
Association for International Agricultural and Extension Education
26th Annual Conference
Professional Paper Presentation Abstracts

Editor's Note: The following abstracts, listed by primary author's last name in alphabetical order, were derived from professional papers presented at the 26th Annual AIAEE Conference.

**Smallholder Fruits and Vegetable Production and Marketing Possibilities:
A Baseline Study of Five Selected Dzongkhags in Bhutan**

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This study of fruits and vegetable production and marketing possibilities in Bhutan has two main objectives: 1) to determine small and medium-scale horticultural production capacity in 5 selected Dzongkhags/Provinces, and 2) to prioritize fruits and vegetables around which a market oriented production can be built. Questionnaire design, data collection, and analysis occurred in several phases between July and December, 2006. A total of 102 farmers were interviewed. Out of a sample population of n=94, 40% may be classified as small-scale producers cultivating <3acres, while 36% fall in the medium scale category cultivating between 3.1-5acre plots. Large-scale producers with farms >5acres constituted about 23% of the sample population. Farmlands are either owned or leased under specific property right arrangements. The choice of crops and revenue from farming are affected by land ownership. Out of n=91, 97% produce on their own farms, while 21% had portions of their crops planted on rented land. Approximately 7% of farmers rented out portions of their farmland in the 2005/2006 season. In general, land rents are paid in kind usually a 50-50 split of total harvests. Several factors including advice from District Agricultural Officers (DAOs) and Extension Agents, advice from potential buyers, knowledge of agro-climatic conditions, pests and disease prevalence, market speculation and historical recollection of crop production patterns influence farmers' choice of crops. When n=102 farmers were asked about previous years' production, the decision to produce fruits (69% of respondents) and vegetables (80%) were based on advice from DAOs and Extension Agents. Advice from potential buyers did not appear to play an important role in farmers' decision to produce either fruits (7%) or vegetables (5%). In a follow-up exercise, DAO's and Extension Agents in each Dzongkhag were asked to prioritize 5 fruits and 5 vegetables for their respective districts. When a 4-point Likert scale was used to rank farmers interest in producing these prioritized crops, farmers' interests in producing chili and potato was generally high across all Dzongkhags. Producers in Trashigang and Trongsa were more enthusiastic about producing cauliflower. Only producers in Tsirang and Paro expressed an interest in producing Broccoli. The highest interest in cabbage production was observed among producers in Trongsa. For fruit production, apples received the highest favorable ranting in Paro while producers in Tsirang appear to be more enthusiastic about producing oranges. The highest interest in mango production was observed among producers in Punakha. Relative to other Dzongkhags, Trashigang producers were most interested in producing walnuts. Producers in Trongsa were the only ones that expressed interest in producing sugar cane. Findings from this study are particularly important in guiding future production decisions aimed at meeting the new demand points created by Bhutan's growing urban population and middle class. Recognizing consumer demands and combining those demands with the needs and wants of the concerned communities is the first step to empowering

smallholder to meet market expectation and securing long-term market linkages. A sustainable market linkage at the smallholder level thus involves a coordinated effort among farmer groups, buyers, post-harvest units, agricultural research units and marketing agencies.

Making Extension Relevant for the 21st Century: A Communication Perspective

Robert Agunga, The Ohio State University

This is a concept paper aimed at provoking a discussion on who we really are as extension scholars and practitioners. Are we the engine of development or an appendage to the process? Failure to address human dimension concerns, such as participation, integration and capacity building is the main reason why poverty reduction programs fail. Is promoting the human dimension our challenge or is it someone else's call? If facilitating development is our *raison d'être*, what professional preparation do we have in promoting cooperation and collaboration among development partners? Cut to the core, can we separate extension as a development specialization from agricultural education, which is technology transfer? The World Bank and the Food and Agriculture Organization of the United Nations in a new report, *World Congress on Communication or Development: Lessons, Challenges, and the Way Forward* argue that the facilitation of development, otherwise known as "Communication for Development" (C4D), is a niche to be filled. Since "extension" is such a worn-out term, can we claim "Communication for Development" (C4D) as our profession?

Emerging Training Needs and Preferred Mode of Delivery for Agricultural Extension Professionals in Mali

Mercy Akeredolu, IPR/IFRA, Mali

Global market competition, technological advancement, increased government divestiture and changing production are significantly altering the future of agriculture in Mali. Farmers are increasingly demanding for advisory services beyond production agriculture to postharvest, processing and marketing. This paper looks at the need for training along the entire value chain for agricultural extension professionals in Mali. Three out of the eight regions of Mali were selected for this study because of the intensity of agricultural activities in the states and the high involvement of rural women in these agricultural activities. Stakeholders in agriculture were randomly selected and questionnaires were completed by a sample of employees in research, extension and teaching. The study revealed that Mali's extension officers' lack of skills and competence to provide advisory services along the entire value chain in agriculture and the need for training in specific areas is evident. Men (mean 3.89) and women (mean 3.95) farmers strongly agreed with the need to train extension workers along the entire value chain. Advisory services provided by the extension officers is limited to production agriculture where as farmers' activities cover processing, storage and marketing. Public (3.22) and private (3.92) extension officers also agree that training should be organized for them along the entire value chain because they find it difficult to provide advisory services on processing and marketing as these are major areas where women operate and they need to be assisted. Specific disciplinary training were identified: agribusiness (88%), systems management (68%), post harvest technology and

food processing (95%), value chain analysis (100%), marketing (78%), food storage, handling and packaging (92%). Distance education ranked with full time training in Africa as the least preferred mode of delivering training. From the survey, this choice was popular among the older professionals who prefer work and study at home to full time study abroad. Only 25% of them expressed interest in distance education while 70% of them expressed interest in short term training in Mali. all the public extension team below the age of 45 suggested full time training in Mali whereas those above 45 years proposed short courses within Mali or outside Mali. Both groups also emphasized professional exchanges between Malians engaged in agricultural extension and international research institutes or university extension systems. Specific disciplinary training pertaining to agricultural trade and agribusiness, food processing, marketing information systems & management, value chain analysis were the most highly requested. There is need to consider full term and short term training programme for extension professionals to help produce the next batch of Malian Agric. extension professionals that can provide advisory services along the entire value chain. Lessons learnt were: the present diploma and degree curricula for training agricultural extension staff are inadequate and needs to be reviewed; Malian farmers need advisory services beyond production agriculture; and Malian extension professionals have no preference for distance learning and full time degree programme outside.

Innovations in the Marketing of Agricultural Produce: FASO JIGI Cooperative Experience in Mali

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Substantial numbers of small-holder co-operatives in Africa suffer liquidation yearly due to their inability to be self-sustaining. Liberalization of Mali's cereal sector in the 1990s resulted in transition from cereal deficit to self-sufficiency. However, problems like credit, poor marketing and low prices hindered real development of the sub-sector. In 1997, FASO JIGI Cooperative marketing project, a union of cooperatives with regional coverage was set up, focusing on the collective management of cereal marketing, allowing producers more active role, resulting in better product prices and income stabilisation. Key issues this paper addresses include members' attributes, what they derive and contribute to its sustainability. The study involved 250 members and 27 extension officers randomly sampled and data analysed using simple cost calculations, frequencies and percentages. Members' active involvement, good social climate, conformity and control, communication patterns, monitoring, indigenous management systems, funds generation, training and regional government support were key sustainability factors.

Researchers and Extension Agents Attitudes Towards the Agricultural Research and Extension System's Linkages in Jordan

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The study aimed at examining attitudes towards management and organizational research-extension linkages between the main actors in the Agricultural Research and Extension System (ARES). Three four-point Likert-type scales; the management, organizational and universities scales, were used as a tool for data collection using a convenience sample of 121 researchers and

extension agents. Descriptive and analytical statistics were employed to analyze the data. Based on approximations of the scales to normal distribution, parametric tests were used to analyze the data of the management and organization scales, and non-parametric tests were used to analyze the data of the universities scale. The results suggest that research staff is relatively younger, more open to women work, and more educated. Overall attitudes were found to be generally high, but appear to be higher for researchers as compared to extension agents. The researchers appear to be more positive to institutional linkages and for most of the research oriented activities than the extension agents. However, respondents were alike in their positive attitudes to measures that would promote integrating faculties of agriculture in a unified ARES. No statistically significant associations were observed between attitudes and most of the selected demographic and professional characteristics. More focused and applied research programs have to be designed by the research providers that effectively address local need, and organizational linkages that would help in bridging information gaps are vital in view of the weak research and extension linkages in Jordan.

Assessing Dissemination of Agricultural Technologies Developed and Promoted by International Agricultural Research Centers (IARCs) in Western Kenya

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Increased agricultural productivity is a major stepping stone on the path out of poverty in sub-Saharan Africa, but small-scale farmers in the region face insurmountable challenges related to improving production. Enhanced agricultural productivity is key to achieving economies of scale, increasing per capita income, and overcoming food insecurity problems. In western Kenya, low agricultural productivity is attributed to several constraints including inappropriateness of technology, and poor delivery of agricultural extension services. Agricultural technologies have been developed by Kenya Agricultural Research Institute (KARI) as well as international agricultural research centres (IARCs). The technologies are aimed at improving agricultural productivity in Kenya but they have not been at the reach of most farmers. This study therefore assessed the extent of dissemination of technologies developed by four IARCs in Siaya and Vihiga districts in Western Kenya by determining (i) socioeconomic characteristics of farmers adopting technologies developed; (ii) which technologies have been developed in the last 10 years, (iii) the extent to which technologies developed are disseminated by national extension systems and the IARCs, (iv) factors influencing adoption and dissemination of IARCs generated technologies, and (v) barriers and improvement to dissemination and upscaling of improved technologies developed by IARCs. Multistage sampling has been used to select a sample of 240 farmers from four purposively sampled divisions where the technologies have been introduced in Vihiga and Siaya. Data were collected on (a) individual and household characteristics (b) farm characteristics (c) knowledge, adoption and benefits realized following technology adoption (d) information sources leading to technology adoption (e) barriers and improvement to adoption and diffusion of IARC generated technologies (f) farmers' opinions on how the technologies could be widely disseminated. Results show that several technologies have not been adopted by majority of the farmers. This is due to lack of access to requisite inputs and outputs, lack of information and knowledge about the technologies, and weak extension-research-linkages. The findings suggest the need to facilitate increased transfer of agricultural technology, information, and knowledge among small-scale farmers thereby contributing to improved overall agricultural productivity in Western Kenya.

**Effects of Extension Services of Firms Offering Contract Farming:
A Case Study of Small Scale Maize Farmers in the Limpopo Province of South Africa**

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A probit regression model was employed in this study to investigate the effect of private extension services on contract farming participation by small scale maize farmers in rural areas of the Limpopo province of South Africa. The study suggested that participation in contract farming was positively influenced by the quality of extension services provided, follow-up visits and type of enterprise. Stock of farm input supply and frequency of extension visits appeared to have negative influence.

A Trans-Disciplinary Perspective of Challenges Facing Subsistence Farmers in Wolaita, Ethiopia

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Ethiopia is an agrarian country where small-scale farmers dominate agricultural production, most of whom are entirely dependent on rain-fed subsistence agriculture production. These farmers face a multitude of complex food production and supply problems caused by both natural and human-induced disasters. This study, conducted by a trans-disciplinary team from the University of Saskatchewan, examined the agricultural practices of subsistence farmers in the Wolaita Zone, a densely populated agricultural region located 250 km south of Addis Ababa in Southwest Ethiopia. Interviews were conducted in two kabeles (the smallest administrative unit in Ethiopia), Delbo Atwaro (DA, n=16) and Kindo Koye (KK, n=16), in the Wolaita Zone in May 2009 to determine the challenges in crop and livestock production, soil fertility, land degradation and fragmentation, as well as drinking water, nutrition, and food insecurity, all of which affect the wellbeing of subsistence farmers in the region. The objectives of this study were a) to gain an understanding of subsistence agriculture and its impacts on the wellbeing of farmers in the Wolaita Zone; b) to identify challenges, problems and barriers of subsistence agriculture from the farming households' perspective; and, c) to provide recommendations for future research that would improve the livelihood of subsistence agricultural farmers in Ethiopia.

Farmers in these two kabeles support large families (average of 9.3 in DA, 8.6 in KK) on a very small plot of land (average of 0.7 ha in DA and 0.4 ha in KK). All households surveyed reported that household food production and income from farming were not sufficient to feed the household throughout the year. Food shortages range from 4 – 9 months per year (average of 8). The majority of the farms surveyed indicated a decline in soil fertility in the past five years, and attributed shortage of inputs (manure, fertilizer and compost) to this decline. Most farmers owned some livestock, with cattle being the most common (average of 1.2 oxen/1.6 cows in DA and 0.5 oxen/1.2 cows in KK). Ownership of all species was limited by feed and grazing availability. Under stress of climate change, reductions in crop and livestock production result in a negative feedback loop where less organic matter and nutrients are returned to the soil to support subsequent crops that will feed animals and humans. In a country where the cost of inorganic fertilizers prohibits their use, careful maintenance of organic resources is vital to the

sustainability of the farming system. Potential areas of research identified in the Wolaita region are many and span the disciplines of livestock breeding and health, soil conservation, crop breeding, and human nutrition. However, in order to improve the livelihood of subsistence farmers, the dialogue between farmer, researcher, and extension communities needs to improve so that farmers may successfully implement and adapt new technologies in the context of their local knowledge. Given the close relationship between agriculture and food security, the development of community based projects by interdisciplinary teams that include community, government, agriculture, environment, and nutrition inputs is necessary to provide sustainable solutions.

Antigua and Barbuda Pesticide Certification Program

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There are over 170 products listed for pest control with the Pesticide and Toxic Chemicals Board (PCB) of the Ministry of Agriculture (MOA) in Antigua and Barbuda. Safe handling and application of these products is crucial to achieving desired pest control and to protect non-target organisms and the environment. The Pesticide and Toxic Chemicals Act of 2007 dictates that any person performing pest control activities for remuneration, must be certified to do so. The MOA partnered with University of Florida/ IFAS to develop a pesticide certification training module modeled after the Florida program. The objectives of the module are to: enhance the knowledge base of pest control applicators on identification of pests, control options and safe use of pesticides; and ensure that all actions governing the use of pesticides are in accordance with the requirements of the Act. A team of five UF/IFAS faculty members developed a needs assessment survey and modified the Florida curriculum based on the results of the survey submitted by the MOA. The module included four training categories: core (to be taken by all participants), structural pests, lawn and ornamentals, and agriculture. A one-week training was conducted in January 2009 and was attended by 65 people that represented the various categories and MOA personnel. Sixty three (63) participants took the core exam and one category exam. Thirty one participants passed both the core and a category and were certified through the PCB. A regular training and exam schedule is needed for pest control applicators to ensure compliance with the Act and proper pesticide usage to protect pesticide users, public health, and the environment.

Professionals View of Croatian Rural Youth Opportunities

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Unemployment among rural youth in Croatia is high. In 2001, more than 37% of the youth in Croatia were unemployed (Globalis, 2009). Some authors have suggested that the educational system is in crisis and this coupled with the possible accession into the European Union could have tremendous impact on rural youth in communities across Croatia (Slaus, Slaus-Kokotovic, & Morovic, 2004). The purpose of this study was to determine the perceptions of selected

Croatian agricultural professionals regarding opportunities for rural youth. The objectives were to 1) identify key issues that professionals agree were of greatest concern for rural youth in Croatia and 2) identify educational issues where professionals understanding of policy would exceed youth capacity to know or to respond accurately. Ninety-seven Croatian professionals responded to a perceptions survey. Purposely selected individuals that participated in the study ranged from administrators in colleges of agriculture to professional farm managers. National and county agricultural ministry professionals were represented in the study as were college professors, graduate students and instructors. The survey instrument was guided by previous youth development research in Croatia and the U.S. The instrument was first written in English and then translated into Croatian by local native speakers. Face validity was provided by a graduate student and a professor in the Agronomy Faculty, at the University of Zagreb. Results indicated that professionals see the need for improved secondary agricultural education programs in Croatia. Respondents tended to strongly agree that more cultural events and the possibility for entertainment should be provided for youth in rural areas and that more technical agricultural education is needed in rural Croatia. Respondents also tended to strongly agree that working conditions in villages needs to be improved and the Croatian government needs to invest more in rural secondary education. Enhanced technical agricultural education at the secondary school level could stimulate interest and knowledge of students. A stronger curriculum could also be the catalyst for enhanced production, processing and marketing education within rural communities as Croatia anticipates accession into the European Union.

An Evaluation of Elements that Impact the Success or Failure of Cooperatives: Lessons Learned Based on the Literature

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Cooperatives provide unique opportunities to encourage international agricultural development; however, the success of a cooperative is dependent on both internal and external factors. The purpose of this paper is to communicate the fundamental elements, as described in the literature, which can impact the success of cooperatives. Common pitfalls, methods of avoiding failure, and elements required for success are summarized based on studies conducted in multiple international locations. This paper provides a foundation for the creation of an instrument to be used to determine the suitability of establishing a cooperative, elements that could impact the success of a cooperative, and steps that could be taken to facilitate the establishment of a cooperative in developing nations. While each cooperative is unique to its environment, economy, government involvement, industries etc., there are common themes and practices linked throughout successful cooperatives as well as failed ones. This paper highlights the methods and frameworks common to achieving cooperative goals and also outlines the environment required to implement a cooperative in a developing nation.

Influences of Students Background on Their Academic Performance at the University of Swaziland, Faculty of Agriculture

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The purpose of the descriptive correlational study was to determine explanatory variables of students' academic performance at the University of Swaziland, Faculty of Agriculture. The target population of the study included all undergraduate fourth year students during the academic year, 2008-2009. The study design was ex post facto. Background variables of students were collected using a valid and reliable questionnaire. Students' performance marks were obtained from records at the University of Swaziland. Descriptive statistics, correlations, and regression analysis were used to describe data. Findings revealed that, variables that explained academic performance were: length of time spend studying, age, study area, type of high school student graduated from, number of roommates, number of activities involved in outside campus, resident distance from campus, and overall grade in high school. Conclusion from the study was that explanatory variables for students' academic performance relate to previous academic performance, institutional academic environment, and students variables. Recommendation is that The University of Swaziland needs to pay attention to background variables in terms of admission criteria, and to the learning environment within the institution, and individual needs of students.

Cost Considerations in Mounting Farmer Field Schools in Trinidad and Tobago.

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This paper investigates cost factors in mounting Farmer Field Schools (FFS) in Trinidad and Tobago. With the use of various project accounts and field records the paper will assess the cost of conducting the FFS in several Extension districts in Trinidad and Tobago. These costs will be compared with the cost of mounting other selected farmer education programmes. There will be an account of the cost of appropriate IPM practices, farmer field practices and recommended farmer practices. The paper will conclude whether it is possible to reduce the cost of pesticides with the use of technologies which have emerged from the FFS. Preliminary analysis suggests a cost advantage with the use of Integrated Pest Management. The cost per farmer participant is similar to reported cost in several parts of Asia. Yet the cost compares with that of mounting a routine technology transfer programme within the government service. There are opportunities to reduce the cost of production among the new technologies which have emerged from the Farmer Field School. There are implications if a country's investment in a new educational method does not justify its cost, Given the other positive impacts of the FFS, this study will provide ways of counteracting any negative financial outcomes from its implementation in Trinidad and Tobago. The study will also instruct further improvements in positive economic impacts.

A Crisis Communications Needs Assessment of Agricultural Industry Professionals to Determine Best Practices for Second Life© Simulations

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“We live in a society continually affected by natural disasters, such as hurricanes, tsunamis, and forest fires, and by organizational crises, such as food-borne illnesses, corporate malfeasance, and terrorism... No community and no organization, public or private, is immune from crises” (Ulmer, Sellnow, & Seeger, 2007, p.3). This study used mixed methods to assess agricultural industry professionals’ needs regarding crisis communication training and best practices for Second Life© simulations were identified. The study assessed an advisory team of agricultural communications professionals to gather perceptions of crisis communications educational needs for new professionals and identify best practices for using Second Life© (SL), a 3-D virtual world, simulations for training. Advisory team members represented the human, crop, animal, and environmental sectors of the agricultural industry. The study followed Krueger’s (1998a, 1998b) methods of questioning during the advisory team of agricultural communications professionals interviews to gather perceptions. Participants’ comments and discussion remarks were analyzed (Creswell, 1998) and emergent themes identified. A researcher created instrument following Dillman’s Tailored Design Method was administered to participants (N=44). Through questioning techniques, study themes emerged and were used to identify educational objectives for training professionals in agricultural communications dealing with potential crisis situations, and multiple scenarios for SL simulations were noted. Four emergent themes were identified: 1) Pre-planning, 2) During crisis communications / actions, 3) Post crisis communications / actions, and 4) Individual competencies needed. Themes one through three were necessary for an organization to be successful in both managing and responding effectively to a crisis. The fourth theme included skills required for crisis communicators to effectively and successfully support an organization before, during and after a crisis situation. Survey respondents identified areas for training needs and crisis communications task activity importance and performance level (based on a 5 point Likert scale). Respondents identified four areas of training needed: 1) Utilize crisis management skills to minimize damage to a company's image (58.3%); 2) Properly interact with the media during a crisis(58.3%); 3) Handle the difficulties that arise during crisis management situations (50%);and 4) Build a crisis management action plan (50%). Five areas were identified as “critical” in crisis communications training: 1) Develops media policies and procedures for crisis events (50%); 2) Recognizes the need to communicate during a crisis with honesty, candor, and openness(50%); 3) Capable of listening to others as a means of collecting information (37.5%); 4) Manages the accuracy and consistency of the messages coming from the organization (37.5%); and 5) Identifies necessary response to resources (25%). As evidenced in the study’s findings, agricultural communications professionals can serve as effective instruments in identifying educational needs for new professionals dealing with crisis communications. Because online learning participants can visualize themselves and others through their self-created avatars, SL can create a presence that is not available in traditional modes of distance learning. Additional research should continue to identify crisis communication needs for new professionals and whether or not SL is an effective educational training platform.

Implications of Gender and Context on the Design of IPM Programs for Tomato Growers in East Africa

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The argument that gender matters in the design and implementation of agricultural development programs acknowledges women's important contribution to agricultural production in Sub-Saharan Africa. Gender can influence access to productive resources, new information, and support services. Failure to uncover and examine gendered differences in production relations has led to program failures and inequitable and unsustainable development. However, there is enormous complexity and heterogeneity in the way gender influences agricultural decision making and production and few lessons are applicable across contexts. Generalizing about gender relations from one context to the other may obscure variability and lead to false conclusions and policy recommendations. The IPM Collaborative Research Support Program (CRSP) in East Africa has been using a farmer participatory IPM strategy with small-scale tomato growers at on-farm research sites in Kenya and Tanzania since 2004. Understanding local farmer knowledge of agricultural production, including both gendered and contextual factors, is a hallmark of participatory approaches, and important to the design and development of appropriate location-specific IPM technologies. The purpose of this study was to compare and contrast gender and contextual influences on tomato production farm-level decision-making and marketing practices, and to use this information to improve IPM program design and delivery. Data from baseline surveys conducted with tomato farmers at IPM CRSP research sites in Kenya and Tanzania in 2006 were used for the analysis. These two sites represented different tomato production contexts. A structured questionnaire was administered by personal interview to tomato farmers who were selected using a multi-staged random sampling procedure resulting in 120 questionnaires, 23 female and 97 male, being completed in Kirinyaga District, Mwea Division, in Kenya; and 100 questionnaires, 33 female and 67 male, completed in Morogoro Region, Tanzania. The results indicate that regardless of context, gender influenced access to resources and this influenced production quantity and decision making. The implication is that gender differences need to be incorporated into IPM programs by ensuring female participation and access to training and knowledge transfer opportunities. However, contextual differences predominated, suggesting that "one-size does not fit all" and that planned interventions need to be tailored to specific contexts in which gender relations unfold. The study provides evidence that the gender-specific nature of traditional African farming is transitioning. Contextual similarities in the production of higher value marketed horticultural crops including female cash crop production and the prevalent use of synthetic pesticides and fertilizers requires that IPM research focus on developing alternative pest and crop management strategies along with training that focuses on pesticide usage and safety. Farmers indicated that extension agents were relatively minor sources of information indicating that they too may require additional training on horticultural production and IPM. Thus, horticultural cash crop production suggests an important contextual basis for differentiating the demand/need for IPM programs.

**Russian Agricultural Students' Critical Thinking Disposition and Moral Intensity:
Is there a Relationship?**

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The exponential increase of knowledge has altered the approach to providing agricultural education and extension services to international students and has prompted international agricultural educators to include critical thinking and value based judgments as part of the curriculum. However, few studies have examined if a student's disposition to use critical thinking skills was related to how students perceived the moral intensity of a specific situation. The purpose of this study was to examine relationships between levels of critical thinking disposition and levels of moral intensity among Russian students enrolled in an agricultural economics class at a Russian university. Participants in this study included 64 undergraduate students enrolled in a world economics course offered at a Russian university. Ultimately, total critical-thinking disposition scores did not significantly correlate with total moral intensity scores; nor were there significant relationships between construct scales. Practitioners should still be encouraged to teach critical thinking and improve the disposition to thinking critically even though there may be no relationship with perceptions of moral intensity.

**Reassessing the Organization of Experiential Learning in Agriculture
with Specific Reference to the American Farm School in Greece**

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Experiential learning plays an important role in agricultural academic institutions both in developing and developed countries. Most North American agricultural academic institutions are utilizing experiential learning methods extensively in their curricula. The extensive network of public university teaching and research farms, an ideal environment for experiential learning, relies heavily on student participation and thereby providing an effective initiation to science and industry. The American Farm School, Greece, an independent non-profit educational institution serving the rural population of Greece and the Balkans, has been a pioneer in the field of experiential education in South – Eastern Europe since its foundation. The objective of this study was to review and compare approaches of experiential learning between the American Farm School and leading agricultural universities in North America. A qualitative methodology was used to collect and analyze data from managers and educators of university teaching and research facilities. A series of examples of experiential learning facilitated at these units is presented. Ideas for a holistic approach in utilizing student engagement in a variety of work related tasks are discussed. Educators may consider these findings useful when designing internships and developing curricula for students. Incorporation of best practices identified in this study will encourage the development of better trained graduates and more open minded leaders.

**Global Seminar: Rural Sustainability –
Problem-centered Learning in a Cross-Cultural Setting**

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Global Seminar is an internet-based, student-centred learning approach that includes text and real-time video discussions via internet conferencing among students at collaborating institutions in North and South America. The Global Seminar was created at Cornell University and adapted for a course, originally initiated under the North America Mobility Project (NAMP): Rural Sustainability in Agriculture and Aquaculture, developed by universities/colleges in Canada, the United States and Mexico. Initially, the primary aim of NAMP was student mobility and language education among institutes in the host countries, but when the program ended the distance-learning course became the main vehicle for academic exchange among non-mobile students and faculty. The focus now is to engage students in dialogue about environmental sustainability issues using learning strategies that encourage them to articulate their decision-making process as they adopt different roles in the local and/or global community. In 2006 and 2007, three case studies were presented, two based on the virtual library of the Global Seminar: A Learning Community database and one was developed under the leadership of Virginia Tech; several other case studies have been developed since the inception. The course was permanently moved to Fall semester beginning in 2007 to accommodate the different academic years between the northern and southern hemispheres. Also, language was recognized as a possible constraint during the design phase, so cases were developed in both Spanish and English. The live video discussion is conducted in English on the first day and in Spanish on the second day. Students are free to participate in either language of their choice or in both discussions. This allows for the participation of unilingual participants or participants with limited ability in the other language. The problem-centred learning approach our team has implemented allows the educators to develop the case studies, provide background resources and create a series of directional questions/comments. Too often in the regular theory-based lecture instructional method, students sit passively and are not challenged to form and voice their own perspectives. Under this learning approach, the participating students themselves must delve into current literature and global commentaries to prepare for debating the issues(s), participate in the discussion, draw conclusions and make recommendations. Since they participate in both email-style and live-discussion with students of other international institutes, the onus is on them to present and support their viewpoints from a globally sustainable perspective. As a future employee, this translates to the decision-making process that will guide their actions and recommendations to their local or global community, government or industrial agencies. The goal of this undertaking is to use the Global Seminar as a model that functions as a learning community comprised of students and faculty from various countries. It offers shared understandings that transcend national boundaries, cultures, and backgrounds offering the best hope for our future food safety and security (i.e. agriculture, aquaculture), as well as for environmental sustainability. It also demonstrates the importance of integration of real time communication technologies in the process of development of the global society.

Establishing Contract Extension Services in Iran: A Comparative Study of Agri-business Ventures' Consultants and Directors

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In many countries, agricultural extension services are shifting from the public to the private sector. Since 2007, Iran has been phasing out its public extension system and replacing it with a publicly-funded contract system of extension by establishing agri-business ventures. However, globally there is no evidence indicating that this kind of cooperation between public and private extension will be more effective than the one currently being phased out. The objective of this study was to assess the capacity, management and organizational characteristics of the new extension system through assessing and comparing agri-business ventures' consultants and directors' capacity. A survey research design study was conducted among the agri-business ventures' consultants and directors in Iranian province of Zanjan. The study found that for all examined capacities directors had higher status than the consultants. Also, the regression procedures indicated the two independent variables that accounted for the explained variance of agri-business ventures' members' total capacity were the motive in doing extension work and membership in job related associations. It is recommended that responsible authorities take measures to train both directors and particularly consultants in technical, communication and managerial skills.

Challenges and Strategies for Implementation of University Outreach Services as Perceived by Faculty Members of Iranian Agricultural Colleges

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A descriptive survey research was undertaken to investigate the challenges and strategies for implementation of university outreach services in Iranian agricultural colleges. The statistical population of the study consisted of all the faculty members of 30 Iranian agricultural colleges (N=1799). A stratified random sample of 10 colleges, based on college size was selected, encompassing a total of 140 faculty members. Data were collected using a mailed survey questionnaire which was validated by a panel of experts from the related academic departments and organizations and the reliability index was established by Cronbach's coefficient. Prioritizing of 25 identified strategies for successful implementation of university outreach services showed that top two most important strategies were "conducting joint need oriented and applied research projects with the related executive departments and commercial institutions" and "providing research opportunities for faculty members in rural areas and institutions and organizations related to agriculture sector". In regard to the challenges facing the outreach services 28 identified challenges were perceived important or very important, the top two most important challenges being: "lack of satisfactory interaction/linkages between agricultural colleges and the related institutions" and "lack of necessary support for university outreach activities by various governmental organizations". Four factors explained 64.29 percent of variations of the strategies for successful implementation of university outreach services, namely: educational, communication, research, and creating outreach opportunities; and five factors explained 66.46 percent of variations of the challenges facing university outreach services, namely:

communication, psychological, managerial- organizational, economic, and faculty members related factors.

**Outcomes and Impacts of the CSREES International Science & Education Grant Program:
The Results of an Online Survey of Grantees and Directors of International Agriculture
Programs**

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The CSREES/USDA International Science and Education (ISE) grants program, formally initiated in 2005, seeks to enhance higher education institutions in the U.S. to conduct international collaborative research, extension, and teaching activities. This may take the form of enhanced curriculum and campus efforts to reflect global and multi-cultural perspectives, increased opportunities for more effective research and extension partnerships and faculty exchanges, and/or an international cross-pollination of technologies and innovations that contribute to the productivity and competitiveness of the U.S. agricultural sector in the global arena. During the 2005-06 grant competitions, the ISE program provided support for 32 projects to academic institutions throughout the U.S. The purpose of this paper is to present the results of an online survey of the award grantees, as well as Directors of International Agriculture programs, to determine the short and long-term benefits of the ISE program and its projects. It is expected the data gained through the online survey will provide insights into the state of internationalization at key academic institutions in the U.S. particularly as related to ISE Program goals and, in particular, best practices for strengthening global engagement. Besides providing leaders of internationalization efforts with concrete evidence of effective programs and strategies, the results of the survey presented in this paper will suggest the most effective use of Federal funds for strengthening internationalization of higher education institutions in the U.S.

**International Experiences and the Power of Reciprocity: Bringing Mali to
U.S. Academia and an Amish Farming Community - Who was Impacted More?**

James W. Hynes, Theresa Pesl Murphrey & M. Craig Edwards
Sam Houston State University/Texas A&M University/Oklahoma State University

Five Malians were selected for an intense training program held in a southern Indiana Amish community and at a mid-size university in the southwest United States during summer 2009. This was a multipurpose program which had many positive results for both the Malian participants and faculty and students of the host university. The program allowed the host university to improve the ability of faculty and graduate students to internationalize their curricula as it relates to agriculture and natural resources in Sub-Saharan Africa. A second benefit was to introduce the Malians to animal powered relic technology manufactured with modern methods. Third, the program allowed the host university the opportunity to train the Malians in instructional design so they could take home their newly acquired knowledge and share it with as many stakeholders as possible. Fourth, a surprising unintended but desirable consequence of the Malian's visit was the welcoming embrace they received from the Amish who hosted them in southern Indiana. The Amish offered to help by training Malians in the

manufacturing of animal- powered equipment. Fifth, U.S. manufacturers of animal-powered farm equipment were introduced to a potentially new market for their products. Sixth, the Malians were introduced to the use of distance learning techniques to enhance their curriculum and instructional development in their universities. Seventh, introducing the host university's faculty and students to the Islamic culture of Mali may be the most enduring benefit from this project. The project's activities brought a new awareness of how different cultures share many similar needs, values, and interests.

Framework for Analyzing Agricultural and Extension Education Situation of a Country

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The purpose of this paper is to present a framework for analyzing the agricultural and extension education situation of a country. Analysis of the agricultural and extension education situation of a country is important when planning agricultural development projects. Without a systematic frame, it is easy to forget some of the major factors in the analysis. This paper presents eight themes to organize the situation analysis. The first of the eight themes is the significance of agriculture in the country's economy. This factor analyzes the contribution of the agricultural sector for GDP, employment, export earnings and food security. The second theme is analysis of the composition of agricultural sector. This will help us to understand the major sectors such as crops, livestock, forestry and export oriented plantation crops. It is important to analyze the current situation of food production and industrial agricultural sectors to understand the significance of each in the agricultural economy of the country. The third theme is analysis of the agricultural infrastructure such as input-output marketing, agricultural insurance, agricultural credit, and agriculture-based value adding industry. This will help us to understand the current situation and needed interventions for marketing, credit, and agriculture-based industries. The fourth theme is the agricultural extension and education system in the country. This is helpful for us to find answers to these questions: What is the current extension system in the country? What is the current situation of the secondary and higher education system preparing human resources for the agricultural development work of the country? How effective is the agricultural extension and education systems in meeting the agricultural development needs of the country? What changes are needed to enhance the effectiveness? The fifth theme is analysis of the agricultural research system in view of its organization, role, capacity, problems and needed changes for agricultural development of the country. It is important to analyze whether the research system has the capacity to meet the technological needs of the agricultural sector. The sixth theme is environmental factors contributing to agricultural situation of the country. This includes climate, soil, topography, water resources, rainfall patterns and seasons. Understanding these environmental factors is helpful for us to realize the effects of the environment on current agricultural patterns and situation of the country. The seventh theme is the agricultural policy and politics of the country. It is important to review policies impacting production, export and environment for making recommendations for agricultural development. The eighth theme is socio-cultural situation of the country. Understanding the socio-cultural situation is significant in formulating culturally acceptable development projects for the country. Farmer organizations, women's role in agriculture, food habits, religions and traditions are some of the important socio-cultural factors we need to consider. Finally, this paper analyzes the interconnectedness of these eight factors. It is important to analyze the interconnectedness of these factors to understand the overall dynamic picture of the agriculture and extension education system of the country.

Potential of Farmers of the Future (FoF) in the Integration of Natural Resources Management in the Secondary School Curriculum in the Western Region of Kenya

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Egerton University, Kenya/Texas Tech University

The Farmers of the Future (FoF) initiative is a recent integrated school programme in Kenya. Its main objective is to integrate natural resources management in the school curriculum. The influence of the FoF initiative on students' perceptions towards natural resources management in Kenya secondary schools is not adequately documented. The purpose of this study was to document activities and determine the effects of the FoF programme on secondary school learners' perceptions towards natural resources management by comparing learners involved in the FoF programme and those not involved. Further, comparison of perceptions by gender among learners who are involved in the FoF initiative was done. The study employed an ex-post-facto design. The location of the study was the western region of Kenya. The sample was composed of 120 learners. The data were collected using questionnaires and were analysed using t-test at $\alpha = 0.05$. The findings indicated that the FoF programme had a significant influence on learners' perceptions towards natural resources management. It was therefore concluded that FoF programme enhanced positive perceptions towards natural resources management among learners. On the basis of the findings, it was recommended that the FoF programme be expanded to cover more schools.

The Provision of Extension Services in Afghanistan: What is Happening?

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Afghanistan's agricultural sector is extremely important. It provides livelihoods for almost 80% of the population; however, due to 25 years of conflict, Afghanistan's agricultural sector has been left in ruins. After the fall of the Taliban regime, the world has taken a more proactive approach in rebuilding the country. The Afghan government and NGOs have started to create programs that enhance agricultural production throughout the country. This paper is a synthesis of the literature spanning 2000-2008 pertaining to what has been done thus far in the country and what entities were responsible for those outcomes. This study describes the role of the Ministry of Agriculture, Irrigation and Land's Division of Extension and how that division has addressed problems in the agricultural sector. The literature suggests that NGOs play a vital role in Extension program implementation, while the Ministry of Agriculture serves primarily as a regulatory body.

**Relevance of Mid-Career Training Programs towards Improving Job Performance among
Agricultural Field Extension Workers in Uganda:
The Case of the Bachelor of Agricultural Extension Education, Makerere University**

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The Bachelor of Agricultural Extension Education (BAEE), a midcareer education was designed to meet the educational needs of agricultural field extension workers in Uganda. Though this is true no specific studies have been conducted to determine the relevance of the skills and knowledge acquired in BAEE program to promoting the agricultural professionalism in Uganda. The study revealed that the FEWs who participated in the BAEE educational program possessed unique personal characteristics in terms of age, work experience, family responsibilities as compared to regular high school graduates. To cater for the diversity of agricultural background as well as work experience, the BAEE educational program covered several agricultural- related disciplines to balance skills and knowledge in extension methodology as well as technical agriculture. The diverse mix of agricultural-related courses therefore prepared FEWs to organize work for different agricultural related environments. The bulk of coursework however was offered by the Department of Agricultural Extension Education. Other agricultural-related disciplines were nonetheless included in the program to bridge the deficiencies in technical agriculture for the field extension workers. Though this was true, more technical courses were noted as irrelevant to the agricultural career and therefore perceived as overloading the BAEE educational curriculum. Other courses, more towards the improvement of extension methodology and research, were thought to be lacking in the BAEE Educational curriculum. Despite the deficiency of the curriculum to cater for some job skill and knowledge requirement, the BAEE program provided a classroom environment that fostered a positive learning environment for fundamental people skills.

**A Case Study from Costa Rica: Using Formative Evaluation to Enhance Program
Implementation**

Alexa Lamm, Glenn D. Israel & Tracy Irani, University of Florida

International extension programs have been introducing innovative agricultural practices for years (Roling, 1988). However, these programs are continually criticized for a lack of sustainability (Rogers, 2003). Through the correct utilization of formative evaluation, implementation recommendations relevant to the long term success and sustainability of a program can be discovered and disseminated (Rossi, Lipsey, & Freeman, 2004). With this information, program planners will be able to adapt their programs at a time when concerns can be addressed. The main purpose of this study was to identify the usefulness of formative evaluation through a case study of an international agricultural program. In this study, changes to recruitment plans, enhanced communication across the program team, clearer educational objectives, changes to experiential learning techniques used during the program, and programmatic enhancements for the future resulted from the recommendations created throughout all five phases of the formative evaluation process. The study revealed that when formative evaluation process is followed, program planners do not have to wait for suggestions regarding programmatic changes and adaptations. Issues were identified in the planning phase,

while the program was occurring, and at the first year's conclusion. Adding this insight gave the program team an opportunity to fix the problems as they occurred, thereby increasing their chances of program sustainability. International program evaluators should consider how formative evaluation can be framed to enhance programs while there is still time to do so.

Diffusion of Technologies by the Tikonko Agricultural Extension Centre (TAEC) to Farmers of the Tikonko Chiefdom in Sierra Leone: Identifying Problems and Solutions

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Sierra Leone, a west African coastal nation, is endowed with substantial cultivable land and natural resources. Most of the people in the country are engaged in agriculture and related activities for their livelihoods. The country had a decade-long civil conflict that disrupted its agricultural, economic, social and political activities. Sierra Leone is recovering from the harrowing conflict, but a great need exists to provide improved farming technologies to farmers. The Tikonko Agricultural Extension Centre (TAEC) was established to manufacture farm tools intended for farmers to adopt and use. The tools are less expensive than imported farm tools and more efficient than traditional tools. A study was conducted to describe perceptions of farmers and TAEC staff on problems and solutions associated with TAEC-produced technologies and their diffusion. The study area was the Tikonko Chiefdom in the southern province of Sierra Leone. The target population consisted of 318 farmers and 18 TAEC staff. Seventy-four farmers constituted a random sample whereas the TAEC staff members represented a census. A structured survey questionnaire was used to collect data through one-on-one, oral interviews. Data were analyzed descriptively by calculating the frequencies of participants' responses as percentages. A majority of farmers agreed that decreased access to loans, lesser networking between farming villages, lack of maintenance facilities, and inadequate training programs were problems affecting technology adoption. On the other hand, all TAEC staff agreed that lack of funding due to donor fatigue, poor conditions of service of staff, low supply of raw materials, and decreased access to loans were problems associated with technology diffusion. In regards to ways to improve TAEC's technologies, most of the farmers agreed that encouraging greater networking between villages and providing training programs could serve as solutions to problems of technology adoption. In contrast, all TAEC staff agreed that improving the conditions of service for staff and increasing donor funding were ways to improve technology diffusion. However, both groups strongly agreed that increasing access to loan facilities was vital to improving the diffusion and adoption of TAEC's technologies. It is important for both stakeholder groups to pay special attention to problems associated with diffusion and adoption of TAEC technologies. A great need existed for increased support to the Centre if it were to improve the production of farm tools, which farmers could more readily adopt. In addition, particular focus should be given to the solutions suggested by both farmers and staff for improving the diffusion and adoption of TAEC-produced technologies. Many developing countries grappling with post-conflict problems may learn from Sierra Leone's experience. Empowering low income farmers could help to increase food productivity, reduce poverty, and achieve food security in other developing countries.

Factors Impacting Collaboration: Implications for Agricultural Extension and Education

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Agricultural Extension and Education can be impacted positively through collaboration. However, successful collaboration ultimately rests upon the commitment of individuals and the willingness for these individuals to work together and “collaborate” with one another. The purpose of this study was to examine factors indicated in the literature as enablers of collaboration in the context of collaboration between agricultural science teachers and Extension agents in an effort to document best practices. Specific objectives included 1.) Describe respondents based on demographics, 2.) Describe respondents based on collaboration, and 3.) Determine the perception of respondents regarding factors that can influence collaboration. Participants were purposefully selected through a nomination process. A survey including background/demographics, collaboration description, and response statements related to aspects of collaboration using a Likert scale, and open-ended questions was utilized. The response statements section of the survey was constructed based on the article entitled “Collaboration: What Makes It Work” (Mattessich & Monsey, 1992). A total of 32 statements related to each of the following categories were included: environmental factors (4), membership characteristics (6), process and structure (4), communication (6), purpose (5), and resources (7). Statements were constructed in a way to document whether or not these factors were influencing collaboration in the context of agricultural education and agricultural Extension. The findings from this study provide insight into factors that can facilitate collaboration. It is the hope of the authors that the findings from this study can be used by those working in international development to further enable collaboration efforts.

Stages of Concern Profiles for Active Learning Strategies of Agricultural Technical School Teachers in Egypt

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Since 2005, four professional development workshops focusing on active learning strategies have been conducted with 230 Agricultural Technical School (ATS) instructors in Upper Egypt through the Value-Chain Training project. The project is funded by USAID through the Midwest Universities Consortium for International Activities (MUCIA). The Concerns Based Adoption Model [CBAM] (Hall & Hord, 2006) provides a framework to evaluate one aspect of the effectiveness of this work. Specifically, the Stages of Concern (SoC) indicates what aspects ATS instructors are focusing on in the implementation of active learning strategies. By identifying the ATS instructors’ areas of concern in this implementation, future professional development sessions can be better designed to help instructors progress through the model to full implementation of active learning strategies and internships in their classrooms. In order to meet the purpose of this study, the following objectives were investigated: 1) describe the population of ATS instructors who have participated in the MUCIA active learning professional development sessions, (2) determine the SoC of ATS instructors who have participated in the MUCIA active learning professional development sessions, and (3) examine relationships between SoC and demographic variables. A descriptive census survey design was used. The researchers used a paper questionnaire to

collect the concerns of Egyptian ATS instructors towards the implementation of active learning strategies. The population (N= 230) for this study was Egyptian ATS instructors who had participated in at least one MUCIA professional development workshop on active learning strategies. The researchers utilized the Stages of Concern Questionnaire (SoCQ) developed by George, Hall, and Stiegelbauer (2006). This questionnaire assessed the concerns of the individuals involved in the educational innovation change process – the integration of active learning strategies. This questionnaire allowed respondents to indicate the relevance and intensity of their concerns towards active learning strategies. An overall concerns profile was developed to illustrate the concerns of the population regarding implementing active learning strategies into the Egyptian ATS classroom. The primary and secondary SoC for the group concerns profile was established as well as profiles based on various demographic characteristics (years teaching, level of use, etc). Patterns emerged that were consistent across the various concern profiles. The strongest concerns were in Stage 2 indicating that teachers have intense personal concerns about integrating active learning strategies and the personal consequences of integration (job stability, professional reputation). Concerns were consistently lower in Stage 3 across all profiles which suggests that teachers have minimal to no concerns about managing active leaning strategies in their own classroom. Trends were also found that indicate that more frequent users are concerned about how to best collaborate with others while low frequency users often showed very little concern for how the innovation would affect students. These findings should be used in determining additional educational needs of ATS instructors who have participated in past activities as well as planning future workshops for other instructors. Further, issues regarding the acceptance of the innovation by others can be addressed by providing additional information and/or workshops for school headmasters and Ministry of Education personnel.

Preparing a Framework for Analysis of International Development Non-Profit Organizations

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The purpose of this paper is to present a framework for stakeholder analysis of international development non-profit organizations. This framework adds to what is available in traditional non-profit literature, and focuses on the philosophical foundations and the type of impact achieved by an organization. It also complements the impact-focused framework proposed by Crutchfield and Grant (2008), aimed at organization managers and funders. The dimensions of the framework are both dichotomies and conundrums: They do not have a right or wrong answer, but the way an organization responds to each of them can determine support or resistance from a stakeholder. Some of the dimensions proposed include: 1. Short term vs. Long term; 2. Planner vs. Searcher (Easterly, 2006); 3. Disciplinary vs. Multidisciplinary; 4. Direction of action (community action projects, changing policy, and political action); 5. Who benefits (average or bottom of the pyramid)? 6. Adaptable goals vs. Flexible tools; and 7. Increasing positive intentional results vs. reducing unintentional negative consequences.

Using Indigenous Technical Knowledge (ITK) to Enhance Agroforestry Extension and Improve Agricultural Production in Kenya

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Soil infertility, fodder shortages in the dry seasons, wood fuel shortages, and weeds continue to persist in developing countries. The adoption of new technologies in these countries does not match the scientific development so far as farmers tend to continue using indigenous technical knowledge (ITK). Adoption of agroforestry technologies in Maseno has remained low despite being in an area served by agroforestry extension. This study aimed at investigating the potential of applying existing ITK in supplementing agroforestry extension in Maseno. The study was an ex-post-facto survey. Purposive and proportionate random sampling procedures were used to obtain 150 study subjects (Household heads) as a sample out of a population of 4,070 farm households. Data were collected using an interview schedule administered by the researcher and assisted by a local guide. The results of the study showed that ITK plays a statistically significant role in the management of wood fuel, fodder, soil and weeds. Level of education and age of respondent did not influence dissemination of ITK related to AF. However, respondents' gender was found to have statistically significant influence on dissemination of ITK related to AF. The level of adoption of recommended AF technologies in the study area was found to be low. Based on the results, it is recommended that new AF technologies be developed with farmers in mind and that new technologies should be seen by farmers as mutual modifications of traditional farming systems. It is suggested that a study be carried out on how to effectively integrate modern AF and ITK to ensure sustainability and vitality in improving agricultural production in generations to come.

Defining Internationalization for University of Minnesota Extension Using an Appreciative Inquiry approach

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This paper shares the experience of University of Minnesota Extension to begin an internal process to support long-term involvement and commitment for internationalizing University of Minnesota Extension. The paper describes the approach used for a two-day discovery and planning workshop bringing together state and national leaders from around the country to work with a diverse group of staff and faculty across the University of Minnesota Extension and the College of Food, Agricultural and Natural Resource Sciences. The workshop design incorporated a modified appreciative inquiry approach to provide participants historical and current examples of international work in University of Minnesota Extension and examples of successful programs across the country through the US Department of Agriculture's previous National Initiative to Internationalize Extension. This approach allowed participants to discover and apply new ideas about key aspects of internationalizing University of Minnesota Extension. By engaging participants and valuing their expertise and experiences we have begun building a team committed to internationalizing extension built on positive affect, social bonding, and a sense of purpose to create something meaningful together. Our major results include a concept paper outlining goals, values, and action steps that were a direct result of the workshop Thinking

globally, acting locally: Extension in the World representing the collective thinking of over 40 participants.

Agricultural Extension: Is the Bubble Bursting?

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This paper raises issues regarding the future directions of agricultural extension with a particular focus on the contribution of universities. It argues that the development of the research intensive university militates against applied research and weakens university outreach and its contribution to community. The push for research intensity also weakens a universities ability to provide the type of graduate that is required by the agricultural and rural development industry. This disconnect with industry and the economic and financial pressures on universities will make it very difficult for universities to retain/develop agriculture or agricultural extension departments. There is also the situation, particularly in Western Europe that as the current generation of staff retire, they will not be replaced and both these disciplines will decline and eventually disappear. On the other hand the successful outreach model led by extension in some countries could be used to inform the new generation who are now only beginning to discover the concept of translational research The demand for extension in the so called developed world at farm or rural level will depend on its ability to supply knowledge around a changing set of technologies and areas than would have been the case in the past.

Obstacles in Use of Information Technologies by Agricultural and Natural Resources Faculty Members

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Advancements in Information Technologies (ITs) have created opportunities whereby educators in higher education institutions can develop the educational courses beyond the traditional classroom and deliver education and training to geographically diverse audiences locally, nationally, and even internationally (Rockwell, 1999). Although there has been a strong push to get educational technology into the colleges and universities, many barriers and obstacles to the development of E-learning still exist; such as lack of financial resources, lack of time to learn technology skills, inadequate technical support, insufficient information about the use of computers, faculty attitude and motivation toward ITs, and resistant to using computers. As higher education attempts to meet the increasing demand for courses delivered at a distance, identification of possible barriers to use modern technologies by faculty members in educational and research activities are needed. The main purpose of this study was to assess the obstacles in the use of ITs by agricultural and natural resources faculty members at Tehran and Tarbiat Modarres Universities in IRAN. This study used a descriptive survey method and the population of the study included all faculty members at Tehran and Tarbiat Modarres Universities, College of Agriculture and Natural Resources (N=267). A systematic sampling technique was used to select faculty members in the study (n=158). Data was gathered via the use of an on-line questionnaire. Content and face validity were established by a panel of experts consisting of

faculty members at Tarbiat Modarres University, College of Agriculture. A pilot test was conducted with 30 faculty members at Tarbiat Modarres University, College of Agriculture. Questionnaire reliability was estimated by calculating Cronbach's alpha. The overall Cronbach's alpha coefficient for the instrument was 0.86. Results of this study showed that nearly 92% of the respondents reported owning a personal computer at home and 98% of them cited that they have a computer in their offices. The results of this study illustrated that the faculty members use ITs in research activities more than educational activities. Most of them (89.9%) lacked experience in teaching learners E-learning. According to the results, the respondents had a positive attitude toward online education and E-learning as a general concept, but they stated that the most effective mode of instruction is combined education (face-to-face classroom instruction and online education). According to the results the major obstacles in the use of new technologies in educational and research process were the infrastructure and physical barriers (mean= 3/06, S.D=0/72) and social-cultural barriers were the less important obstacles in the use of ITs in educational activities (mean 2/25, S.D=0/54). According to the results, it is required to revise the financial plans and to allocate more resources and make financial arrangements for supplying the required equipments, hardware and software.

The Personal Impact on U.S. Agricultural Faculty, Students and Media Practitioners who Participated in a Citizens' Exchange Project: A Case Study

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Oklahoma State University/Sam Houston State University/University of Florida

As one component of a grant funded by the U.S. State Department's Professional Exchange Program, a team of academics, practitioners and students with varying interests in the agricultural sector travelled to Mali, West Africa. For many, this was their first experience travelling to the African continent, and for most, it was their first international experience. The team consisted of faculty members from agricultural education, agricultural communications, and mass communications disciplines; media professionals; and graduate students from agricultural disciplines. Members of the team recorded their thoughts, experiences and concerns before, during and after the project through the channels of blogging on a published Web site and writing in personal journals. The purpose of this qualitative analysis was to describe the cultural awareness and personal growth of U.S. based agricultural educators, communicators, graduate students and media practitioners with varying international travel experiences who participated in a cultural exchange project to this country in West Africa. A qualitative case study method was used to analyze written records from this team of U.S. based agricultural educators, communicators, graduate students and media practitioners. The case study approach was selected based on its function of assessing context within a subset (Lincoln & Guba, 1985). Team members' blogs and/or written journals were digitized and compiled into Weft QDA, a data management software program. This software was used to catalog and manage emergent themes from team members' blogs, journal entries and survey responses. In addition, data collected by an outside evaluator immediately following the project's fruition (Irani, 2008) was used to support thematic areas. Participants were asked a series of open-ended questions about their perception of the personal impact the international experience had on them. The instrument used to collect this data was sent via e-mail to the faculty and practitioners who participated in the project. Eight responded and content from the survey was analyzed for commonality (Irani,

2008). A follow-up survey was conducted approximately four years after the experience to assess potential participant behavioral changes toward international issues. Responses were analyzed for thematic relevance. Findings indicated participants with little to no previous international experiences were apprehensive about their physical and health safety while in country. The major thematic areas noted were awareness of culture and poverty. The theme of “endearment” emerged from artifacts with many blog entries noting the passion and friendliness of the Malian people. More people journaled about the cultural differences than sameness; however, participants with little to no international experiences highlighted cultural similarities more often than participants with more international experiences. Follow-up questions indicated that participants were more aware of international issues and more enlightened about their self. However, few respondents indicated an increase in international involvement due to their experiences with the exchange program. It is recommended that businesses and universities provide cross-cultural exchange opportunities to their employees and students. From an educational perspective, such an experience provides opportunities for personal growth and cultural awareness through the enhanced understanding and awareness of cultural differences and similarities.

Diversifying Agricultural Production Utilizing High-Value Fruits and Vegetables to Replace Low Productivity Crops in the Altiplano, Occidental Region of Honduras

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Indigenous Lenca-Mayan people primarily inhabit the Altiplano area in the Occidental Zone of Honduras. This area is one of the least developed areas in Honduras and includes mostly small landholders producing basic grains and potatoes on less than one hectare of land. Their low-value agricultural production technology subjects these families to a lifetime of poverty because they earn less than \$120 / manzana / year (manzana = 1.7 acres) and therefore an overall low-level in their quality of life. From 1992 – 2008, the Honduran Agricultural Research Foundation (FHIA), the Secretary of Agriculture and Livestock (SAG), and the Japanese International Cooperation Agency (JICA) implemented a research, extension, and education project centered on the production and marketing of high-value fruits and vegetables as a means of addressing these problems. The purpose of this paper is to describe the efforts FHIA used to increase the incomes and improve the quality of life of poor, rural families of the Altiplano, Occidental Zone in Honduras through the Diversifying Agricultural Production Project (PDAE). The project was first implemented utilizing a research approach to determine the potential crops appropriate for the area and then design agronomic packages followed by an extension and training outreach program. Valuable producer feedback was essential in developing the agronomic packages. The end of project evaluation documented significant increases in income (\$2,700 / manzana / year), employment, and quality of life along with a diversified high-value agriculture system that utilizes sustainable practices. It is strongly recommended that FHIA’s efforts be reviewed by others and replicated in other similar Altiplano regions of Honduras and Central America in general. Although a few other NGO’s in the same geographical area are now starting to implement similar extension and outreach projects, the project methodology of first conducting applied research should also be replicated with other poor, rural families in similar geographical regions who may very well benefit from the same approach. FHIA feels that the research component was essential to their success. It is also recommended that a follow-up project

evaluation be carried out to document and measure the long-term impacts of this project. While there is nothing magical in what FHIA has done, it seems that very few other institutions in Honduras have come up with the combination of research, in-house plant materials, technical expertise, training, and outreach. Other agricultural and extension education practitioners should further examine the long-term changes in behavior as a result of this program to determine the exact role of each component and their possible application in other regions.

Selected College of Agriculture Students' Eurocentric Attitudes about Agriculture

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Houston Livestock Show and Rodeo™/Texas A&M University

Eurocentric views are still prevalent in today's society. Eurocentrism, suggesting a Western model of daily life that should be adopted, creates a permanent core and a periphery from which socio-economic, cultural, and political ideas disseminate into the world (Persaud, Parrish, Wang, & Muffo, 2008). Eurocentrism suggests a western model of daily life that should be adopted, because it is seen as the only solution to the world's challenges. Studies identified that students' perceptions of their own global awareness and attitudes toward internationalism reflected Eurocentric ideals, and agricultural students exhibited limited international experience and backgrounds. Persaud and others posited that Eurocentric views held by students may be associated with historical socio-cultural conditioning. The purpose of this study was to determine college students' Eurocentric attitudes about agriculture, the factors influencing those views, and how students' attitudes differed between grade levels. A stratified random sample of College of Agriculture and Life Sciences' undergraduates (N = 166) completed an online questionnaire that measured students' Eurocentric attitudes about agriculture, using a Likert-type five-point scale, for 16 statements. The results showed that students had Eurocentric attitudes about agriculture. Students generally agreed and sometimes strongly agreed with the 16 proposed Eurocentric statements. While upperclassmen held less Eurocentric attitudes about agriculture than those of underclassmen, Eurocentric attitudes were still represented. Although other influencers measured (gender, living on a farm or ranch, and studying abroad) did not produce significant results, several statements warranted statistically significant results. Students' race influenced two proposed Eurocentric statements about agriculture, and students' college influenced two Eurocentric statements about agriculture. Further research is needed to explore how students' Eurocentric attitudes about agriculture change as they progress through university coursework. Also, research should be conducted explore how students' personal beliefs and sociological preconceptions influence their attitudes about agriculture. Gathering a larger sample of the population (middle grades, high school, college, young adults in the agriculture sector, and older adult policy makers) will benefit further research by allowing researchers to gather more sociological information about respondents. Recommendations for slowing the process of establishing Eurocentric attitudes about agriculture include using outside speakers and international foci in 4-H, FFA, middle school, and high school student settings to build interests in international agriculture education and development; incorporating information pertaining to natural resources, food science, soil science, crop science, plant biology, etc. in the education system as early as middle school; encouraging international graduate students' visits to schools located near colleges or universities to speak about agriculture production in their native countries and how it differs from methods in the United States; creating online and electronic

workshops to introduce information about international agriculture production to teachers, FFA advisors, and 4-H youth extension agents.

Woody Biomass Energy Extension Education: Implication for International Agricultural and Extension Education

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Woody biomass energy is one of many alternatives to fossil fuels currently being explored and one that has broad application internationally. Around the world, non-industrial private forest (NIPF) can serve as a large-scale source for this woody biomass. This paper contributes to a better understanding of the challenges and opportunities of developing an Extension education program to encourage the participation of NIPF landowners in the biomass industry around the world using North Carolina as an example. Over the course of six months we surveyed 395 forest landowners participating in our Forestry Extension program held in ten counties across the state. We saw changes in knowledge, attitudes, and aspirations of participants indicating woody biomass educational programs should be an important component of renewable energy adoption plans. However, while the majority of landowners reported that the information gained was beneficial to them, they need more specifics before deciding to participate in emerging woody biomass markets. Furthermore, there is much work to be done to further develop international outreach in this area.

The Role and Benefits of the 4-H Club Program in Poland

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Purdue University/Agricultural University of Krakow, Poland

The 4-H non-formal education idea was born in America in the early 1900's. In the last 100 years, it has migrated and adapted outside U.S. borders. Between 1920 and 2002, 37 non-U.S. countries have implemented their version of the 4-H idea (Cooperative State Research Education and Extension Service, 2008). The authors of this paper have completed research on the benefits of the 4-H program in Poland after 1989. The post-communist changes in the early 1990's had a great impact on the formation and implementation of education in Central and Eastern Europe (Mitter, 2003). Specifically, Polish education faced a chaos of national and international opinions about what it should look like, linked with a low order in national priority (Tomiak, 2000). As Poland was exploring new ideas in the formal classroom, non formal education systems (NFE's) such as 4-H were also developing as educational complements. As a result, some 400 4-H clubs containing 7,000 members are active in Poland today. The growth and staying power of Polish 4-H since 1989 suggests that it has been beneficial to Poles. In turmoil of national and educational policy changes, Poland customized 4-H to catalyze local level institution engagement for individual and community benefit. But like many 4-H Extension programs, by whom and how should evaluation take place? A review of formal research evaluating European 4-H systems was found to be very limited. This included a study on Danish 4-H completed in 1989, and a 2002 study exploring the Finnish 4-H system (Staude, 2002). The authors of this paper expanded the literature in international 4-H systems evaluation, specifically

in benefits of the Polish 4-H system. They completed a research project comprised of both American and Polish researchers to answer the question – “What are the benefits of 4-H in Poland”? To accomplish this, a 28-question researcher developed survey was given to ten random cluster samples of 4-H clubs in southern Poland. Each club was considered a cluster, which provided a representative sample of 4-H members, 4-H alumni, 4-H parents, 4-H leaders, and school headmasters (N=234). Findings noted characteristics of Polish 4-H. These included that 51% of 4-H leaders were described as teachers in the school system. Additionally, 90% of 4-H meetings utilized the school as a meeting location. Next, nearly 90% of respondents described their residence as living on a farm or in the country. Also, nearly 75% of participants surveyed were female. Findings also reported benefits of Polish 4-H. Participants perceived 4-H as useful in many ways, such as for individual development, as a teaching method, and as a tool for local community development. Specifically, approximately 83% of respondents reported that 4-H participation improves students’ grades in school. Of the 234 respondents, 28 were able to travel on an international 4-H exchange through 4-H (23-Purdue University, 5-Michigan State University). Many youth noted how 4-H had left an impression on their life path by improving their self-confidence, organizing their leisure time, developing their passions, and positively influencing their chosen lines of study.

Emerging Innovations within the Ethiopian Agricultural Extension System

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University of Illinois/International Food Policy Research Institute

The purpose of this study was to provide a review of the strengths and constraints of the Ethiopian extension system and, in close consultation with the government and other stakeholders, to outline specific institutional innovations that would improve the overall extension system. Methods used to collect information for this study included a desk review of relevant literature, including successful case studies from several Asian countries; informant interviews; stakeholder consultations; focus groups; and field visits to six of the nine regions of Ethiopia. A pre-test of data collection instruments was also conducted in Addis Ababa and the Oromiya Region. The authors found that the field-extension service had a strong foundation of Farmer Training Centers (FTCs) and trained Development Agents (DAs) in place. Roughly, 8,500 FTCs have been created throughout Ethiopia, and about 63,000 diploma-level graduates have been trained and about 45,000 DAs appointed to provide extension services to farmers. Several innovative examples were found in pockets of the country that could be up-scaled to have greater impact on rural poverty and food security. These included a broadening of the extension approach beyond national food security to focus more attention on high-value crops, livestock and other products that would directly benefit men and women farmers. Another example was to increase the sustainability of the FTCs by conducting income-generating activities that would serve a dual purpose: using this income to expand extension activities for farmers within each kebele (township) and to enhance DA connectivity with subject matter specialists (SMSs) and researchers, as well as to finance additional DA training. To implement these proposed institutional innovations will require additional investment from donors and the national government. These changes include expanded training so DAs can function more effectively as knowledge brokers; enhancing information and communication technology (ICT) to better link DAs with researchers and market information; and enabling farmers to play a more active role in setting extension priorities and assessing DA performance.

Preferred Information Channels and Source Trustworthiness: Assessing Communication Methods Used in Florida's Battle Against Citrus Greening

Ricky Telg, Paul Monaghan, Tracy Irani, Christy Chiarelli, Michael Scicchitano & Tracy Johns

University of Florida/Florida Survey Research Center

The purpose of this study was to examine the perceived source credibility of Florida agricultural organizations associated with containing citrus greening, as viewed by Florida citrus opinion leaders. In addition, this study sought to determine the types of information that opinion leaders receive from these Florida agriculture organizations, as well as identify factors that contribute to an opinion leader disseminating the message. The project described in this paper was developed to assist Tropicana – one of the largest citrus processors in the state – to better understand Florida citrus growers' attitudes and behaviors regarding preferred management practices (PMPs) to contain citrus greening. Focus groups were implemented with Florida citrus growers to gather information about the growers' awareness and understanding of citrus greening, their current management practices, and the best ways for organizations to provide growers and managers with information about greening and other citrus diseases and issues. This paper focuses on the topics of source credibility and communication channels that were brought out during the focus groups. Three focus groups were conducted at county Extension offices in three major areas of citrus production in Florida in late 2007. The number of participants ranged from four to six for a total of 15. Growers were asked about their awareness and experience of citrus greening; management practices; cooperation with fellow producers and institutions that played a role in citrus greening management, namely processors, the University of Florida's Institute of Food and Agricultural Science (UF/IFAS), and governmental regulators; preferred avenues of communication; and information dissemination methods. Focus group results indicate that Florida citrus growers prefer to receive information about citrus greening in traditional methods, namely meetings and field days. They also prefer to receive their information from other farmers, to find out how their colleagues have been handling citrus greening. Focus group participants were less likely to prefer information transmitted by e-mail. Focus group participants struggled with trusting UF/IFAS and regulators, based on two primary reasons: 1) the farmer's previous experiences with UF/IFAS and regulators during the unsuccessful citrus canker eradication program and 2) farmers' perceptions of the practicality of the university's information. Finally, farmers were critical of the lack of information they were provided in a timely fashion, saying that "no one told us" of the devastating impact of citrus greening, until it became too late. Results presented in this study will be applicable to U.S. and international extension efforts, because it is increasingly important to understand how to communicate timely, effective information to agriculturalists. It is recommended that universities strive to instill trust in the recipients of their information. Although the use of information technology continues to expand, this study indicates that traditional methods – face to face meetings and field days – still serve a valuable role for farmers. Lastly, it is essential that farmers see universities and regulators as partners.

Digital Extension Newsletters Innovative Cooperation and Collaborations

Pete Vergot III, Whitney Cherry, Andrew Diller, Theresa Friday, Judy Ludlow, Carrie Stevenson & Kendra Zamojski, University of Florida IFAS Extension

This paper will share a unique and new “Digital Extension Newsletter” project that was designed, developed and continue to deliver articles written by County Extension Agents. County Extension Faculty develop and distribute program newsletters to disseminate information to their clientele. The purpose of the “Digital Extension Newsletter ” were to provide an opportunity for county faculty to develop original publications and creative works; and to develop a district-wide marketing campaign for these new channels of information; to develop common marketing. The objectives were to develop county agent areas of expertise and to develop a virtual digital site for all Extension program areas. Lead county faculty worked with the software developer to utilize a web-based software to complete the project. New virtual extension program websites were developed for all digital channels including newsletters, county fact sheets, video, blogs and social marketing sites.

Connecting Research, Education and Extension: the Agricultural Extension Center at MSUA

Grant Wood & Paul Stevens, University of Saskatchewan

Mongolia is a vast area situated between Russia and China where semi-nomadic herders who manage the vast areas of native grassland still predominate in the countryside. From the early 1900’s until the early 1990’s Mongolia was heavily influenced by the USSR. Following the USSR breakup, Mongolia was in a crisis situation and very quickly had to redevelop a sustainable agricultural industry that meant having effective research, education and extension systems in place, and working together. The establishment in 2004 of the Extension Centre at the Mongolian State University of Agriculture (MSUA) was a purposeful attempt to ensure effective linkages, coordination and collaboration between research, education and extension, and thus facilitating the creation of a sustainable agricultural industry. Since its inception the centre has fought to realize its purpose and role and become established and accepted. This paper, taking into account history, culture and politics describes the process followed, the history of the office, and the lessons learned from mentoring it through its first five years of operation. The methodology used was a single-case explanatory case study using multiple sources of evidence that included discussions, observation and documentation. Three key areas which are all very interrelated were identified as problematic: a) the concept of extension meant different things to farmers and herders than it did to legislators. This caused confusion in establishing the role of the extension centre at MSUA; b) familiarity with the past and failure to think beyond the pillars seriously hindered the establishment of the centre. Saddled with the name extension, administration chose to focus on program delivery and mandated the centre to only fulfill extension responsibilities – development and delivery of programs on a cost-recovery basis c) frequent administrative and staff changes meant almost continually having to revisit the entire process of establishing the centre. With new administration came new ideas that sometimes were contradictory to the originally established roles and responsibilities. To avoid a top-down decision making process and to help colleagues discover other options and processes, over the years select individuals came to the international partner university as a visiting scholar. Through

tours, meetings, readings and observation they saw the connection between research, education and extension and discovered best-practices that were applicable to the MSUA extension office. Discovery takes time, often involves making mistakes, but results in true ownership that is now happening. MSUA extension centre staff are taking forward several next steps which will help them achieve their original goal. Lessons learned include: use existing terminologies, always take into account the local culture and history, concentrate on clear and inclusive communications, use study tours to enable colleagues to discover alternate processes and approaches.

Baruunkharaa: A Poverty Reduction and Community Development Success Story

Grant Wood, Paul Stevens, & Debra Rasmussen

University of Saskatchewan/Agriteam Canada

Mongolia is a country large in area and small in population. It is a country where agriculture is the backbone of the economy and where semi-nomadic herders predominate in the countryside. The transition to a democratic market economy has not been easy for Mongolia. Plummeting production in combination with two years of drought resulted in a food security issue. Rural people flocked to the cities in hopes of finding employment or support. Rural Mongolia was left in a desperate state. The Baruunkharaa Community Development Pilot Project was designed so that poor families in the community could start commercial vegetable growing operations and become economically self-reliant. This joint investment and training program was a partnership of three Mongolian and three international organizations. A socially responsible international mining company supplied the investment capital. The local government supplied the land. The program families supplied the labour. A combination of international and local educational partners supplied the training materials and trainers. The program used a participatory management approach to ensure participants took ownership of the program. It also used appreciative inquiry with participants in order to discover, dream and design short and long-term goals. By the end of the three-year program 61 of the 75 families who started the program were still actively involved in the program. 320 people from the 61 families had directly benefited from the program. This program saw a 158% increase in the average household income of the participant families. It also saw the average household income of female headed-households in the program grow by an amazing 198%. Total production of vegetables and potatoes grown by the participants grew from 14.2 to 89.4 tonnes, and total yield per hectare grew from 6.3 to 10.9 tonne/ha. The profit realized per participant household grew from just under 10,000 MNT to over 231,000 MNT in just three years. A spin off affect of the program was a 92% increase in the total area of land in the community devoted to vegetable and potato production. Success of this program is credited to several factors including: having a strong local market for sale of produce, having families that are active partners and fully involved in planning and priority setting, selecting participants that had a high literacy rate and were classified as able and willing and unemployed, placing an emphasis on women participants as they traditionally are willing to work and are often more interested in processing which is a lucrative venture, ensuring that the training follows sound adult education principles, encouraging group formation to help share work plus management and finances and to help build community, and the use of appreciative inquiry to help bring the community together and ensure collaborative work.

Evaluation of Participants' Knowledge scores in an International HACCP Workshop

Landi Woolley, M. Todd Brashears, Jonathan Ulmer & David Lawver

Texas Tech University

The purpose of this study was to evaluate the effectiveness of a HACCP workshop, developed and presented by the International Center of Food Industry Excellence (ICFIE), to Mexican meat processors as measured on levels one and two of Kirkpatrick's workshop evaluation model. A one-group pretest-posttest design and an evaluation were used for this study. The group of workshop participants (N=24) took a 28-question pretest on their knowledge of HACCP and food safety. This was followed by a two-day workshop. At the conclusion of the training, the participants took the same 28-question test for the posttest. Participants also answered an evaluation instrument including questions pertaining to the workshop presenters and the entire workshop. Participants showed a significant gain in knowledge from pretest to posttest, and researchers detected correlations between posttest knowledge and evaluation scores. The participants and presenters were described.

Integrating Learning for Development: B Agric (Extension) University of KwaZulu-Natal

Steven Worth, University of KwaZulu-Natal

For several years the University of KwaZulu-Natal investigated the development of an appropriate curriculum for its three-year Bachelor of Agriculture (BAgric). The qualification was originally created to provide quality human resources for agricultural and rural development. Its roots are in experiential learning, discovery learning and systems thinking. Five years of research into curriculum, agricultural extension, agricultural policy and educational policy as well as involvement in the evolution of agricultural colleges led the Agricultural Extension and Rural Resource Management (AERRM) unit of UKZN to develop a unique three-year BAgric in partnership with the Cedara Agricultural College. The research underpinning the qualification, which awaits final approval by the Council on Higher Education, produced a new learning-based concept for agricultural extension (Agriflection), a new method for evaluating and designing curricula (Theory-led Instructional Design Curriculum Evaluation and Design, a framework for designing curriculum (the Agricultural Extension Carousel of Learning), and a unique curriculum specifically designed to contribute to the fulfilment of the transformational policies for South African agriculture. The programme meets SAQA and HEQF standards, is aligned with the norms and standards for agricultural extension, and complies with the requirements of the Agricultural Education and Training Strategy and the principles of Agricultural Research for Development. The UKZN BAgric (Extension) is due to be launched at Cedara in 2010.

2010 AIAEE Conference

Outstanding Paper Presentation

Factors Impacting Collaboration: Implications for Agricultural Extension and Education

**Theresa Pesi Murphrey
Julie Harlin
John Rayfield**
Texas A&M University

Outstanding Paper Presentation -1st Runner-up

*Stages of Concern Profiles for Active Learning Strategies of
Agricultural Technical School Teachers in Egypt*

**Brian E. Myers
R. Kirby Barrick**
University of Florida
Mohamed M. Samy
Chief of Party, USAID MUCIA Value-Chain Training Project
Cairo, Egypt

Outstanding Paper Presentation -2nd Runner-up

Baruunkharaa: A Poverty Reduction and Community Development Success Story

Grant Wood
University of Saskatchewan

Outstanding Graduate Student Paper Presentation

*A Case Study from Costa Rica:
Using Formative Evaluation to Enhance Program Implementation*

**Alexa Lamm
Glenn D. Israel
Tracy Irani**
University of Florida

Outstanding Poster Presentation

Building a Comfort Zone: A Pedagogical Approach to International Field Study Seminars

John R. Vreyens
University of Minnesota

Outstanding Poster Presentation -1st Runner-up

***Framework for the Development of an International
Agricultural and Extension Education Graduate Course***

K. S. U. Jayaratne
North Carolina State University

Outstanding Poster Presentation -2nd Runner-up

***Radio Broadcast as an Extension tool in Dry Season Vegetable Production
in the Upper West Region, Ghana***

Abdul-Halim Abubakari & Gustav Mahunu
University for Development Studies, Tamale, Ghana

Patrick Kumah & Irene Idun

Kwame Nkrumah University of Science and Technology, Ghana

Mary Ruth McDonald, Dinah Ceplis, Mervin Pritchard, & Josee Owen

University of Guelph, Canada

Minnedosa, Canada

University of Manitoba, Winnipeg, Canada

Senator Hervé J. Michaud Research Farm, Agriculture and Agri-Food Canada

Outstanding Graduate Student Poster Presentation

***Viva Colaboración: Using Mentoring to Enhance International Agricultural Learning
Programs***

Alexa Lamm
Amy Harder
Tracy Irani
University of Florida

**Association for International Agricultural and Extension Education
26th Annual Conference
Saskatoon, Saskatchewan, Canada
May 16-19, 2010**

AIAEE Award Winners for 2010

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University of Arizona

Outstanding Service Award

Mark Erbaugh
Ohio State

Outstanding Achievement Award

Barnabas Dlamini
University of Swaziland

Outstanding Early Achievement Award

Amy Harder
University of Florida

Special Recognition for Financial Assistance

Pat Rigby
Ohio State

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Journal Article of the Year for 2009

The past editor requested board members to review and nominate articles published in Volume 16 (2009) for the 8th annual **Article of the Year Award**. The nomination period occurred in April 2010. Criteria for article selection and nomination were the article's capacity for "enhancing the *research and knowledge base* of agricultural and extension education worldwide." Following are the results of this evaluation. Congratulations to all the authors on their scholarly achievements.

Outstanding Journal Article of the Year for 2008

Dolly, D. (2009). An assessment of the implementation and outcomes of recent farmer field schools to improve vegetable production in Trinidad and Tobago. *Journal of International Agricultural and Extension Education*, 16(2), 7-19.

Runner-Up Journal Article of the Year for 2009

Kante, A., Igo, C. G., Frick, M. J. (2009). Enhancing effectiveness of extension efforts: A case study of Malian shea butter producers. *Journal of International Agricultural and Extension Education*, 16(1), 105-115.