosscutting constructs, and data collection and analysis protocols in eight provinces in Iraq from May-December, 2008. Findings focus on 13 agricultural specialties: agricultural business, agricultural economics and market development, agricultural engineering and farm machinery, aquaculture, crop

production and management, extension education, higher agricultural education and vocational-technical education, horticulture and cold chain, livestock production and animal health, organizational management and leadership, soil fertility and reclamation, water and irrigation systems, and youth development. The protocol identified 11 crosscutting constructs: cooperation, economic competitiveness, education and training, environmental stewardship, future view, governance, health and wellness, land tenure, receptivity to change, security, and sustainability. We concluded that engagement is essential; process is important—more important than one may think!; and reflection is not simply additive; it is exponential and synergistic. Nine lessons learned have implication for best development practice. Practical implications point to strategies that transform from kinetic action to development practice. The experience describes critical roles of agricultural and extension education as a conduit from conflict to a civil society.

Keywords: agricultural development; education, extension; post conflict; rapid rural appraisal, assessment, smallholder farmer

Post-War Education of Small Ruminant Farmers of the Bekaa Valley, Lebanon

Justen O. Smith, Utah State University

Lebanon is an ancient, Middle Eastern country bordered by the Mediterranean Sea, Israel, and Syria. The Bekaa Valley of Lebanon is mountainous and suited to small ruminant production. The 2006 war between Lebanon and Israel left small ruminant producers of the Bekaa Valley in a difficult economic situation. The United States Agency for International Development (USAID) as part of an aid package to Lebanon, provided technical and financial assistance to livestock producers in the Bekaa Valley. The Bekaa Valley was chosen because this area is a stronghold of the Hezbollah organization and was subsequently heavily bombed by Israel. During the years of 2007 and 2008, the author was recruited by USAID to provide technical assistance, in partnership with Lebanese agricultural specialists, specifically to small ruminant producers of the Bekaa Valley and southern regions of Lebanon. The major objectives of this assignment were two-fold: (1) to assess weaknesses and strengths related to the small ruminant milk supply chain; and (2) provide hands-on targeted technical assistance based on these evaluations, primarily at the producer level, on flock management, animal health, and improved milk production and quality. As result of this assignment over 250 producers received technical assistance on a number of issues in the form of either individual consultations or workshops. Weaknesses in the dairy supply chain such as low milk prices and poor disease management were identified. Castration was also introduced as a tool for managing market sheep and goats.

Keywords: Small ruminants, dairy, war, education, development

Factors Affecting the Global Mindedness of Extension Agents: Implications for Building Global Awareness of Extension Agents

Daniel Smith, North Carolina State University

Gary Moore, North Carolina State University

K.S.U. Jayaratne, North Carolina State University

Mark Kistler, North Carolina State University

David Smith, North Carolina State University

Because of the profound effect that globalization has on our society the Cooperative Extension Service of the United States has been challenged to develop programs that help people deal with these changes. The purpose of this study was to determine the level of global mindedness among Extension agents in North Carolina and to identify the factors affecting their global mindedness. This study found that the typical Extension agent from North Carolina has a moderate to high level of global mindedness on this scale.

This study found that the level of Extension agents' global mindedness varies with their age, levels of education, gender and programming area of job responsibility. This study revealed that Extension agents with international experience have a higher level of global mindedness and the agents who have participated in programs such as the Peace Corps and study abroad were more globally minded. This study found a weak positive relationship between the length of time Extension agents have spent abroad and their global mindedness. This study is significant because it describes how to determine the global mindedness of Extension agents and identify the factors affecting their global mindedness.

Keywords: Extension globalization, international experience, global mindedness, professional development

Motivations and Reasons for Participation: Professional Development Study-Tour to Mexico

Jessie Snaza, Purdue University

B. Allen Talbert, Purdue University

Janet S. Ayres, Purdue University

Mark A. Balschweid, University of Nebraska

Susan Tharp, Purdue University

In late February and early March of 2007 a group of Purdue University Cooperative Extension Service Educators and community partners from counties across Indiana participated in a nine-day cultural immersion trip to Mexico titled "Experience: The Culture of Mexico." Through the collection of data from qualitative interviews, the study aimed to identify the role that a short-term international immersion experience could play as a professional development tool. This paper looked at what participants identified as the motivations and reasons they chose to participate. The findings identified that many participants shared motivations for choosing to participate. Seven motivational themes emerged. It is recommended that participant motivations be used to guide the program planning process for international experience programs. It is suggested that participant motivations be a tool for selecting whether the participant attends the program.

Keywords: international extension, andragogy, professional development

Developing a Collaborative Evaluation Toolkit to Work with Extension Audiences: Economic Development and Carteret Catch

Rita O'Sullivan, University of North Carolina

John M. O'Sullivan, North Carolina A & T State University

This project used collaborative evaluation techniques to develop a model for delivering technical assistance to small-scale enterprises in North Carolina. Collaborative evaluation engages key stakeholders at all stages of the evaluation process to enhance their capacity to make data driven decisions. It has been successfully applied to a variety of programs, spanning education, social services, government, and agriculture. The project applied this evaluation approach to meet the marketing evaluation needs of an emerging Eastern North Carolina Local Seafood Promotion Organization, "Carteret Catch," During the project, three surveys were developed and conducted to assess interest in locally caught seafood among consumers, restaurants, and retailers. The surveys and the methodologies to gather the information emerged in the course of the project through consultation with stakeholders. From this project it is proposed that an evaluation toolkit be developed, with a mind to developing a model that could serve as the basis for a curriculum to promote economic development for extension programs to serve other small-scale enterprises in the state.

Keywords: evaluation, survey development, marketing surveys

**Impacts of Sustainable Agriculture Research and Education Grant Program:
Case of North Central Region SARE Program**

Murari Suvedi, Michigan State University
Susan Smalley, Michigan State University

Accelerating global trends make it increasingly clear that agriculture must become more sustainable to support human survival. The USDA's Sustainable Agriculture Research and Education (SARE) program has for two decades provided grants to increase agricultural sustainability. This paper summarizes survey methodology and results for SARE grant recipients, farmers and ranchers involved in the North Central Region's (NCR) SARE major granting program between 1988 and 2004. Seeking to determine quantifiable impacts of grant-funded projects, results explore: who was involved in conducting the projects; impacts articulated by project leaders and farmer/rancher participants; project spin-offs; instructional materials developed and how information was disseminated; how and to what extent other farmers and ranchers were reached with project results; levels of satisfaction with SARE management practices; changes that project leaders suggest for NCR-SARE.

Keywords: sustainable agriculture, research education grant program, impacts

**Indian Country and County Extension:
A Comparison of Programs in the University of Arizona Cooperative Extension System**

Sabrina Tuttle, University of Arizona
Abigail Dambeck, University of Arizona
Melvina Adolf, University of Arizona
Linda Masters, University of Arizona
Matt Livingston, University of Arizona
Terry Hunt Crowley, University of Arizona

In the United States, extension service to states and counties manifests a century long tradition where clientele and communities comprehend the role of extension and support it culturally and economically. In contrast, extension on U.S. American Indian Reservations has often been erratic or even nonexistent. Although scientific research comparing Indian Country Extension and County Extension is scarce, anecdotal evidence suggests that there may be significant differences in how a program must be prepared and presented in order for it to be successful and accepted and by an American Indian audience. A qualitative study conducted on five Indian Reservations within the Arizona/New Mexico region looks at distinct cultural, historical, and geographic characteristics, including differences in tradition and culture, learning styles, health, and politics. Each of these characteristics and differences may influence the acceptance and success of traditional extension programming efforts on U.S. American Indian reservations.

Keywords: Indian country extension, county extension, cultural learning styles

Internationalizing University of Florida IFAS Extension - Developing and Implementing an Innovative Horticulture Extension Program in Costa Rica

Pete Vergot III, University of Florida
B. K. Singh, EARTH University
Dan Culbert, University of Florida
Larry Halsey, University of Florida
Adrian Hunsberger, University of Florida
Linda Seals, University of Florida
Henry Mayer, University of Florida
David Marshall, University of Florida
Alex Bolques, A & M University

University of Florida Extension and EARTH University faculty developed and delivered their first training program for landscape management in Costa Rica. EARTH University's new LaFlor Campus near the Pacific coast area is similar to Florida in that the region is experiencing rapid growth in tourism development. Stresses of growth, decreased water quality and quantity, and misuse of horticultural chemicals impact the local economy and environment. Extension faculty sought to provide informal training for landscapers, ornamental producers and homeowners. Two concurrent seven-week multidisciplinary educational programs were presented in early 2008. Seven county Extension faculty each spent two weeks at LaFlor preparing and presenting the two concurrent training tracks. Faculty rotated in and out each week for program continuity, developed course materials, and taught lessons in Spanish. The "Master of Gardens" tract was designed for nursery and landscape professionals. A "Gardeners of Costa Rica" tract focused on homeowners and ecotourism personnel. Curriculum was similar to University of Florida IFAS Extension Master Gardener programs. Participants learned about best management horticulture practices suitable to dryland tropics, then practiced concepts with hands-on exercises including the installation of demonstration gardens. After seven weeks a graduation ceremony was held and 47 participants received completion certificates. Pre/post test data indicate improved test scores of up to 61 points on concepts taught. Follow-up activities including enhancement of a website are on-going. Materials developed will be used for Florida Spanish-speaking audiences. The programs also provided an international experience for faculty to broaden their knowledge of different environments and cultures.

Keywords: Extension, Horticulture, Partnerships

A Case Study of Capacity Building: Adapting and Applying E-Learning in Afghanistan

Kristen Zander, Texas A&M University
Catherine Schloeder, Texas A&M University
Michael Jacobs, Texas A&M University
Theresa Pesi Murphrey, Texas A&M University

The purpose of this case study is to share how e-learning is being used as a capacity building tool in Afghanistan through the PEACE Project, short for Pastoral Engagement, Adaptation and Capacity Enhancement (<http://www.afghanpeace.org>) (USAID, 2006). The PEACE Project is building capacity through the use of new technologies within its broader objective of helping Afghanistan to improve livestock production and manage its rangelands. The infrastructure and support provided by the government's initiatives has provided an ideal setting for the PEACE project to collaborate with Afghanistan's universities and government institutions to build capacity. The case study reveals characteristics and qualities of Afghans that were considered when adapting and applying e-learning as a medium for delivering training on Near Infrared Spectroscopy (NIRS) technology to analyze livestock fecal samples. The authors strive to raise awareness regarding the setting in which e-learning is being used to build capacity and share techniques that were implemented to encourage success. Detailed

descriptions of how interactivity and supporting materials were interlaced to enhance the educational experience are included.

Keywords: capacity building, e-learning, training, NIRS, Afghanistan

A Comparison of Small Scale Farming in Barbados, Dominica, and Trinidad and Tobago

Anita Závodská, Barry University

David Dolly, University of the West Indies

In this paper, the authors compare current small scale farming systems among three Caribbean nations - Barbados, Dominica, and Trinidad and Tobago. They then address the Extension education challenge in the future. Small scale farming is an established concept among food production systems throughout the developing world in which the production system is a mix of food crops and sometimes small livestock. The small scale producer in these islands must meet expectations in a changing agrarian environment of reduced Gross Domestic Product from agriculture, yet the small scale producer is still a resilient member of the food production system. Small scale operations are more practical and experience varying levels of efficiencies given local conditions and constraints. The purpose of this study was to investigate the relationship between small scale producers and the agricultural sector in the nations under study while the said producers maintain economic and social independence. Given the trends in Extension systems for developing countries, the authors conclude that the state must still play a role in financing the Extension systems for small producers. Given current advocacy to multi-faceted extension systems, the authors recommend the use of appropriate system options for the small scale farmer with support from the state.

Keywords: small scale farming, Barbados, Dominica, Trinidad and Tobago, multiple approaches

**Association for International Agricultural and Extension Education
25th Annual Conference
San Juan, Puerto Rico
May 24-28, 2009**

AIAEE Award Winners for 2009

Outstanding Leadership

Wade Miller
Iowa State University

Outstanding Service Award

James Lindner
Texas A&M University

Outstanding Achievement Award

Michelle Owen Glenn

Outstanding Early Achievement Award

Kristin Davis
International Food Policy Research Institute

Journal of International Agricultural and Extension Education
ISSN 1077-0755

Journal Article of the Year for 2008

The Editor requested board members to review and nominate articles published in Volume 15 (2008) for the seventh annual **Article of the Year Award**. The nomination period occurred in March 2009. Criteria for article selection and nomination were the article's capacity for "enhancing the *research and knowledge base* of agricultural and extension education worldwide..."

James Lindner and Kim Dooley, Co-Editors, conducted a survey of board members, asking them to review and rank the overall excellence of each article. Following are the results of this evaluation. Congratulations to all the authors on their scholarly achievements.

Outstanding Journal Article of the Year for 2008

Parr, B., Edwards, M. C., & Duncan, D. W. (2008). Georgian educators' perceptions and outlooks on education, agriculture, and agricultural education. *Journal of International Agricultural and Extension Education*, 15(1), 11-23.

Runner-Up Journal Articles of the Year for 2008

Witt, R., Pemsler, D. E., & Waibel, H. (2008). The farmer field school in Senegal: Does training intensity affect diffusion of information? *Journal of International Agricultural and Extension Education*, 15(2), 47-60.

Davis, K. E. (2008). Extension in Sub-Saharan Africa: Overview and assessment of past and current models, and future prospect. *Journal of International Agricultural and Extension Education*, 15(3), 15-28.

Call of Managing Editor-Elect – *Journal of International Agricultural Extension Education*

AIAEE's Board of Directors is accepting nominations (including self-nominations) for the position of **Managing Editor-Elect** *Journal of International Agricultural and Extension Education*. Nominations should include a letter of interest by the nominee and the nominee's curriculum vitae. The Managing Editor-Elect will be expected to move into the roles of Executive Editor and Past Editor. The individuals must have published in *JIAEE* in the last 5 years. Preference is given to those having served on the Editorial Board.

Term as Managing Editor: January 1, 2010-December 31, 2011 – (Volume 17 & 18)

Managing Editor: Manages the submission and review process using the Academic Express online system; delegates *Commentary*, *Tools of Trade* and *Book Reviews* to Associate Editors.

Term as Executive Editor: January 1, 2010-December 31, 2011 – Kim Dooley (Volume 17 & 18)

Executive Editor: Set the overall standards the *Journal* and is responsible for editing each issue, printing each issue, and distributing each issue. Handles all post acceptance issues including page fees, manuscript publication agreements, and library subscriptions.

Term as Past Editor: January 1, 2010-December 31, 2011 – James Lindner (Volume 17 & 18)

Past Editor: Assist with process and product transition. Advise on Associate Editors and Editorial Board Membership.

Please submit electronic nomination materials (either in pdf or MS Word) to:

Dr. Pete Vergot
Past-President, AIAEE
pvergot@ufl.edu
University of Florida

Dr. Gary Wingenbach
President AIAEE
g-wingenbach@tamu.edu
Texas A&M University

Manuscript Submission Guidelines

General Requirements

All manuscripts must indicate the type of article—Feature; Commentary; Tools of the Profession; Book Review—on the title page of the manuscript. **All manuscripts must be submitted online at** <http://www.aiaee.org/submit.aspx>. Manuscripts cannot be published or be under consideration for publication in another journal.

The *Journal of International Agricultural and Extension Education (JIAEE)* follows the standards set forth in the latest *Publication Manual of the American Psychology Association* (5th ed.). The *JIAEE* is the official refereed journal of the Association for International Agricultural and Extension Education (AIAEE).

Feature Articles

Feature Article manuscripts are submitted online. **Microsoft Word** files only may be submitted. A **title page** with manuscript title, authors' names, institutions, complete addresses, telephone and fax numbers, and e-mail addresses is required. The manuscript must include an **Abstract** (a succinct idea of the article's content) not exceeding 250 words, followed by 5-7 **Keywords** (selected from a list of topics available on the submission log on page), **Introduction, Theoretical/Conceptual/Operational Framework, Purpose and Objectives, Methods, Findings/Results, Conclusion, Recommendations/Implications, and References**, or similar appropriate headings. There is no fee charged for submitting a feature article. Feature Articles cannot be longer than **20 double-spaced** (11 point font) pages (not including the title page) with **one-inch margins** on all sides.

Commentary Articles

Commentary Article manuscripts are submitted online. A **title page** with manuscript title, authors' names, institutions, complete addresses, telephone and fax numbers, and e-mail addresses is required. The article must include an **Abstract** not exceeding 250 words. Please include 5-7 **Keywords** (selected from a list of topics available on the submission log on page) to describe your manuscript. Commentary Articles should be no longer than **eight double-spaced** (11 point font) pages (not including the title page) with **one-inch margins** on all sides.

Tools of the Profession Articles

Tools of the Profession Article manuscripts are submitted online. A **title page** with manuscript title, authors' names, institutions, complete addresses, telephone and fax numbers, and e-mail addresses is required. Please include **Keywords** (about seven) to describe the manuscript. Tools of the Profession Articles should be no longer than **four double-spaced** (11 point font) pages (not including the title page) with **one-inch margins** on all sides.

Book Review

Policies and guidelines are available online <http://www.aiaee.org/jiaee/archive/BookRevGuide.pdf>

Page Fees

There is no submission charge for the manuscript, but there will be a \$10.00/publication page (\$20.00 for non AIAEE members) fee assessed to the lead author if accepted for publication after the peer review process.

More formatting issues are posted at <http://www.aiaee.org/jiaee/archive/OnlineGuidelines.pdf>; **authors must follow these requirements** prior to submitting manuscripts to the *JIAEE*. Submit manuscripts online at <http://www.aiaee.org/submit.aspx>