Gender Issues and the Needs for Extension Services in the Implementation of Reward for Environmental Services Program

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Introduction

Gender equity and equality are important goals when providing extension services, such as in the Rewards for Environmental Services (RES) program of environmental management. The RES program is “dedicated to developing practical environmental services schemes that can be adapted to work in different countries with different circumstances” (http://rupes.worldagroforestry.org/). To improve environmental sustainability and improve rural livelihood in Singkarak—West Sumatra, a scheme of RES has been implemented since the early 2000s. Farmers, through local institutions, have made a contract with the sponsor of RES and play a role as providers of environmental services. For services provided, the farmers receive reward in accordance with achievement of measurable conservation as listed in the contract between the provider and the sponsor of RES. This program could contribute a more positive impact on society if it were managed in a way that involved all members of society in a fair and equitable role. However, there remain gender gaps in some aspects of the program. The purpose of this study was to analyze gender issues and how they relate to the role of extension services in promoting a better environment.

Research Methodology

The study was conducted in Singkarak—West Sumatra Indonesia. The subjects of the study were farmers’ groups who engage in business cooperation with buyers of environmental services through the planting of crops on marginal land near the hills around Singkarak. Data were obtained through a short survey to 33 service providers. In addition to the survey method, in-depth interviews, focused-group discussion, and field observation were used to gather facts and information. Data were analysed Harvard Gender Framework, Moser, and Gender Analysis Pathway.

Results

Research results showed that there were still gender gaps in the implementation of rewards for environmental services, especially in the planning and evaluation phases. Also, involvement of women in the decision-making process of the sustainability of reward for environmental services was low. On the other hand, women played more dominant roles in the domestic sphere, with influence over the maintenance of heritage, dietary adjustments, and
children’s school needs. In the public domain, there were gender gaps in productive economic activities and in social activities. In terms of division of labor, there is a close relationship between the values and norms adopted by society, stereotypes about the "place" of women and men based on physical conditions, and priorities in allocating the reward from environmental services. There were limited numbers of extension officers available, and rural advisory services haddifficulties in providing gender sensitive program, developing innovative extension approaches, and networking. Gender sensitive extension and rural advisory services are needed for a better RES. Improving extension officers’ facilitation skills is also needed to support farmers in managing environment.

Conclusions

There were gender gaps in the planning and evaluation phases in implementation of RES and extension services in practice. The more sensitive RES is, the better the condition of farmers will be.

Recommendations

The government, together with the private sector and civil society, needs to strengthen extension institutions in order to provide better extension services and to improve quality of life of the small farmers.

References

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TEACH: Modernizing Extension and Advisory Services to Feed the Future

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Keywords: Extension, Teaching and Learning, Feed-the-Future

Introduction and Need

Extension systems in Africa, the Middle East, Eastern Europe and Central America need to undergo significant change if they are to serve the food security and economic development needs of resource-poor men and women farmers. New approaches must draw on the full breadth of resources in public and private organizations and utilize available advanced information and communication technologies. Modernizing Extension and Advisory Services (MEAS) is a project funded by the U.S. Agency for International Development (USAID) that seeks to promote and support such endeavors.

The MEAS project includes three components.

1. TEACH – disseminating modern approaches to Extension; user-friendly materials and training programs.
2. LEARN – documenting good practices; success stories, case studies, evaluations, pilot projects and action research.
3. APPLY – designing Extension and advisory services; assistance to selected host country organizations for reform.

This poster addresses Component 1: TEACH, which is designed to deploy immediate, high impact Extension and advisory services training modules and technical papers and develop a system to sustain their continuous creation and use.

How it Works

In Year One (2010–2011), the focus included developing training modules, teaching those training modules, and developing technical notes/good practice papers. While the ultimate beneficiaries of the components are producers in selected countries, Component 1 is designed to build/re-build a viable Extension system to deliver knowledge and skills to field agents throughout the Extension system. Faculty from partners in the MEAS project were tasked with
writing modules and technical papers on topics identified as high priority for technical expertise in developing and enhancing Extension and in delivering content (teaching).

**Results**

A Call for Papers was issued in January 2011. During Year 1, the following are 13 examples of the 18 modules and technical papers that were prepared for immediate use.

- Extension Administration – From Vision to Operation
- Financial Management
- Group Management
- Innovation
- Working with Community
- Developing an Extension Program
- Needs Assessment
- Presentation and Evaluation Processes
- Preparing Educational Materials
- Teaching and Learning
- Women and Gender Issues
- Policy Issues
- Institutional Analysis

**Conclusions/Implications**

As MEAS becomes more demand driven, a new approach to assigning technical notes and developing and delivering training materials will be pursued. Continuous input from potential host countries will be utilized to identify needed content, and reviewers in host countries will be engaged in testing and evaluating materials. Additional modules and papers will be prepared in Years 2–5 of the project for use in host countries.

**Recommendations for Practice**

The overall objective of the MEAS project is to continue to define and disseminate good practice strategies and approaches to establishing sustainable rural extension and advisory systems. In subsequent years, content for training materials will emanate from information gleaned from the work in Components 2 and 3, namely case studies, lessons learned and action research.

**Cost/Resources**

The MEAS project is funded by USAID. The initial five-year project is funded at approximately US$5 million, with extensive “match” from partner institutions and potential investment from USAID missions in selected countries.

**References**

Two Continents, Two Universities, One Vision: Collaborating to Deliver a MSc Program in Agriculture

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Keywords: Africa, Faculty Capacity, Higher Education, Mozambique

Introduction/Need for Innovation
Faculty capacity is a serious constraint crippling many African universities (Sawyerr, 2004). Policies creating significant growth in school enrollments have resulted in African youth clamoring for post-secondary education. However, many universities are unable to keep pace with demand for new faculty (NASULGC, 2007). Recognizing the problem, NASULGC issued its Africa U.S. Higher Education Collaboration Initiative describing an urgent need the continent faces to increase faculty capacity to serve its predominantly youthful populations. NASULGC called on U.S. institutions to collaborate with African universities to assist in mitigating this need.

Faculties of Agriculture are not immune to this phenomenon. Accordingly, Eduardo Mondlane University, Mozambique and Oklahoma State University, USA are collaborating to provide a MSc program in agriculture. The program’s primary objectives include (a) preparing MSc degree graduates to serve as lecturers at public universities, and (b) preparing a portion of graduates to pursue terminal degrees.

How the Innovative Program Works
The MSc program is non-thesis and spans two years. Enrollment includes 33 students specializing in one of three areas: Extension education, agricultural economics, or plant protection. Each specialization requires 12 courses. Students are also required to complete a creative or action research component. Faculty of Eduardo Mondlane University are teaching eight courses and Oklahoma State University faculty teach the other four courses in each strand. All courses are taught face-to-face.

This program was first proposed by Mozambique’s Minister of Education and Culture when he visited Oklahoma State. The program is funded by Mozambique’s Government. The Ministry’s Scholarship Institute is providing bursaries (scholarships) for the students. Eduardo Mondlane faculty teach in English primarily, so students must be somewhat proficient in English. (Portuguese is the national language.) Pending future funding, officials are hopeful the MSc program will extend to additional cohorts.
Results to Date

The initial course serving the Extension education strand, i.e., methods of technological change, was taught during February and March of 2011. A course on agricultural economics was taught in July 2011, and a course on principles of pedagogy and andragogy will be taught during November 2011. The courses provided by the Oklahoma State faculty are being taught as “modules,” i.e., 44 hours of instruction offered through 12 class sessions in three weeks. Eduardo Mondlane faculty are teaching their courses spread over the institution’s usual academic term.

Recommendations/Implications for Practice

The poster presentation will explore challenges faced by this collaboration: (a) clarifying the program’s objectives and procedures; (b) negotiating with “upstream” and “downstream” actors; (c) dealing with funding delays; (d) facilitating project promotion and faculty recruitment; (e) managing the U.S. institution’s concerns regarding international efforts in an era of constrained resources; and (f) addressing transparent as well as “hidden” agendas (Christiansen, 2000).

Cost/Resources

Oklahoma State University contracted with its Mozambican counterpart to deliver courses for $9,500 USD each, including faculty airfare, per diem in Mozambique, faculty remuneration, visas, administrative overhead, and miscellaneous expenses. Eduardo Mondlane provides lodging for the visiting faculty member and in-country transport. Oklahoma State faculty negotiate absences and how remuneration may be used with their administrative heads.

References


Popcorn and a Movie—Opening Diversity Conversations Across the State

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Keywords: Diversity Education, Videoconferencing, Extension Professional Development

Introduction
Cooperative Extension educators must develop the skills and abilities to work effectively with an increasingly diverse population. Building the cultural competencies of extension educators has become an important goal and a timely focus for professional development. Reduced budgets and reductions in staff are challenging the ability to provide professional development in the traditional face-to-face delivery method (Conklin, Hook, Kelbaugh & Nieto, 2002). Online conferencing systems that allow voice-over-IP provide new ways to meet professional development needs for audiences over large geographic areas at less cost (Murphrey & Coppernoll, 2006). A study by Senyurecki, Dworkin, and Dickinson (2006) found that 95% of Extension educators were “very interested” or “interested” in professional development opportunities available on-line versus attending a traditional class or workshop. Diversity training can help extension educators become more aware of unintentional biased behaviors and beliefs that may affect their interactions with others, thus helping them to work more effectively with people of different backgrounds and experiences. Li, Dianmond, Chang, Primm, and Lu (2008) found that viewing a documentary film that deals with issues of diversity was more effective than lectures or small group discussions. They suggest that films make a difficult topic safer by objectifying it, and that “Films also allow viewers to experience emotions vicariously, thus allowing them to acknowledge and process such emotions in a less personally threatening environment”(p. 292). Lee, Kane, and Drane (2009) also found film to be a valuable media form that can positively contribute to diversity education.

Diversity in Two-Part Harmony
The video/discussion series was conducted over videoconferencing during the noon hour. Part I consisted of watching a diversity-focused non-feature documentary film in the comfort of participants’ own local setting. Part II consisted of an open discussion of the diversity topic that was presented/experienced in film. Films ranged from 25 to 45 minutes. Sessions ranged from 1 to 1½ hours.

To allow for effective conversations, participation was limited to nine county sites for each film. Bridge reservations were based on a first-come, first-served basis with a minimum number of participants required for each county site. Participants were encouraged to engage in open discussions with no right or wrong responses. A total of 112 participants were registered for the four sessions. Ninety-eight completed and returned a 5-question evaluation using a Likert-type scale.

Results, Conclusions & Implications
Ninety-five percent (95%) of participants “strongly agreed” or “agreed” that viewing the video increased their awareness of the diversity topic, and that the discussion following the video helped them to consider other perspectives on the topic. Eighty-five percent (85%) “strongly agreed” or “agreed” that as a result of the session they would approach the topic differently. And
100% “strongly agreed” or “agreed” that a video followed by an open discussion is a good strategy for diversity education.

Open discussion of diversity-focused documentary films using videoconferencing can create a valuable professional development experience with limited cost in time and finances for participants. This program is also recommended for use in agricultural education classrooms.

**References**


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**Gender Issues and Policy Reforms Needed for the Agricultural Development in Developing Countries**

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**Keywords:** Empowering Women Farmers, Agricultural Development, Development Policy Reforms

**Introduction**

Women play a significant role in agricultural production in many developing countries. Women contribute to 50–75% of the labor for food production in sub-Saharan Africa. In Asia this ranges from 30–65% (FAO, 2011a). However, their contribution to food production is underestimated when planning agricultural development policies. The perpetuation of this undesirable situation is closely associated with women’s limited access to education, resources, civic engagement and decision making. Two thirds of the women of the world are illiterate. Of them, 98% live in developing countries (SIL International, 2001). Male-dominated governments have not made proactive reforms to empower women in most of the developing countries. Cultural traditions are male-biased and not favorable for granting women’s access to education, resources and civic engagement. Lack of favorable policy environment for women to reach their full potential as productive citizens has hindered the sustainable agricultural development
process in many countries. Agriculture can be the development engine for achieving food security and reducing poverty (FAO, 2011b). This is possible only if women are empowered and ensure their access to education, resources and civic engagement. This poster is based on a review of literature. It critically reviews the current situation of policies limiting women’s access to education, resources, and civic engagement and presents a framework for needed policy reforms to achieve sustainable agricultural development in developing countries.

**Conceptual Framework**

Women’s access to education is critical for achieving sustainable development. Educating women means they will have the access to written information about agriculture, value addition, the market, health and the rest of the world. This access to information can contribute to life-long self learning for women. As a result of education, women will be able to make informed decisions for themselves, their children, their families and communities. Education will empower women for active civic engagement leading to advocate for their rights. Educated women can break the vicious cycle of perpetuating generational illiteracy because they know the value of education and are more attuned to the benefits of educating their children. Women’s limited access to resources, including land and credit, is a major constraint for agricultural development in many countries. Without land ownership, it is difficult for women farmers to secure credit and invest for agricultural development. Cultural taboos and unfavorable policies prevent women’s active civic engagement and limit their responsibilities to raising children, farming, and household chores around the clock. Breaking this situation is a must for achieving a sustainable development. However, it is a power transferring process in social, cultural, and political context and needs development donor interventions for positive changes.

**Conclusions and Recommendations**

Women’s access to education and resources is key to achieving sustainable development in many developing countries. International development donor agencies should use their funds as incentives for encouraging national governments to adopt proactive policy reforms granting women’s access to education, resources and civic engagement for achieving a sustainable agricultural development.

**References**


Bringing the West to the East: Creating Sustainable Agricultural Development While Improving Social Capital, the Iraq 4-H Club Program

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Keywords: Agriculture, Social Capital, 4-H Youth Development

Introduction
Iraq’s agricultural sector is growing, offering employment opportunities to many people. Youth play a role as labor not owners and lack opportunities to create sustainable businesses of their own (USAID-Inma, 2011). The goal of the USAID-Inma Agribusiness Program was to expand and increase sustainability of the agricultural private sector by working with farmers, entrepreneurs, marginalized populations and ag. associations. Therefore, Inma cooperated with the Iraq 4-H program to develop a youth-driven dairy project in the Baghdad area and create small livestock operations (businesses) for the youth that would benefit them and their families.

Theoretical Framework
Development of social capital in youth was nonexistent during the years of Saddam Hussein’s dictatorship: youth programs consisted of military training camps, teaching survival concepts. Development programs that taught youth democracy and civic responsibility were not available. According to Swanson and Rajalahti (2010) and Robinson and Meikle-Yaw (2007), 4-H serves as a vehicle to generate social capital in communities; youth participate in elections and run meetings using democratic methods. Furthermore, 4-H serves as an instrument for teaching future farmers how to organize, thus giving farmers a voice and more control of their industry (Swanson & Rajalahti, 2010).

Results
In September of 2010, Inma management began working with the Iraqi 4-H leaders to identify children who exhibited a desire to create a dairy program that would benefit them and others in the community. The Iraqi 4-H leaders identified 25 girls in the Baghdad area, ages 8–16, based on the child’s desire to care for an animal and financial need of the families. The girls came from families where the “bread-winners” (fathers) had been killed during the war. The Dar Al Salam (Home of Peace) 4-H club was formed in December 2010, officers were elected, training programs established and implemented. The role of the Inma program was to provide each girl with a 6- to 8-month-old heifer (grant), with the understanding they would care for the animal. As means to benefit the larger community, 4-H and Inma agreed the firstborn offspring from each heifer would be given to another community member, thereby paying the grant forward. Both organizations provided technical support to the club. As to date, 24 heifers are bred and ready to calve starting March 2012.
Conclusions

The girls are active in their club, serving many different roles. The club is supported by the community; three adults volunteer their time working with the youth. Building positive youth–adult partnerships is vital for success. Astroth and Haynes (2002) and Kock (2010) suggest these partnerships create positive learning environments for young people, thus helping them reach their potential. The dairy heifer project was beneficial to the families; however, the timeframe before milk production was too long.

Recommendations

To enhance the grants aspect of the program, sheep may be a better and more cost-efficient project for youth. The production costs are cheaper and sheep reproduce more quickly, allowing the projects to grow in size, thus generating more income.

References


Promoting Value Chain Partnerships in Agriculture:
Experiences from a Midwestern State University

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Keywords: Value Chain Partnerships, Midwestern State University Extension, Educational Resource, Value Chain Working Groups

Introduction

Understanding the concept of value chains is becoming more relevant in agriculture than ever before. They add value to agricultural products, thus helping meet the market demands of different stakeholders. Land-grant universities in the United States are promoting sustainable value chain agriculture. Iowa State University Extension has been playing a pivotal role in fostering value chain partnerships in agriculture among different groups in the state.
Purpose

The purpose of this poster is to share the success stories of two offices of this Midwestern State University in promoting sustainable value chains in agriculture. The poster will present information on the activities and efforts that are being undertaken by these two offices.

Methodology

The Value Added Agriculture Program (VAAP) (office under Iowa State University Extension) and the Leopold Center for Sustainable Agriculture (office under the College of Agriculture) promote sustainable value chain agriculture in this state. VAAP developed a web-resource named Agricultural Marketing Resource Center (www.agmrc.org) with funding from the USDA—Rural Development. This resource provides critical information to value-chain participants through publications related to commodities & products, markets & industries, business development, and renewable energy. This resource also helps promote a local foods marketing tool called Market Maker Iowa, used for sourcing as well as market research. Open access to this web resource provides transparency of information from producers all the way to the consumers. The Leopold Center for Sustainable Agriculture provides leadership for the Value Chain Partnerships (VCP) project, which is a state-based network for agriculture working groups. VAAP serves as a key partner in this project and offers leadership in several of the working groups in VCP, which are organized as communities of practice that identify challenges in food and agriculture, promote learning and implement solutions.

Results

The number of visitors on the web-resource of the VAAP has been increasing, indicating people are utilizing this resource. Different working groups in the VCP project are focusing on the different aspects related to agriculture, thus promoting sustainability. Also, the funding VCP has been receiving from different sources since its establishment in 2002 has been on the rise, indicating the utility of this project.

Implications

The information shared through this poster could serve as a guide for university and extension personnel worldwide, especially in developing countries, and for other stakeholders interested in promoting sustainable value chain partnerships in agriculture in their areas. Also, new collaborative opportunities may open up internationally as a result of sharing the information presented in this poster.
Assessing Youth Leadership Lifeskills Development of Female Youth Within the Nampula, Mozambique Farmer Youth Club

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Keywords: Youth Leadership Life Skills Development, Leadership, Female, Farmer Youth Club

Introduction

The need for leadership development for community and agricultural leaders has long been recognized (Diem & Nikola, 2005); however, youth leadership enrichment programs are not always readily available to all, and it is oftentimes the disadvantaged youth who are not served (Hobbs, 1999). Projects such as Farmer-to-Farmer are made possible through the joint efforts of government and non-profit groups and are making strides in agricultural leadership development. While programs such as Farmer Youth Clubs are new in Nampula, Mozambique, efforts are being made to reach youth audiences and prepare them for future leadership roles.

The purpose of this study is to evaluate the leadership and life skill development of female youth in the Farmer Youth Club located in Nampula, Mozambique as a result of Farmer Youth Club training (Seevers, Dormody & Clason, 1995). The literature shows a significant increase in the role of Zimbabwean women in agriculture (Mudukuti, & Miller, 2002). Forty percent of households in communal areas of Zimbabwe are female headed. Men have left their rural homes in search of jobs in urban areas (Zwart, 1990). This new trend has been called the "feminization of agriculture" and is most notable in Sub-Saharan Africa (World Bank, 1996).

The culture and method of procedure of African organizations tend to reflect male cultural norms, with men being directed toward political considerations and women toward social considerations (International Fund for Agricultural Development, 2010). However, additional research shows that because African women participate in church-related activities, income-generating groups, and self-help associations, they frequently had more experience than men in creating and sustaining associations (Tripp, 2001). This strongly supports the need for additional leadership development programs and research for female audiences.

Female youth ages 12–24 will participate in a training series focused on principles of personal leadership development, organizational development, group dynamics, business management, and income generation within Farmer Groups. Data collection will occur at the end of the training series using the Youth Leadership and Life Skills Development instrument developed by Seevers, Dormody and Clason (1999). The research format will depend heavily on the number of participants in the study. The sample will be fifteen (n = 15) female agricultural leaders. However, a qualitative study would require a minimum of twelve participants.
**Recommendations for Research**

A number of research articles have been published on the topic of youth and leadership, and one such study was even conducted with a global audience utilizing the YLLSD instrument (Navarro & Ricketts, 2008). However, little research has been conducted concentrating on an all-female youth audience such as the one from Nampula, Mozambique participating in Farmer Youth Clubs. This area of Sub-Saharan Africa has its own unique need for leadership development among female citizens and therefore deserves further research.

**Cost/Resources**

CNFA is a non-partisan, not-for-profit organization that utilizes private enterprise to stimulate global economic growth. Through the education of trained volunteers, CNFA continues to link markets, education and people. CNFA will serve as the underwriter for this unique research endeavor in Nampula, Africa.

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International Benchmarks for Student Achievement in Science: Developing and Testing a Contextually Rich Experientially Based Curriculum

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Keywords: Curriculum Development, International Benchmarks, Student Achievement, Professional Development, Experiential Learning

Introduction

The Trends in International Mathematics and Science Study (TIMSS, 2008) highlights the need for innovative curriculum to assist teachers in reaching international benchmarks for student achievement in science. Factors associated with achieving this goal include: Resources available to teachers and students, books in the home, parents’ education, access to computer, students’ attitudes toward science, self-efficacy, attendance in school, and working conditions. The results presented in this abstract looks at resources available to teachers and students. According to the TIMMS report, middle school students internationally are taught science primarily through lecture and problem solving activities. Testing was the primary method of authenticating student achievement. The Partnership for Environmental Education and Rural Health (n.d.) has developed a contextually-rich (applications of the scientific method, use of animals in research and education, e.g.) experientially-based program that integrates scientific concepts across the curriculum.

Purpose and Methods

The purpose of this poster is to visually depict the Partnership for Environmental Education and Rural Health’s (PEER) middle school program designed to enhance health science education (grounding in an agricultural context) in secondary schools. This poster will also depict professional development activities undertaken by participating teachers to ensure quality instruction.

Data from for this poster was gathered from teachers (N=263) participating in one of ten professional development workshops designed both to introduce teachers to the curriculum and to test the curriculum.

Results

Approximately 75% of the teachers participating in the workshops taught middle school science courses. The number one reason for attending the workshop was to enhance their competence and improve their teaching abilities (33.8%). The number two reason was for professional staff development (32.3%). Almost 50% of the participants did not have prior knowledge of the PEER curricular materials and had no plans for doing such. Approximately 20% of the participants had heard of the materials and made the decision to try using them in the future. Strengths of the curriculum as reported by the teachers included: Aligned with standard, topics covered, and integratability of materials. Teachers noted that they could easily incorporate the curriculum into their classrooms as is or with little change, that the quality of materials was high, and that the curriculum could be used to improve student learning.
Educational Importance and Implications

This study is pertinent given the need for high quality and contextually rich curricula that can be used to help students reach international benchmarks for student achievement in science and for improved teacher professional development to help teachers incorporate needed changes to reach international benchmarks. The results of this study indicate that the curriculum developed through the PEER project will be well-received by teachers and has potential to improve student achievement.

References

Tree Planting in Uganda: A Way to Teach Sustainable Agricultural Practices while Reducing the Poverty of School Dropouts

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Keywords: Poverty, School Dropouts, Tree Planting

Introduction/Need for Innovation

Uganda’s forests are being destroyed at an alarming rate: on average 88,150 ha. or 1.86% annually. Between 1990 and 2010, Uganda lost 37.1% of its forest cover, around 1,763,000 ha. (Mongabay, n.d.). Increased demand for timber, charcoal and firewood has worsened this; 99% of the population uses firewood or charcoal for fuel (Womakuyu, 2010). Uganda’s population growth rate is among the world’s highest, with a fertility rate of 6.9, and its current population of ~34.5 million (69.9% ≤ 24) is estimated to reach 103.4 million by 2050 (Oluka, 2011).
The people of Kamuli are mainly subsistence farmers. Kamuli is among the top 10 charcoal producers in Uganda (Komuhangi, n.d.). Charcoal production is done mainly by youth who view it as easier than growing crops to earn a living. This behavior has increased deforestation and land degradation. As the demand for charcoal has gone up, trees have become more scarce. The price of charcoal in Kampala, Uganda’s capital, increased from 30,000 Uganda shillings (~$11 USD) to 80,000 (~$29 USD) in the month of August 2011 alone (Nantaba, 2011). According to Uganda’s National Forestry Authority (Lutaya, 2011), the price may reach 120,000 shillings (~$44 USD) by the end of December 2011.

**How the Program Works**

The innovation targets youth who are mainly school dropouts. They are organized into groups and set up nurseries to raise seedlings for planting and sale. All group members are encouraged to establish their own tree plantations. Those without enough land are advised to plant two lines of trees along the boundaries of their property to establish boundary markers. They can harvest the trees at maturity.

**Results/Conclusions/Implications**

Approximately 15,000 pine seedlings and 20,000 *eucalyptus grandis* trees have been planted. About 5,000 clones of eucalyptus were planted in 2011. Eucalyptus trees are harvested from two years onward and used for firewood, fencing, electricity poles and timber. Pine trees have not yet yielded any economic benefits because of the time they require to mature. Pine trees are considered a long-term investment, but eucalyptus trees can be short or midterm depending on the intended use. Twenty youth and four adults have participated in the project to date. The average gross income earned annually by each participant has been about 3,400,000 shillings (~$1247 USD) of which ~75% is profit.

Challenges encountered:
- The need for quick returns, while trees take a long time to mature.
- Some participants lack enough land on which to plant trees.
- Termites, which destroy eucalyptus trees in particular.
- Prolonged droughts.
The poster presentation will explain how tree planting can be used to model sustainable agricultural practices and alleviate poverty in rural areas through at least three ways:

- By providing employment for youth, especially school dropouts.
- By encouraging conservation of soil and water, which is essential for growth of food and cash crops.
- By reducing environmental degradation and mitigating global warming.

**Resources**

- Pine seedlings and eucalyptus clones, because they are not grown easily
- Ground rent
- Pesticides and growth hormones

**References**


Free and Low Cost eLearning Tools to Meet the Needs of International Agricultural Extension and Education Professionals

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Keywords: eLearning, Technology, Distance Education, International Reach, Collaboration

Abstract

Collaboration and capacity building are critical elements of international development, and advancements in the area of eLearning are creating opportunities to facilitate these activities. In Ireland, adults are using new technologies such as the Internet, eLearning, and CDs to utilize higher education opportunities that were previously not available (Phelan & Mulhall, 2007). Mass media technology such as Internet, radio, and television have been used with success to disseminate knowledge in countries like India that have low extension worker-to-farmer ratios (Prathap & Ponnusamy, 2006). As a result of “relatively cost-free” extension training programs, Albanian farmers increased production and quality, showing that low-cost technology can be just as effective as high-cost solutions (Androulidakis, Freeman, Peqini, Agolli, & Korra, 2002, p. 50). Information and communication technologies (ICTs) are being used in developing countries to help them meet and achieve the needs of the citizens and are seen as a tool to help strengthen countries politically, socially, and economically (Bada & Madon, 2006). In western China, Teachers’ Learning Resource Centers (TLRCs) were set up to measure the rural teachers’ needs. The TLRCs allowed many learning opportunities to take place and increased participation in the learning process (Robinson, 2008). However, individuals working in international agricultural extension do not always have access to the resources to purchase innovative eLearning tools. The perception is often held that eLearning tools are too expensive or too difficult to deploy and use effectively. However, free social networking technologies, such as Weblogs, Wiki, Flickr, and YackPack, allow students the flexibility and opportunity to engage in learning outside of the face-to-face environment (Baird & Fisher, 2005). This poster will provide a pictorial overview of free and low-cost tools that have been proven useful, easy to use, and accessible. Tool categories include: Online communications (e.g., video conferencing and whiteboards), collaboration (e.g., document sharing and editing), scheduling, presentation, and opinion collection (e.g., polls and surveys). Individuals involved in international agricultural extension need tools to facilitate collaboration and encourage interaction and learning. The tools shared in this poster have the potential to meet that need by facilitating the design and delivery of engaging eLearning.

References

An Overview of Agricultural Extension Service System: A Comparative Analysis between Malaysia and the United States

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Keywords: Agricultural Extension, Agricultural Extension Service System, Comparative Analysis, Cooperative Extension Service Systems, Technology Transfer.

Introduction
Agricultural extension service is crucial in supporting and advancing the agriculture sector. The responsiveness of the agricultural extension service system to address the needs in a country is influenced by many factors, among them are the historical background of how the agriculture sector and its agricultural extension developed, the purpose and focus of agricultural extension, the characteristics of its farming population and the roles of education and research in supporting the agricultural extension service and the clients. Malaysia, a developing country, is dependent on agriculture as its third engine of growth for the economy. Contrarily, agriculture is the major industry in the United States. This developed country is now geared toward building its capacity, technical assistance, and food assistance program to meet the needs and issues of the global agriculture and food securities. The different positioning of the agriculture sector in both countries gives an initial idea how they approach their agricultural extension service. Therefore, this comparative analysis of the agricultural extension service system between Malaysia and the United States will help to provide an overview of how their agricultural extension service systems differ.
Purpose and Objectives

The purpose of this poster is to present the findings of a comparative analysis of the agricultural extension service system in Malaysia versus in the United States. This poster will present an overview of information regarding the differences in the agricultural extension service systems of the two countries.

Methodology

A comparative analysis was employed to analyze the agricultural extension service systems in Malaysia and the United States. A list of important features of agricultural extension services, for comparison, was formulated using the relevant literature and validated through a discussion with an expert in agricultural extension. Relevant documents such as national policies; blueprint of the national plan, relevant acts, books and journal articles about the agricultural extension services of the two countries were used to retrieve information for the comparative analysis.

Results

Among the major differences in the agricultural extension service system in Malaysia versus in the United States are: (a) Agricultural Extension Service is an essential element for accelerating agricultural and rural development in Malaysia, while in the United States it is the element that accelerates agricultural research, extension and education; (b) The conceptual model used in the Agricultural Extension Service in Malaysia is technology transfer; on the other hand, the United States applies three conceptual models in combination—technology transfer, problem solving, imparting knowledge—in its agricultural extension service to form the Cooperative Extension Service; (c) The provision of Agricultural Extension Service in Malaysia is the responsibility of agricultural and developmental related agencies but not of the public universities. On the other hand, in the United States Cooperative Extension Service, extension is the outreach component of USDA and the state land-grant institutions, while the system component is the educational effort that is provided as a service of the land-grant universities; (d) Public funding is used to finance agricultural extension service in Malaysia, but mixed funding is used for extension service in the United States.

Conclusions, Recommendations and Implications

An overview of the comparative analysis of the Agricultural Extension Service Systems of the two countries shows that they are significantly different in all listed features. The findings suggest that there should be a series of platforms for sharing views and exchanging experiences and expertise among the policy makers, providers and experts of the Agricultural Extension Service in the two countries. Among the suggested areas for this purpose are (a) programming in extension, (b) training of extension educators, (c) agricultural education efforts and initiatives, and (d) how public universities can play a significant role in supporting agricultural extension service systems that apply the technology transfer model, such as in Malaysia. Further systematic and thorough comparative study of the agricultural extension services of Malaysia and the United States is recommended to provide stronger evidence and more details that can be consulted to improve each system.
Agriculture Teacher Workshop for Agriculture High Schools in Afghanistan

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Keywords: Afghanistan, Agriculture, High School, Curriculum, Secondary Education

Introduction and Purpose
Helmand Province, once the major center of agriculture in Afghanistan, has faced considerable difficulties as a result of the war in Afghanistan. Helmand Agriculture High School (AHS) has suffered incredible hardships as a result of the war. This high school educated everyone from government officials to farmers and served much of the south and east of Afghanistan. In its current location, Helmand AHS has been destroyed, and attempts to rebuild were impossible as fighting shifted back to the area of the school. Now nothing more than a shell, Helmand AHS is lacking both a structure and educators.

Procedures
Through an intensive teacher in-service in Kabul, 49 agriculture teachers participated in a workshop covering the use of best-practice teaching methodologies and the delivery of educational content. The teachers received the lesson plans that had been developed and were able to experience some of the activities.

Major Findings/Results/Observations
Feedback from the participants indicated they enjoyed the workshop. Many of the teachers felt better able to prepare and edit the lessons to better fit the contexts of their classes. Concerns of the teachers included accuracy of the translated information, as the lessons were written in English and translated to the local languages. Also contributing to this problem was the lack of technical knowledge of the interpreters when translating the content to the group. Another concern was the large number of participants in the workshop. Teachers were concerned the large number of participants restricted the amount of hands-on activities conducted.

Recommendations include engaging the teachers in an activity that will help them focus more specifically on their individual teaching and learning process. Along with the teachers focusing on themselves, there may be a need to develop a core of trained individuals that are knowledgeable about the technical and pedagogical concepts of teaching. In addition to these, workshops should be developed which will help the teachers to develop their own lesson plans. The development of these additional lesson plans will give the teachers ownership of their classrooms and provide material more appropriate in their situation.
Conclusion and Implications

Participating in these workshops gave the agriculture teachers of Afghanistan the knowledge, skills and abilities to successfully teach the curriculum in their own classrooms. By providing the teachers with the skills to reflect on their own teaching, they will continue to improve their teaching effectiveness. The successful training of these high school agriculture teachers will positively impact the entire agriculture high school system in Afghanistan. The collaborative international effort that provided these services will certainly benefit Afghanistan for many years to come.

Global Competency in a Multi-Cultural World: Cross-Cultural Experiences of Rural Development Practitioners on Multi-Cultural Teams in Asia

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Keywords: Global Competency, Multicultural, Mentoring, Leadership, Social Capital

An important issue facing the development and agricultural professions is the multi-cultural workplace. This issue has been met with much focus on developing global competency among those from the west and from northern countries. There has been much less focus on the interactions that occur within multi-cultural teams that include several nationalities or ethnic groups. Most literature is focused on the westerner to easterner interaction. An important addition to our understanding of multi-cultural interactions and effective teams would be to understand the interaction that occurs on diverse work teams in grassroots working environments in Asia. In addition to the themes of multi-cultural teams and global competency, the themes of leadership and mentoring are important on these diverse teams.

This poster explains how rural development practitioners can become effective when working on diverse teams in a country that is not their home. Through the interview process, the effective coping mechanisms that were utilized to adjust to cultural shock and become effective have been described. Often these practitioners have learned what works and does not work for building bridges across cultures. These lessons have been compared to see what resonates for building healthy team relationships. The diverse teams that are described in this study work for non-government organizations focused on agricultural and rural development. The teams described are in Vietnam, Thailand, the Philippines, Lao PDR, and China. These teams are on small organizations that do not have much formal structure. Due to this lack of formal structure, it was theorized that positions and effective roles would develop more organically. The authors have extensive experience on multi-cultural teams and have drawn from that experience as team interviews have been conducted.

A key finding has been that cultural strengths that are brought to a diverse team strengthen the team if there is a common vision. At the same time, vision casting on diverse
teams can be difficult because of the cultural assumptions that each team member has. Several effective methods for bridging those cultural differences have been tried, with differing results. One of the tendencies is for one culture to dominate on a team, especially if they control the budgeting process. This usually occurs when there is a westerner involved, but it also occurs among Asian nationalities. Additional insights have been gained into effective methods for dealing with conflict resolution, building social capital, and equitable power sharing on these teams.

The resources for learning together and building effective multi-cultural teams can be varied, but two valuable methods are exploratory vision trips and cultural sharing experiences. Many of the effective leadership and team building materials from the West have been used with good effect on diverse teams in Asia, but care must be taken to communicate clearly. Agricultural and development practitioners of all nationalities gain when they add the insights and methodology gained from this study to their toolbox.

References


Sustainable Agriculture and Conservation Practices in India

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Keywords: Sustainable Agriculture, Biodiversity, Conservation, Development, Education

Introduction

Indian agriculture is highly diversified in terms of production, use and environment (Pal & Byerlee 2001). Forest protection and restoration in India face challenges (Pandit & Bevilacqua, 2011) as does preservation of endemic animal species, due to stress from rapidly increasing population and agriculture production. Therefore, stewardship of both human and natural resources is of prime importance. Indian Agriculture Policy: Vision 2020 proposed that increased attention should be given to development of sustainable systems that protect natural resources. Miller and Mariola (2008) emphasized the importance of understanding values and practices of farmers for incorporating techniques in a manner that is concerned with future continuation and ongoing commitment.

Purpose and Objectives

The purpose of this study is to assess the surrounding community of Hazaribahg, India in order to have an understanding of current agricultural practices, potential need, and acceptance of possible change. More specifically, this study sought to:

1. Describe characteristics of the surrounding community and the availability of resources.
2. Identify agriculture and conservation practices currently in use by resource-poor farmers.

Methods and Procedures

This pilot study was conducted in Hazaribahg, India. The research design was a rich descriptive participant observation method based on the Theory of Planned Behavior (Ajzen, 1991). Prior to conducting research, the researcher established benchmarks of biases, beliefs, and expectations. During the process, artifacts such as pictures and descriptive journaling were collected. Trustworthiness was addressed using the Intellectual Research Audit Trail (Carcary, 2009).

Results and Conclusions

India’s attachment to nature should encourage involvement in agricultural practices that would protect the environment. Yet, through interaction with the community and participation in daily agricultural practices, it was discovered that the resource-poor farmers lack the education or ability to produce sustainably while conserving the land and wildlife.

Education of poor female children is not encouraged in elementary school and even less in high school and beyond. Therefore, the majority of poor women are not educated in animal care, culling for breeding soundness and traits, nutrition, and housing. Land is overburdened by the number of animals present, including goats, water buffalo, cattle, swine, and dogs. Development
of programs targeting educating women in agriculture would positively impact animal care and may help decrease burden on the land while increasing value of animals produced.

Although there are conservation initiatives and management programs established by the government of India, insufficient education impedes implementation of these programs in rural areas. The increasing demands on land for food production, rapidly rising population, and industrialization has decreased desire to conserve and re-establish critically endangered wildlife.

**Recommendations/Implications/Educational Importance**

Joining the practices of production and management may lead to increased acceptance and dissemination of sustainable agriculture techniques, wildlife awareness, and education in conservation of natural resources and wildlife. Combining scientific and social science disciplines may outline factors causing environmental stress and potentially present easily implemented changes resulting in mitigation of environmental stressors, promoting sustainable agriculture, and conservation of biodiversity.

**References**


“Aggies Go Global”—International Opportunities for Undergraduate Students

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Keywords: International Education, Undergraduate, Study Abroad, Experience

Introduction

In today's changing world, it is increasingly important for students and faculty to achieve global awareness (Zhai & Sheer, 2002). Employers today are seeking individuals who not only can work in diverse environments but also have the ability to respect different cultures and adapt their behavior as necessary (Barrick, Samy, Gunderson & Thoron, 2009). There are many benefits of experiential learning abroad. Kolb (1984, p.41) defines experiential learning as “the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience.” International study abroad programs are excellent examples of successful experiential learning. A 50-year study shows that there is extremely positive personal, educational, and career growth among participating students (Dwyer & Peters, 2004). The American Council of Education (ACE) notes that approximately 50% of U.S. college students desire to study abroad. However, historically the number of students that actually have an international experience is very low, with undergraduates being severely under-represented. At one Land Grant University, only 3 to 4% of undergraduates have historically sought an international experience, with even fewer achieving this goal.

Purpose and Objectives

The purpose of this poster is to present graphically the mission, structure, approach and benefits of the “Aggies Go Global” program, discuss student experiences, and share results of program success based on faculty and student evaluations.

Major Points or Information To Be Shared

This poster reports an initial review of Aggies Go Global (AGG) as it continues to develop and expand its efforts. An explanation is given of how the program originated, its importance to the college as well as the university, and the steps used to create and establish its structure. Also detailed are the mission and objectives of the program. Students participating in AGG engage in an international experience individualized to meet their interest and fields of
study. Types of experiences vary from conducting research for classes or honors theses to participating in internships or conducting an individualized project. A description of the benefits to the students and the university is addressed. Cost of the program varies per student depending upon the length of the experience, location and program fees and local expenses such as transportation, meals and housing. Funding for each experience is also unique and options to reduce student portions of the experience are described.

Results and Conclusions
Since the program began in 2009, more than 60 students have been supported by Aggies Go Global in 33 different countries and 5 different continents. Testimonials from students and partners will be shared to demonstrate program effectiveness and results.

Educational Importance
Aggies Go Global provides an individualized international study opportunity that focuses on undergraduate students. Participation in an international experience at this level can create interest in international studies and career opportunities as well as assist in becoming a more global citizen. This poster provides information that may aid other institutions in the development of a similar program.

References
Experience + Reflection = Learning:  
Making Meaning of an International Food Security Fellows Program

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Keywords: Africa, Food Security, Internships, Reflection

Introduction

The term "internship" describes work experience designed for students to learn while gaining real-world experience (Green, 1997). As an element in a food security (i.e., sufficiency) project funded by the U.S. Department of State, 14 Kenyan and Ugandan policy makers, community leaders and media specialists participated in a month-long professional development program hosted by Oklahoma State University. The program’s keystone was an 11-day internship, during which the Food Security Fellows (FSFs) worked in a setting similar to their professional workplaces in Kenya and Uganda. For example, a Ugandan science writer, who features agricultural topics and the intersection of governmental policies, interned in a state Department of Agriculture, Food and Forestry. A Kenyan livestock specialist from the Ministry of Agriculture completed her experience with extension educators who serve livestock producers.

The internship experience was included because, as Zemke and Zemke (1995) stated, “adults are competency-based learners, meaning they want to learn a skill or acquire knowledge that they can apply pragmatically to their immediate circumstances” (p. 40). This approach allowed the Fellows to gain firsthand insight into how their jobs are done in the United States and acquire skills that could have a positive impact on reducing food insecurity in their countries. Assessment was required as a component of the project and as a means for improving similar programs in the future.

Research Methodology/Conceptual Framework

Fellows completed a reflective journal during their stay in the United States. Journaling was selected as a part of the project’s evaluation process because of its reflective nature. “The process of journal writing forces students to integrate new information with what they already know” (Alm, 1996, p. 113). Journal prompts were given as a guide for their reflection, per Dunlap’s (2006) suggestion: e.g., “Describe what you learned today and how that could be applied to your professional life.” The journal entries were digitized and entered in atlas.ti, a data management software program. Content analysis is being used to determine emergent themes and related sub-themes.
Results/Conclusions

Preliminary analysis of the journal entries indicate several emergent themes: recognition of the “American work ethic”; a sense of purpose associated with a person’s job; belief in the importance of agriculture as an industry; involving youth in agriculture; and promoting agriculture to youth as a career. The researchers anticipate other themes and/or sub-themes emerging through additional content analysis and developing the phenomenon’s account more fully.

Recommendations for Practice

Project providers of the kind described should incorporate an internship or job shadowing experience into their programs. “Real-world contexts, where there are social relationships and tools, make the best learning environments” (Hansman, 2001, p. 46). However, providing a myriad of high gain internship experiences for international participants requires excellent professional contacts as well as detailed planning and coordination of transportation, lodging and related logistics.

The poster’s presentation will expound on a narrative account of the Fellows’ journal entries as they reflected on their internships. And lessons drawn from the account useful for others charged with delivering a similar program will be shared.

References


Enhancing Goat Producers’ Learning

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Keywords: Goat Producers, Cognitive Domain, Reusable Learning Objects, Bloom’s Taxonomy

Introduction and Need for Innovation

One of the primary resources utilized by citizens of developing countries for economic and nutritional welfare is goats (Devendra, 1981). In this regard, goats often provide the primary source of income and sustenance for members of the lower socio-economic groups in a country, and are thus crucial to their existence (Peacock, 2005). As such, any method that can improve on the production of goats or otherwise enhance their value is of vital importance to the indigenous population.

Koohang and Harman (2007) defined a Reusable Learning Object (RLO) as a stand-alone learning tool designed to focus on a singular learning objective. Reusable Learning Objects are advantageous due to accessibility, reusability, and reliability (Koohang & Harman, 2007). Strong (in press) developed RLOs with educational objectives for U.S. extension agents to teach information to goat producers.

How the Innovative Program Works/Theoretical Framework

RLOs were developed and employed in face-to-face teaching and learning environments for goat producers in two separate U.S. states (Strong, 2012). There were (N = 118) participants in the goat production programs and the response rate was 81.35% (n = 96) for the study (Strong, in-press). Reusable Learning Objects using the cognitive domain were developed with the intent of improving farmer’s knowledge of recommended goat marketing practices.

The three domains of educational objectives are cognitive, psychomotor, and affective (Bloom, 1956). The cognitive domain includes constructing knowledge and intellectual skills (Bloom, 1956). Bloom (1956) said knowledge, comprehension, application, analysis, synthesis, and evaluation are in the cognitive domain.

Results

Respondents indicated their knowledge (M = 4.71, SD = .45), comprehension (M = 4.53, SD = 46), application (M = 4.33, SD = .41), analysis (M = 3.90, SD = .78) and synthesis (M = 3.76, SD = .67) of goat marketing increased from participating in the RLOs. The only demographic variable that had a significant effect on learning was age, $F(3, 93) = 6.95, (p < .01)$. Age accounted for 5.4% of the variance in learning for goat producers.

Conclusions/Implications

Goat producers felt they could define, discuss, utilize, analyze and synthesize goat production information. The cognitive domain enhanced producers’ knowledge (Bloom, 1956). RLOs developed from the cognitive domain served to improve goat producers’ learning. RLOs served as effective educational tools that could be shared by multiple educators and users across
geographic regions. The employment of RLO’s was advantageous due to accessibility, reusability, and reliability (Koohang & Harman, 2007).

**Recommendations for Practice and/or Research**

Using the cognitive domain to develop learning objectives is an approach extension personnel could employ in order to enhance goat producers’ learning. Given the significance of goats to individuals in developing countries, future research should examine methods to improve goat producers’ learning. Acquiring innovative methods to enhance learning could increase goat producers’ profitability and nutritional welfare, as identified by van Rooyen and Homann-Kee Tui (2009) and Peacock (2005).

**Cost/Resources**

There is no cost related with including cognitive domain RLOs into existing teaching practices for extension workers or Ministries of Agriculture. Information could be included into professional development practices for current and future agricultural extensionists. Using cognitive domain RLOs could be taught face-to-face or with distance technologies.

**References**


