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From the Editor

This last issue of 1999 brings a close to a very productive year for the Journal of International Agricultural and Extension Education. It started off with an exciting AIAEE Conference in Trinidad & Tobago in March. The spring issue was published and distributed at the conference. The summer conference issue included the outstanding research papers presented at the conference along with keynote addresses, panel discussions and organizational business. This final issue includes research in agricultural and extension education from around the world.

Bridget Udoh discusses the Family Support Program for rural women in Nigeria in her article on page 5. Agro-technical education in China is covered by James Diamond on page 13. The Pennsylvania Governor School for Agricultural Science is examined by Rama Radhakrishna on page 19. Dr. Mohammad Chizari has two interesting articles about extension in Iran on pages 27 and 39. After the successful AIAEE conference this spring in Trinidad & Tobago you=ll want to read the article titled Attitudes of Farmers Toward Farming in Trinidad by Wayne Ganpat and Deokee Bholasingh on page 33.
Finally, Katherine Cason and Richard Poling discuss the extension paraprofessional model on page 47.

Dr. Arlen Etling has sent along two book reviews for this issue of the Journal. He reviews *Participatory Curriculum Development in Agricultural Education: A Training Guide* (page 53) and *Documenting, Evaluating and Learning from our Development Projects: A Participatory Systematization Workbook* on page 55.

Several AIAEE members had the exciting opportunity to attend the European Seminar in Extension Education this fall in Cracow, Poland. This conference, the premier extension conference in Europe, is held every other year in a host country throughout Europe. Dr. Satish Verma, AIAEE President, provides the reader with an interesting look at this conference through the eyes of a first-time seminar participant (page 57).

The *Journal of International Agricultural and Extension Education* regularly published abstracts of interest to our readers from the *Journal of Agricultural Education and Extension*. Five abstracts from this journal appear on pages 61-62.

The *Journal of International Agricultural and Extension Education* could not be published without the cooperation of AIAEE members and professionals from around the world who submit their research, comments and professional ideas. An index of all articles published in Volume 6 of the Journal appears on pages 63-64. I=d also like to thank all the reviewers who gave of their time and talent to review papers for the Journal this year. Their help and dedication to the profession is greatly appreciated.

As we enter the year 2000, the Journal is continually in need of feature papers, commentary articles and tools for the profession. Please consider submitting your scholarly writing and encourage your colleagues to consider publishing their works in the *Journal of International Agricultural and Extension Education*.

Finally, Satish Verma sends word that he has copies of the 1999 AIAEE Conference Proceedings available for $30 per copy. If you did not purchase one at the Trinidad & Tobago conference or would like to purchase another copy for your personal or professional library, please contact Satish.

An Evaluation of the Family Support Program in Akwa Ibom State, Nigeria

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Abstract

The primary purpose of this study was to examine the extent to which the Family Support Program (FSP) was able to reach the rural women in Akwa Ibom State (AKS), Nigeria. This was achieved by four specific objectives. Data was collected from a convenient sample of 38 FSP members from the target population of the state. Results of data collected through personal interviews and group interviews showed that the average age of participants was 35. The majority of them were married and engaged in such businesses as farming and trading with an average monthly household income of 3,000 Nigerian Naira. The study also showed that the women were not adequately aware of the program activities. Consequently, the program did not improve FSP participants= lives. This suggests that the program was not an effective tool for reaching the rural women in that area of Akwa Ibom State.

Introduction

Women in Economic Development

Women have an important role in economic development, and should be considered in national development planning. Unfortunately, this has not occurred. Sustainable development has traditionally neglected the contribution of women until recently when they have been integrated into economic and social development through activity groups (James, 1998). Studies have found that women perform more effectively in organized groups than as individuals (UNIFEM, 1997). Programs involving women=s groups have proved to be effective in some developing countries, such as Malaysia and Bangladesh. This exploratory study was conducted to examine the influence of a similar group in Nigeria to reach and assist rural women.

Despite the well-known fact that raising the educational levels and economic opportunities for women would have positive effects on better nutrition and education for the family (UNIFEM, 1997), the prevailing conditions for women in most developing countries portray a stark image of poverty and suffering among women and children that could be improved. For example, of the 5.7 billion people in the world, 1.5 billion are desperately poor, living on the equivalent of $370 per person per year. Two-thirds of the world=s poor live in rural areas (UN, 1996). Seventy percent of the world=s poor are women (UNDP, 1995). Nearly 800 million people in the developing world do not get enough food, and about 500 million people are chronically malnourished (UNDP, 1996). It is reported that more than 12.5 million children under five years of age die each year in developing countries, 9 million of them from causes that inexpensive solutions exist (UNICEF, 1997). Women farmers are said to receive less than 10 percent of agricultural extension delivery services in Africa, though they form 60 to 80 percent of the agricultural labor force (FAO, 1998). Recent migration trends show a proportionally higher out-migration of males than females to urban areas (FAO, 1998). This leaves many female-headed households in the rural areas, with minimal income to care for the family.

Developing Country Programs For Women

Those countries where substandard living conditions of women and children exist, there is a trend towards the integration of rural women into economic planning and implementation (James, 1998). One strategy used is to organize women into groups to acquire small business loans for starting or expanding cottage industries. The Grameen Bank Project in Bangladesh (Hossain, 1998), and the women=s income-generating projects in Selangor State in Malaysia (Ismail, 1997) are examples of the success of this strategy. According to Hossain, Grameen Bank assisted families can now afford better homes, food, and clothes and can send their children to school. Ismail also reported that women income-generating projects have increased household income, provided employment for women and their families, and increased participation of women in project decisions and implementation activities.

Nigeria's Family Support Program

The Family Support Program (FSP) began as the ABetter Life for Rural Women Program", a 1987

presidential initiative to integrate rural women into the economic development of Nigeria. The long-range goal of FSP is to alleviate poverty, ignorance, and illiteracy among Nigerian women through education, employment, and economic empowerment (Nyong, 1992). The Family Economic Advancement Program (FEAP), a subsidiary of FSP, was initiated in November 1997 to promote self-employment and advance credit to members. FEAP offers FSP members small business loans between 50,000 and 150,000 Nigerian Naira. One of the loan requirements is that FSP members form small cooperative groups of five to six individuals. The loans are intended to support the establishment or expansion of their respective businesses.

Since its inception, the FSP has been organized in each state of the nation and has been headed by the governor=s wife. The program was inaugurated in April 1988 in Akwa Ibom State which is in the southeastern part of Nigeria. According to the official 1991 census, the state had a population of about 2.36 million people (Uforo Iban, 1992). It was felt that the influence of the program in reaching and assisting rural women participants in Akwa Ibom State would provide useful information to program personnel.

Purpose of study

The primary purpose of the study was to determine the extent that the Family Support Programs have been able to assist rural women in the Uyo Local Government Area of Akwa Ibom State, Nigeria. The specific objectives were to:

Describe the demographic characteristics of FSP participants.

Determine the awareness of rural women of FSP and its activities.

Determine the extent that rural women participate in FSP activities.

Determine the influence of FSP on the lives of participants.

Methodology

Population and sample

The target population was Family Support Program participants in Akwa Ibom State. The Chapter President located a purposive sample of 37 members and herself for the study. The participants were mainly from two clans or administrative areas namely Etoi and Oku of the Uyo Local Government Area. The 38 members who were available and willing to participate in the study were individually interviewed, and also participated in two group interviews to elicit opinions about the Family Support Program.

Instrumentation and Data Collection

The researcher developed an interview schedule with questions focused on the study=s objectives. Data on demographic characteristics of members and their awareness of and participation in FSP activities were gathered using fixed choice questions. A 5-point Likert type scale was used to determine agreement B disagreement with selected statements on the influence of FSP on members. Open-ended questions were also included. This instrument was used for the individual interviews. The open-ended questions and ideas generated from the personal interviews were used in the group interviews. The instrument was not validated due to time constraints.

Other limiting factors of the study were the difficulties encountered by the researcher due to the onset of the rainy season, and transport and communication facilities. The researcher had only five weeks to collect data. The rainy season caused meeting cancellations and low turnout of participants. Transportation was complicated by deplorable road conditions, and high cost of fuel. Communicating properly with grassroots members required personal contacts. However, personal contacts were not possible. The presence of the FSP Chapter President in the group interviews could have biased member responses. However, there was no better alternative given the short duration of the study and the fact that the researcher was not residing in the state where the study took place.

The first step in data collection was to obtain permission from the Akwa Ibom State officials to conduct the study. Personal interviews with all 38 women nominated by the Chapter President were conducted. Four group interviews were held with the same individuals to gain further insight and different ideas from the participants. Data were collected in a period of five weeks, during July and August 1998.

Data analysis

The data were analyzed using the statistical package SPSS for MS Windows Release 8.0. Frequencies and percentages were used to summarize the data.

Results

Objective 1

The first objective was to describe the demographic characteristics of the respondents (Table 1). While 30 of the respondents answered that they were between the ages of 26 and 45, eight of them indicated that they either did not know their ages or were over 45 years. More than 60% of the respondents indicated that they had no formal education. The study showed that 33 of the 38 respondents were married. A majority (95%) of the respondents indicated that they made between 1,000 and 5,000 Nigerian Naira per month. However, when details were discussed in the group interviews, the members indicated that they either could not determine their spouses= incomes or only had one source of income for the family. This suggests that what participants indicated as their individual monthly income was actually their household income. Out of the 38 respondents, 30 of them answered that most of their household income was spent on food. Among the 33 married respondents, 29 of them indicated that they had more than five children. Over 60% of the participants answered that they were either farmers or traders. Members indicated that, on the average, their spouses= occupations were mainly in the area of farming.

Objective 2

The second objective of the study was to determine the awareness of rural women of the Family Support Program and its activities. This was addressed by two questions B (a) AThe association staff give me the information I need in a timely manner", and (b) AWhat sources do you use to get information about the association?" Responding to the first question, most participants strongly agreed (2.6%) or agreed (86.8%) that information was received in a timely manner. However, in response to the second question, they indicated that radio, television, and friends were their main information sources. Specifically, 68% of the participants indicated heavy reliance on friends. However, while members may have thought they received information in a timely manner, individual and group interviews brought out the fact that members= perception of what is Atimely" is relative, and personal. It is believed that friends, on whom members relied for information, have to get this information from formal sources such as a meeting, forum, radio or television. This suggests that FSP members may not be as well aware of FSP features and activities as they felt they were.

Objective 3

The third objective was to determine the extent that rural women participated in FSP activities. A majority of the respondents (52.6%) indicated that they had been members in the program for three or more years (Table 2). Respondents who had been involved less than six months later explained in the group interviews that they had also participated in the Better Life for Rural Women Program.

A majority of the participants (97.4%) indicated that they had not received any kind of training or formal instruction since they became members of the FSP. Only seven members either agreed or strongly agreed that they had each received 600 Nigerian Naira in loans.

Objective 4

The fourth objective was to determine the perceived influence of FSP on the lives of program participants. Most of the participants (81.6%) disagreed that the association helped them to start their businesses. Table 3 presents the summarized responses to a series of statements on a 5-point Likert type scale of agreement B disagreement. The majority of the participants (76.3%) disagreed that they had received any money management skills as a result of joining the program. Only 7.9% of the respondents indicated that they received any bookkeeping instructions from the program. Five out of the 38 respondents indicated that they had received help on marketing their products. All the respondents reported that they found the FSP staff easily accessible. On the other hand, most of the participants either agreed (68.4%) or strongly agreed (31.6%) that the FSP staff were friendly to work with. Seventy-four percent of the respondents indicated that their businesses had not improved since they joined the program. A majority of the participants (68.4%) reported that they had not learned how to preserve surplus products since they joined the program. Out of the 38 respondents, 28 agreed and two strongly agreed that they were in the overall, satisfied with the program. However, in the group interview interaction, most of the participants indicated that their satisfaction came from believing that eventually their efforts would pay off. This suggests that members may not be as satisfied as they indicated. It is therefore obvious that the program has not influenced the members= lives in any visible way.

There were two open-ended questions on the instrument. (a) AIf I was the Executive Director of

this association, I would changeY?" and (b) AAny other comments or suggestions?" that were used mainly to generate group interview topics and recommendation ideas. In answer to the first question, the top three suggestions for change were B (a) providing no interest loans and reducing paper work, (b) better means of transportation for workers, and c) free materials/financial subsidies for new members. Suggestions included Bsurprise site inspections to monitor progress and background check on loan applicants.

Table 1

Demographic characteristics of respondents

Characteristics	Frequency	Percent
Age in years		
26-35	17	44.7
36-45	13	34.2
Over 45	8	21.1
Total	38	100.0
Educational Level		
No formal education	23	60.5
Primary school graduate	12	31.6
Secondary school graduate	2	5.3
University graduate	1	2.6
Total	38	100.0
Marital Status		
Married	33	86.8
Widowed	5	13.2
Total	38	100.0
Monthly household income in Naira		
1,000 - 5,000	36	94.7
10,000 - 15,000	1	2.6
Over 15,000	1	2.6
Total	38	100.0
Monthly household expenditure		
Food	30	78.9
Education	8	21.1
Total	38	100.0
Number of children		
2 - 5	9	23.7
More than 5	29	76.3
Total	38	100.0
Member occupation		
Farming	12	31.6
Trading	12	31.6
Other occupations	14	36.8
Total	38	100.0
Spouse occupation		
Farming	22	57.9
Teaching	1	2.6
Trading	10	26.3
Other occupations	5	13.2
Total	100	100.0

Table 2

Length of Membership in the Family Support Program

Length of membership	Frequency	Percent
Less than 6 months	3	7.8
6 months - 1 year	7	18.4
1 - 2 years	8	21.1
3 - 4 years	11	28.9
Over 4 years	9	23.7
Total	38	100.0

Conclusions

Although similar programs have reported remarkable success in Malaysia and Bangladesh, the results of the study of the Family Support Program in its tenth year in Akwa Ibom State were disappointing and indicate areas of improvement. While FSP members felt they received program information in a timely manner, the reliance on friends and the media as information sources would indicate a low level of awareness of FSP activities. Most members did not receive any formal training or financial support, nor did they improve production as a result of their membership in the program.

The influence of FSP on the lives of members has been minimal. This conclusion is supported by the finding that FSP did not provide help to most members in starting their businesses or providing training, financial management and marketing assistance. If anything, the program=s impact could be classified as negative, because of the amount of personal money invested by members.

Recommendations

While government reports tout the success of the program (John, 1998), the findings of the study reveal a number of weaknesses and inherent problems. These need to be addressed and appropriate solutions found, including encouragement of private sector banking, improving communication with members, and facilitating their participation in FSP activities. A comprehensive and independent evaluation of the program should be conducted that will provide information helpful to policy makers and program developers.

FSP members suggested changes to the program, including better communication and transportation. Other suggestions for improvement included close supervision of member projects for timely problem intervention, low cost loans, and less paper work in the establishment of cooperative groups. It is recommended that these suggestions be considered by the FSP management in keeping with the principles that the voices of intended program beneficiaries should be heard for a program=s objectives to be accomplished.

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Table 3

Perceived influence of FSP on the lives of participants

Variable	Frequency	Percent
Money management training		
Strongly disagree/disagree	30	79.0
Not sure	0	0.0
Strongly agree/agree	8	21.0
Total	38	100.0
Bookkeeping instruction		
Strongly disagree/disagree	35	92.1
Not sure	0	0.0
Strongly agree/agree	3	7.9
Total	38	100.0
Marketing products		
Strongly disagree/disagree	33	86.8
Not sure	0	0.0
Strongly agree/agree	5	13.2
Total	38	100.0
Staff accessibility		
Strongly disagree/disagree	0	0.0
Not sure	0	0.0
Strongly agree/agree	38	100.0
Total	38	100.0
Staff friendliness		
Strongly disagree/disagree	0	0.0
Not sure	0	0.0
Strongly agree/agree	38	100.0
Total	38	100.0
Business improvement		
Strongly disagree/disagree	28	73.7
Not sure	0	0.0
Strongly agree/agree	10	26.3
Total	38	100.0
Preserve surplus product		
Strongly disagree/disagree	26	68.5
Not sure	0	0.0
Strongly agree/agree	12	31.5
Total	38	100.0
Member satisfaction		
Strongly disagree/disagree	5	13.1
Not sure	3	7.9
Strongly agree/agree	30	79.0
Total	38	100.0

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Agro-Technical Education In China

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Abstract

The Government of China and United Nations Development Program in December, 1997 ended a five-year project titled "Strengthening Agriculture Education in Northwest China." The project was designed to go to grassroots units to help people strengthen agriculture, solve problems, promote rapid, steady, and balanced growth by making use of foreign funds in the hinterlands, and focusing on farmers education. Officials from the Ministry of Agriculture announced that all 365 agro-technical schools in China will implement these new teaching reforms. This paper describes agro-technical schools in China and the approach used to introduce teaching reforms.

Introduction

China=s expanded agricultural industry and rapid economic growth has contributed much to supplying sufficient food and fiber for the people of China. President Jiang Zemin (1995) said A...that supplying sufficient food and clothing for more than 1.2 billion people continues to be the most important issue facing the country…China has to rely on its own efforts in tackling the food issue…it is essential to fully trust and rely on farmers while focusing on their education at the same time." For this goal to more openly evolve, it is essential that sustainable provisions for modem economic agricultural training facilities be available for preparing students to qualify for careers in both public and private agricultural sectors. This paper describes agro-technical schools in China and the project approach.

Methods

The author visited and collected data from six project agro-technical schools in Northwest China in 1995, 1996 and 1997. At each school, principals or acting principals were considered official spokespersons and provided the qualitative data that was analyzed and reported by using summaries, consensus, and trends. In addition to the interviews, each school provided a written profile of their respective school and an annual summary report describing their past and present activities.

Limitations

All information collected during the mission was paraphrased through an interpreter. In most cases the interpretation was from Chinese to English and English to Chinese. At two schools the information was interpreted from Uygur or Kaskal to Chinese to English and vice versa. Hence, the information of this paper is based upon the reliability and accuracy of the various interpreters. Any misinterpretations are unintentional and it was believed that the gist of the information collected was reasonably accurate. The findings and discussions reported in this paper are limited to only six project agro-technical schools in China. However, mention will be made of activities made at non-project schools.

Findings and Discussion

Agro-Technical Schools in China

In 1998, there were 365 agro-technical schools throughout all of China having more than 40,000 teachers. These schools included studies in agriculture, animal husbandry and veterinary science, mechanization and electric, aquatic products, agricultural mechanization, and horticulture. Student enrollments at each of these schools were reported to range from 700-1900 students and increased enrollments were forthcoming. The class size observed ranged from 40-70 students per session. The overall educational system was a teacher-centered passive-learning system. Teachers lectured on a raised platform using a chalkboard while students sat, looking up at the professor, and passively listening.

Project Schools

According to the Project Document (1994), "Northwest China was considered one of the poorest areas in China, the annual per capita income in these areas was less than US$40.00." Poverty stricken was the criteria used by Ministry of Agriculture officials for assigning six schools to the project from 54 agro-

technical schools found in Northwest China (Ingkasuwan, 1994). Table 1 shows the six project schools by address and Province/Region. Three were agricultural schools and three were animal husbandry and veterinary science schools.

Experiential Learning

The six (6) project schools reported that their curriculums included 50% practical and 50% theory. With this notion, students should spend an equal portion of their allocated time "learning by doing." Experiential learning was reported and observed to be happening in basically three forms. They included laboratory experiments, school farms, and field practice on research stations, government farms, or with herdsmen.

Laboratory Experiments: Students were scheduled in laboratory sessions attached to relevant courses to do assigned experiments. Even though the teachers did their noble best to conduct well planned laboratory sessions, the lack of equipment often stifled students from performing and completing their assigned experiments.

School Farms: The objectives of school farms were focused on providing facilities and opportunities for students to learn practical skills and conduct research studies. All students were required to work on the school farm for 12 weeks during their regular specialized training. The farm land observed at the six schools ranged from 9 to 68.3 hectares in area. The geographic locality of the school farms dictated the kind and scope of livestock and/or crops grown. Variables such as soils, temperature, rainfall, topography, water, altitude, customs, traditions, markets, roads, and other variables collectively determined the kinds of livestock and/or crops produced. Consistent reports indicated that school budget constraints prevented principals from having the financial capability of purchasing appropriate inputs, equipment, and repairs to properly operate the farms. Because of constrained budgets, even though there were exceptions, most of the farm buildings needed refurbishing or replaced. The farm operations as a whole, especially the livestock facilities, do not typify desired examples for progressive training. They were operating on an austerity budget, primarily for minimal student learning activities.

Field Practice: All students were required to work 14 weeks just prior to graduation on a research station, extension station, government farm, or with herdsmen. This scheme offered students an excellent opportunity to apply their knowledge and skills learned in their formal programs. Provided that proper coordination and supervision of student activities in the field and evaluation of their performances were adequate, this component of the total educational program at the project schools is a characteristic "capstone" for an effective competency-based education program.

Competency-Based Education

Competency-based education is an educational system whereby students learn to be competent in performing relevant skills and tasks for specific occupations. Skills for various occupations are identified, verified, prioritized and taught using the competency-based teaching approach (learn-by-doing). Performance of skills is evaluated using criterion-referenced measures (Diamond, 1981). The conceptual framework of an altered competency-based education system was essentially in place at all six (6) project schools. Generally, appropriate skills and tasks had been identified and were to some extent documented in the course plan. Some facilities were available to enable students to "learn by doing," and 50% of the curriculum time was allocated for experiential learning. With some guidance, a bona fide competency-based education program could easily be implemented.

The constraints were all related to insufficient budgets. It was observed that insufficient printed instructional materials, tools, livestock, supplies, and equipment restricted the ability of students to have adequate opportunities to practice all the skills described within respective course plans. Hence, even though experiential learning is emphasized in the curriculum, the quality and depth of experiential learning programs has not yet reached its fullest potential. Financial constraints placed limitations on experiential programs and deprived students of adequate opportunities to learn and perform skills.

Need for Reforms

Many agricultural education leaders in the Ministry of Agriculture had visited vocational schools in many nations around the world and they collectively concluded that educational reforms were needed for China=s agro-technical schools; reforms that would not only ameliorate the quality of education offered to students, but would contribute towards achieving President Jiang Zemin=s goal of supplying sufficient food and fiber for more than 1.2 billion people while focusing on education at the same time.

Table 1

Project schools by Address, Province/Region, and 1997 Enrollment

School	Address	Province/Region	Enrollment (1997)
Ili Animal Husbandry and Veterinary School	Ylning City 835000	Xinjiang Uygur Autonomous Region	976
Gansu Animal Husbandry and Veterinary School	Huangyang Town Wuwei City 733006	Gansu Province	1,025
Huangyuan Animal Husbandry and Veterinary School	Huangyuan County Qinghai 812100	Qinghai Province	1,200
Ningxia Agriculture School	Yinchuan City 750001	Ningxia Huizu Autonomous Region	1,608
Kashi Agriculture School	Kashi City 844002	Xinjiang Uygur Autonomous Region	1,019
Shaanxi Agriculture School	Yangling Town 722100	Shaanxi Province	1,996

Project Brief

Officials from the Ministry of Agriculture submitted a project proposal to the United Nations Development Program (UNDP) for assistance to introduce reforms into agro-technical schools located in Northwest China=s poverty stricken regions. The proposed project was endorsed and funded by UNDP and Government of China. The Food and Agriculture Organization of the United Nations was contracted to carry out a five-year project titled "Strengthening Agriculture Education in Northwest China." The project=s mission was to create six (6) model schools to reform their modus operandi from a "teacher-centered passive-learning system" to a "student-centered active-learning system." There were two immediate project objectives. The first was to upgrade and strengthen six project schools to enable them to serve as model schools, raise the quality of training, make more effective use of standard curricula, and give regular training courses in teaching methods to staff from non-project schools. The second objective was to disseminate technical achievements of other UNDP projects with a focus on integrated farming systems, agro-ecology and sustainable agriculture, operation and maintenance of small machinery, and fruit tree production.

Post-Project School Traits

Table 2 shows examples of pre and post-project traits of the six project schools in Northwest China. The highlights of the project impact on project schools are amelioration of teaching methods, implementation of competency-based and modular teaching approaches, increased technical training for teachers, addition of new specialties, adult education programs for females, and increased recognition for outstanding performances.

Reforms Implementation Scheme

To implement reforms into a patrimonial educational system still influenced by tenets of Confucius, it was necessary to agree upon a scheme acceptable to decision makers within the system. A scheme can be defined as a planned program of work with an organized framework. The scheme used to implement educational reforms into China's agro-technical schools included an interaction of six "prongs." They

were study tour, fellowships, teaching methods courses, Agro-Technical Training "Outside" Schools, Agro-Technical Training "In" Schools, and Teacher-Teaching-Teachers (Diamond, 1987).

Study Tours: The purposes of overseas study tours were to enable administrators and decision makers to observe how agro-technical schools in other countries functioned and were administered. A total of nine delegations composed of 51 (4 females, 7.8%; 47 males, 92.2%) administrators and Ministry of Agriculture officials visited ten different countries (Diamond, 1997). These study tours enabled participants to experience first hand how students learn and how teachers and administrators functioned in other educational systems abroad. It enabled the participants to look at the "big picture" and put their own situation into perspective. They were able to discuss ideas, techniques, methods and concepts with professionals in other countries that could perhaps be infused into their own educational system. These experiences greatly influenced officials to make the decision to implement competency-based education and modular teaching approaches first, into the six project schools, secondly, into 54 non-project schools in Northwest China, then into all 365 agro-technical schools in China.

Fellowships: The purpose of overseas fellowship training and study tours was to give teachers (Fellows) an opportunity to study and update their areas of expertise from a different perspective in another country. A total of 24 Fellows (9, 38% females; 15, 62% males) from project schools successfully completed their respective studies at 15 universities in 10 countries (Diamond, 1997). Fellows were able to experience first hand state-of-the-art classes and work with some of the best professors in their respective fields of study. Collectively, the knowledge gained by all Fellows greatly contributed to improving the integrity, character, and quality of education now offered to students

Table 2

Examples of Pre and Post-Project Traits of Six Project Schools in Northwest China

Pre-Project Traits	Post-Project Traits
Teaching by lecture or reading	Teachers write lesson Plans that include practical, demonstrations, video cassettes, slides, field trips, group discussions, charts, and guest speakers.
No competency-based or modular teaching	Agro-technical schools are implementing teaching competency-based and modular teaching approaches throughout China.
Teaching quality mediocre	Teaching quality, work habits, and management greatly improved.
Little or no teaching methods instruction	Ample instruction
Student enrollment falling short of need	Student enrollments greatly increased.
Little or no technical update for teachers	Technical update offered to teachers regularly
Course contents antiquated	Course contents updated.
Specialties of study limited	Number of specialties of study increased at all agro-technical project schools
No female farmer classes offered	Classes offered to hundreds of female farmers
No opportunity for teacher study abroad	Some teachers traveled abroad to study
No teaching awards	Project schools have received provincial and national distinguished achievement awards.

and farmers in China. Upon their return, Fellows updated their courses, developed instructional materials, and made teaching models (i.e. irrigation schemes made of plaster, mounted plant specimens, soil profiles, re-constructed animal skeletons, preserved animal parts) to offer students and farmers state-of-the-art information.

Teaching Methods Course: For agro-technical schools to align their programs with the new teaching reforms of shifting from a teacher-centered passive-learning system to a student-centered active-learning system, teachers and administrators needed opportunities to study the concepts and how to implement such reforms. Those who successfully completed the "Teaching Methodology Courses" were able to accurately implement competency-based education concepts using modules into their respective programs (Bruening, 1996). A total of 20 two-week teaching methods courses were offered to 521 (166, 32% females; 355, 68% males) teachers by three international expert consultants respectively from two countries (Diamond, 1997). An additional 91 people audited portions of the courses. The topics focused on introducing competency-based education and modular teaching approaches stressing "hands-on" learning experiences. A cadre of innovative teachers who quickly grasped and understood competency-based education concepts were identified and given the task to carry on teaching methods courses long after the project was phased down.

Agro-Technical Training "Outside" Project Schools: Because of rapid technological developments, teachers had been out of college and teaching for five or more years, their technical knowledge became somewhat "stagnant." The purpose of agro-technical training "outside" project schools was to provide opportunities for teachers to enroll in courses to update their technical knowledge so that latest available information could be offered to students and farmers using the "hands-on" teaching approach. A total of 183 teachers and administrators enrolled in 32 courses at 17 Chinese institutions during 1995-1997 (Diamond, 1997). Depending upon the intensity and nature of the course subject, the duration ranged from four days to one year. Examples of course topics include Animal Husbandry Management, Veterinary Science, Processing Agriculture Products, Marketing and Management, Computer Maintenance, Cotton Research Results, Animal Hygiene and Product Quarantine, Soil Science, and many other topics.

Agro-Technical Training "In" Project Schools: The purpose of agro-technical training "in" project schools was to provide opportunities for more teachers to enroll in courses to update their technical knowledge using the "hands-on" teaching approach at a lower cost. Expert Chinese Nationals traveled to the Provinces or Regions to offer short courses. A series of 55 courses on 23 topics were offered at project schools for 1123 (308, 27% females; 815, 73% males) teachers, administrators, and staff. Records show that a total of 690 (6 1%) trainees were from project schools and 433 (39%) were from non-project schools (Diamond, 1997). Depending upon the intensity and nature of the course subject, course duration ranged from two to five weeks. Examples of course topics include Cattle Disease Control, Feeds and Feeding, Milk Processing, Dry land Farming in Ningxia, Chinese Herbs, Fruit Tree Cultivation, Vegetable Production, Fruit Disease Control, Greenhouse Construction, Corn Production, Wheat Breeding, and many other topics. Teachers who successfully completed agro-technical courses either "outside" or "in" the project schools were able to update their course syllabi, become more confident in using "hands-on" teaching skills, exhibited more competency in performing technical skills, and now can effectively teach students and farmers state-of-the-art agricultural technology.

Teacher-Teaching-Teachers: The rationale for "teachers learn from teachers" allows teachers to visit other schools to share newly learned knowledge and skills with peers, see other facilities, equipment, teaching methods, exchange ideas and teaching materials, enabling teachers to learn from one another. Teachers and administrators who successfully participated in a study tour, fellowship, teaching methods course, Agro-Technical Training "Outside" Schools, or Agro-Technical Training "In" Schools were obligated to share their newly learned knowledge and skills with colleagues. A total of 22 documented training activities at 13 schools totaling 51 days were offered to 1747 teachers (Diamond, 1997). However, an abounding number of undocumented teaching activities to promote updated technology and/or competency-based and modular teaching approaches have occurred at non-project schools throughout China.

Summary

The implementation of competency-based and modular teaching approaches into the six project agro-technical schools and surrounding communities impacted their educational systems in these ways: 1)

improved the quality of teaching; 2) updated the knowledge base of teachers; 3) broadened the teachers thinking and understanding of people of other nations; 4) increased teachers enthusiasm towards the teaching profession; 5) improved the students ability to learn new technology and skills; 6) new courses were developed and offered; 7) increased farmer education programs; 8) increased financial support from Provincial and Regional Governments; 9) increased number of in-service education programs for teachers; 10) new specialties have been added to the curriculum at some schools; 11) beginning teachers benefitted from the teacher improvement courses; and 12) academic administration personnel performance was improved.

At the National Agriculture Education Seminar at Shaanxi Agriculture School, Yangling on 28 October 1997, officials from the Ministry of Agriculture announced that all 365 agro-technical schools in China will implement these new teaching reforms. Seminar participants concluded that "There is yet a lot to do to implement the teaching reforms as they relate to teaching methodology, competency-based and modular teaching approaches. It is anticipated that 15-20 years will be needed to fully achieve the teaching reforms." They also offered these four important recommendations: 1) develop a multipurpose training center for teaching pedagogical skills for teachers, extension workers, and adult trainers; 2) establish state-of-the-art farm facilities to enable students to acquire hands-on experiences; 3) offer both pedagogical and technical agriculture in-service programs; and 4) offer a series of workshops for teachers to expedite the development and writing components of various modules needed for an effective "student-centered active education system" (Lindley, (1997).

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Global Awareness and Understanding of Governor School Scholars: A Four-Year Study

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Abstract

Literature suggests that there is limited awareness and understanding of international concepts among high school and college students. This study assessed global awareness and understanding of 252 high school juniors and seniors who participated in the Pennsylvania Governor School for Agricultural Sciences (PGSAS) program during the years 1995, 1996, 1997, and 1998. A survey on international concepts relative to agricultural policies and products, people and culture, world geography, and world organizations was developed. The survey was administered during a regular class period. Findings from this four-year study suggest that governor school scholars possess limited awareness and understanding about international concepts. However, scholars scored over 70 percent of the questions correct in the world geography section. In addition, scholars= scores on the survey for the four years did not show any marked difference. Overall, scholars answered only a little over one-half of the total questions correct. The results of this study have provided ample justification to hasten curricular changes relative to international education in our schools, colleges and universities.

Introduction

Global awareness and understanding is of critical importance if we are to prepare students to compete in a global economy (Bikson, 1996). Findings from several studies suggest that there is limited awareness and understanding of international concepts among high school and college students (Holmes, 1995; the International Council, 1994; and Welton and Harbstreit, 1990). Findings also suggest that: 1) faculty in major colleges and universities are not themselves well aware of international concepts in their respective disciplines; 2) only five percent of college graduates reach a meaningful proficiency in foreign language even when coming from bilingual homes; 3) only five percent of school teachers in the United States have taken courses of significant international content or had limited professional contact with other cultures; and 4) 40 percent of foreign scholars living in America are not able to conduct research in the language of their host country (The International Council, 1994).

A number of studies have emphasized the importance of global awareness and education (Tritz and Martin, 1997; Bikson, 1996; Sarodia, 1996; Holmes, 1995; and Welton and Harbstreit, 1990). The consensus from these studies suggest that measures be taken to infuse international concepts in schools, colleges and universities because: 1) events that occur in other nations have a major impact on U.S. communities, agribusiness, and farms; 2) knowledge about history, geography, political systems, various cultures, and languages are critical to global understanding; and 3) the advances made in communication technologies, travel, study abroad programs, international dependence on agricultural products, and international export markets seem to create a better understanding of the globe beyond the boundaries of states and the nation.

Other studies have provided evidence and justification for emphasizing global awareness and education in schools, colleges and universities. Opper, Teichler and Carlson (1990) indicated that an international experience provides cultural awareness, improves communication abilities, and increases foreign language skills. Tritz and Martin (1997) suggest that exposure to a country, its people and its culture, will all have an amazing effect on anyone who has studied abroad. As a result of the exposure, perceptions are changed, thoughts challenged, and most important, a more worldly perspective is garnered. They suggest that increased opportunities and resources be provided to students to participate in study abroad programs.

Duffey, Toness, and Christiansen (1998) in their study of internationalization of Land Grant University (LGU) curriculum suggested that if LGUs are to

remain as leaders in this changing environment, their curriculum must reflect growing complexities of the globalization trend and the interconnectedness between humans and the natural world. They also concluded that LGUs have made strides in research and extension, but they have largely neglected the curriculum. They recommended that internationalization of a curriculum must be pursued if LGUs are to reflect global realities and to fulfill their mission in preparing students to be effective resource managers in the future.

Welton and Harbstreit (1990) assessed awareness of international concepts among 1,398 secondary agricultural education students in Kansas. They assessed international awareness by including 50 questions which dealt with agricultural policies and products, geography, people and culture. They found that overall 36 percent of the 50 questions were correctly answered by students. Findings indicated that the highest number of correct responses occurred in the geography section (56%), while the lowest occurred in the agricultural products section (32%). They concluded that agricultural education students had a limited awareness in international agricultural policies and concepts, world geography, and people and cultures. They suggested that efforts to infuse international concepts at the secondary level should be accelerated.

Bikson (1996) examined the perspectives of 350 administrators of major corporations and colleges and universities in the U.S. on issues related to educating a globally prepared workforce. Both groups of administrators perceived that knowledge about history, world geography, and political systems are important for global understanding. Corporate administrators perceived that Americans should know more about the rest of the world if they wanted to participate in the global economy. They also perceived that: 1) almost all jobs in the future will either require or benefit from global awareness and understanding; 2) firms and academic institutions should develop a framework for co-producing a globally competent workforce; and 3) future job candidates should adopt a long-term career plan, developing multi-cultural competence on their own in preparation for specific international opportunities.

Purpose and Objectives

The major purpose of this study was to assess global awareness and understanding of Pennsylvania Governor School for Agricultural Sciences (PGSAS) scholars over a four-year period. Specific objectives of the study were to:

1) assess the awareness of scholars in international concepts relative to agricultural policies and products, people and culture, world geography, and international organizations; and

2) examine trends in scholars= responses to international concepts relative to agricultural policies and products, people and culture, world geography, and international organizations over a four-year period.

Methodology

The population for the study consisted of all 252 scholars who attended the PGSAS program during the years 1995, 1996, 1997 and 1998. Scholars resided in communities across the state of Pennsylvania and ranged in age from 15 to 17 years. Scholars were selected to participate in the Governor's School on a competitive basis. All scholars had previously demonstrated exceptional ability in the sciences and had expressed interest in some phase of agriculture. Specific selection criteria included: grade point average, class rank, letters of recommendation, a personal essay, and course transcripts.

A five-section survey instrument was developed to collect data. Sections one and two comprised 25 sentence completion and multiple choice questions on agricultural policy, products, people and cultures. Sections three and four consisted of 21 questions on world geography and international organizations. Section five contained demographic information. A three-member panel of experts assessed the instrument for face and content validity. The survey was administered to scholars during a regular scheduled class hour. Each correct response on the completed surveys received one point. Frequencies and percentages were used to summarize the results.

Results and/or Conclusions

Objectives 1 and 2

The percent of correct responses for all four sections of the survey are shown in Tables 1 through 4. As shown, scholars scored highest in world geography (map section--Table 4), followed by agricultural products and policies (sentence completion section--Table 1) and people and culture section (multiple choice section--Table 2). The scores were lowest for world organizations (acronym section--Table 3) for all four groups. Overall, the scores for these sections

were more or less similar for all four groups. However, one major difference among the four groups was in acronym section in which the 1996 scholars scored at least 15-20 percentage points higher than the other three groups.

A closer examination of correct/incorrect responses to specific questions in each of the sections for the four groups revealed similar trends. For example, approximately two-thirds of the scholars answered all the questions correctly in the agricultural policies and products section. The lowest score for all the four groups was six percent and the highest 97% with the average ranging from a low of 60 percentage points for 1998 scholars to a high of 64 percentage points for 1997 scholars. In addition, all four groups answered incorrectly similar questions (questions 8, 12 and 13 in agricultural products and policies section and questions 7 and 10 in people and culture section).

As indicated earlier, the world organizations (acronym section) was the most poorly answered section (Table 3). Scholars were asked to spell out eleven acronyms of world organizations. A majority of scholars could not spell out IMF, USAID, UNICEF, and ASEAN. However, one-half of all scholars were able to spell out NAFTA correctly. Perhaps this due to the fact that NAFTA was discussed, debated and widely publicized in the news media. The other possible reason may be the likely impact of NAFTA on the American economy, production, and jobs. Overall, the average score for this section ranged from a low of 21 points for 1998 scholars to a high of 41 points for 1996 scholars.

The world geography or map section was the most correctly answered section. The scores ranged from a low of 31 percentage points to a high of 100 points. A little over two-thirds of all scholars could not identify Chad on the map. Two plausible reasons could account for high scores in this section. First, students are constantly taught geography lessons throughout K-12 levels. Second, the awareness, preparation, and participation in Geography Bee competition might have added to the high scores.

Overall, the findings from this four-year study suggest that governor school scholars possess limited knowledge and awareness about international concepts. It is interesting and important to note that the scores of scholars for the four years did not change between the four class groups (95, 96, 97, and 98). The findings achieved in this study mirror findings of Welton and Harbstreit (1990) study of secondary agricultural education students in Kansas.

Educational Importance

This four-year analysis of awareness and understanding of international concepts among governor school scholars has provided ample justification to accelerate curricular changes relative to international education in our schools, colleges and universities. If the top scholars who are admitted to the governor school possess very limited knowledge, what about other students in Pennsylvania and students in other states? One would expect similar results. What is the answer to the crisis of Aglobal illiteracy" in American schools and colleges? The answer is more education, that is, issues and/or topics relative to foreign affairs and world culture should be integrated into the curriculum. It is necessary to create an educational system that includes international concepts in all classes instead of just social science classes.

Schools, colleges, and universities have a major role to play in infusing international awareness and understanding concepts into the curriculum. The findings of this study should be shared with school superintendents, deans of colleges of agriculture, department heads, and curricular advisory committees to make informed decisions about curricular changes. It is recommended that schools, colleges and universities accelerate the process of infusing international concepts into the curriculum. Such processes can be accomplished through:

01 encouraging teachers and faculty to build an international perspective into their curriculum by presenting lessons in a global context;

2) providing opportunities--study abroad programs, internships, and exchange programs -- for students to have a better understanding of international concepts; and

3) reflecting on international concepts in the class room to help students become sensitive to different cultures, and prepare them for dealing with people from different countries. Sensitivity to different cultures will become increasingly important as demographics of America continues to change in the new millennium.

Table 1

Percent of Correct Responses to Agricultural Products and Policies Questions - Sentence Completion Section

	Agricultural Products and Policies	Year 1995 (N=63) %	1996 (N=63) %	1997 (N=62) %	1998 (N=64) %
02	The cereal grain that is the most basic food for more than one-half of the world=s population is	62	64	63	50
03	The smallest of the seven continents is	70	70	77	80
04	Both wine and raisins come from the fruit called	92	97	97	97
05	The world=s largest hot desert is	79	78	84	87
06	The country that produces the most rice	71	74	73	70
07	The mountain range that runs along a coast of South America is called	81	79	87	78
08	The most populated country in the world	75	76	81	81
09	The country that exports the most wool	20	11	23	14
010	The original inhabitants of Australia were	67	65	72	61
011	The leading exporter of wheat is	74	76	82	73
012	The country where people spend yens is	69	71	72	67
013	The national language of India is	29	26	38	38
014	The country that produces the largest volume of swine is	23	9	22	6
015	The national language of Brazil is	53	54	61	59
016	The country located to east of Laos is	60	35	54	33
Overall		61	63	64	60

Table 2

Percent of Correct Responses to People and Culture Questions - Multiple Choice Section

People and Culture	Year 1995 (N=63) %	1996 (N=63) %	1997 (N=62) %	1998 (N=64) %
1. The economic strength of a country can be measured by	78	63	87	80
2. Considering developed and developing nations, the projection of the world population for the year 2000 show the largest segment will be in	55	51	54	66
3. A country with a high standard of living a strong economy, and an array of wealth and skills is	92	93	95	89
4. Countries that are a part of the EEC include	54	43	46	34
5. At what latitude would you expect to find a tropical rainforest	72	77	73	72
6. The United States trades with other countries because	89	87	77	69
7. The percent of land potentially available for food production is	31	28	25	37
8. The four main oceans are	91	80	92	87
9. Two examples of import control include	50	56	16	17
10. The largest producer of tea in the world	22	18	18	19
Overall	63	60	58	57

4) further research is needed to determine perceptions of school principals, college deans, and department heads relative to preparing a globally educated workforce.

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Table 3

Percent of Correct Responses to World Organizations Questions--Acronym Section

World Organizations	Year 1995 (N=63) %	1996 (N=63) %	1997 (N=62) %	1998 (N=64) %
1. International Monetary Fund (IMF)	19	25	16	12
2. United States Agency for International Development (USAID)	10	13	10	2
3. United Nations International Children=s Emergency Fund (UNICEF)	13	19	12	5
4. Organization of Petroleum Exporting Countries (OPEC)	21	43	19	14
5. General Agreement on Trade and Tariffs (GATT)	24	40	21	9
6. World Health Organization (WHO)	61	68	62	17
7. United States Department of Agriculture (USDA)	27	55	25	58
8. Association of South East Asian Nations (ASEAN)	13	25	8	9
9. North Atlantic Treaty Organizations (NATO)	30	51	30	30
10. Pennsylvania Department of Agriculture (PDA)	20	33	18	19
11. North American Free Trade Agreement (NAFTA)	46	75	51	59
Overall	24	41	22	21

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Table 4

Percent of Correct Responses to World Geography Questions - Map Section

World Geography	Year 1995 (N=63) %	1996 (N=63) %	1997 (N=62) %	1998 (N=64) %
1. Label the Indian Ocean	93	--	95	86
2. Label one country that is on 2 continents	82	--	81	62
3. Put a C on Chad (the country)	40	--	31	34
4. Put a 4 on South Africa	89	--	91	75
5. Put a 5 on Ecuador	57	--	40	47
6. Put a 6 on Japan	80	--	90	88
7. Put a 7 on Canada	91	--	92	97
8. Put 8 on Mexico	89	--	93	97
9. Put 9 on China	92	--	97	95
10. Show with arrows N,S,E, W	97	--	98	100
Overall	79	--	81	78

Note: Map section was not included in the survey for 1996 scholars

Program Management Practices of Extension Managers In the Central Province of Iran

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Abstract

Perceptions of extension agents regarding programming and management practices of their managers in the Central Province of Iran were determined. Agents felt managers involved them in planning and implementing programs. However, agents reported that managers did not facilitate them with necessary resources so they could be able to inform farmers about programs and program objectives. Managers were perceived to have consideration for agents, but were less effective due to a lack of authority in personnel, budget, and fiscal matters. Study recommendations included greater involvement of farmers and managerial authority commensurate with responsibilities.

Introduction

For the most part, extension systems in developing countries, and several developed countries, are organized in the government sector and housed within a technical ministry or department, usually agriculture. Swanson (1990) indicated that 90% of extension work follows this pattern. Fashioned as a government bureaucracy, government-organized extension systems subscribe to and practice centralized, top-down management and control in the planning and implementation of extension programs. Hierarchical structures and controlling management styles are the norm; decentralization is uncommon and democratic management styles convey a sense of weak, incapable leadership (Van den Ban & Hawkins, 1988).

Inadequate resources add to the problem situation. UNDP (1991) reported that ministry-based extension systems in developing countries do not have adequate financial resources to attract high quality personnel and support basic operations. Consequently, extension staffs in these systems lack needed job competencies and motivation (Swanson, 1997). Swanson also maintained that extension systems generally do not have a well-defined system of human resource management to keep personnel trained and professionally competent. Van den Ban and Hawkins (1988) suggested that the practice of choosing extension managers for technical competence rather than for management training and skills contribute to system inefficiencies.

Mohseni (1994) found that most extension agents in Iran do not have a BS degree. On the other hand most extension managers in Iran hold a technical agriculture degree at the BS level and often receive in-service training in extension and personnel management.

Karami (1982) argued that when developing country extension systems fail to accomplish goals it is not that the personnel are not familiar with the philosophy and working concepts of extension work. A major cause is the way they are organized and managed. The extension service in Iran mimics other developing country extension systems in organization and management philosophy, and experience. Similarly, World Bank (1994) stated that even though extension staff in Iran is relatively well qualified but the organization and management are inadequate.

Mohseni (1994) studied extension managers in the Central Province of Iran and found that they lacked confidence and understanding in developing and implementing extension activities. He recommended routine evaluation of managers= work performance in the interest of overall development of extension personnel and programs. This study of the views of extension agents in the Central Province of Iran regarding program management practices of their managers is intended to complement the above studies and add to our knowledge of this important field of work.

Extension system at various levels

At National level. The Ministry of Agriculture is responsible for all services related to crops and on-farm water use. The MOA has nine departments and employs about 7300 higher level staff in Tehran, of whom about 80 for extension, 90 for training and 2300 for research. Budgets for extension have increased substantially since 1985.

At Provincial level. The Provincial Director-General for agriculture is responsible to the deputy Minister, planning and budgeting for all agricultural development in the Province. The Director of Agricultural Extension (DAE) is appointed by the DG of the Extension Organization in Tehran (Capital City of Iran). Tehran provides an annual indicative work program and budget, but the implementation and coordination with other institutions is the responsibility of DAE. The DAE reports to the Deputy DG Technical (Province). However, the agricultural Service Centers, and all extension staff, report to the Deputy DG Execution.

At Local Level (Township and Villages). A director of agriculture is appointed in each township and is assisted by a deputy, together with a technical service head, under whom there are sections for extension plant protection and agricultural engineering. At the villages level there about 800 Agricultural Service Centers or Agricultural Extension Offices. Extension (and other, technical staff) report to the ASC manager for administrative purposes only. For all technical matters they report back to their own services at Shahrestan and Provincial level.

Purpose and Objectives

The purpose of this study was to determine the perceptions of extension agents in the Central Province of Iran regarding performance of selected program management tasks by their managers.

Specific objectives of the study were to determine perceptions of extension agents regarding:

1. Program planning practices followed by extension managers;
2. Program implementation practices followed by extension managers;
3. The consideration style of extension managers;
4. Authority patterns in the extension organization.

Methodology

Population

The population of this study included all extension agents (N=72) in the Central Province of Iran. The extension organization directory of the Ministry of Agriculture was used to locate the agents. The researchers verified the list before mailing the survey.

Research Design and Data Analysis

The research design used for this study was a descriptive survey method. The survey instrument had two sections. The first section included demographic data on agents. The second section comprised managerial task statements with a 3-point Likert-type response scale. Content and face validity were established by a panel of faculty and graduate students in the Department of Agricultural Extension and Education at Tarbiat Modarres University, Tehran, and extension specialists in the Ministry of Agriculture. The instrument was pilot tested with 10 extension agents in Tehran Province two weeks prior to the study, and needed modifications made. Reliability of the practice statements taken together was .86 (Cronbach=s alpha).

Data were collected from extension agents by mail. First-round non-respondents were sent a post card reminder. Where this did not elicit a response, follow-up letters with another questionnaire were mailed. The final response rate was 94.4% (68 out of 72). Responses from the two mailings were statistically compared on key variables relating to demographics and program management practices of extension managers. Chi-square and one-way ANOVA statistical analyses found no statistically significant difference (p.05) between early and late respondents. According to Miller and Smith (1983), late respondents may be used as a proxy for the profile of non-respondents. Therefore, it was concluded that non-respondents were similar to respondents.

Results

Demographic Characteristics

Forty-six percent of the respondents had a high school diploma, 43% had an associate degree in agriculture, and only 4% had a BS degree. Fifty percent of extension agents were between the age of 25 to 35 years old. The

majority (71%) of respondents had 1 to 5 years of work experience in the Ministry of Agriculture as an extension agent. When asked why they have chosen their present occupation as their career, 44% indicated that they were personally interested in the agriculture. All respondents were male.

Objective 1

Table 1 shows the perceptions of extension agents regarding program planning practices followed by managers.

Slightly more than half of respondents indicated that to a large extent extension managers inform agents about the general goals of the extension organization (57.4%), involve them in developing goals and preparing extension programs (61.2%), and prioritize extension objectives and programs (50.8%). On the other hand, most respondents (93.8%) indicated that managers do not facilitate resources for agents to inform farmers about extension programs and objectives.

Objective 2

Table 2 gives the perceptions of extension agents regarding program implementation practices of managers.

Most agents (86.6%) reported that long-and short-term programs were well coordinated, that there was considerable flexibility in program implementation (76.1%), and that extension programs met to a large extent or somewhat the needs of farmers (85.6%). On the other hand, a majority of agents indicated that budgets were inadequate for implementing programs (68.2%), and that program implementation was inappropriately or only somewhat appropriately timed (62.7%).

Objective 3

Table 3 shows the perceptions of extension agents regarding the consideration style of managers. Consideration style in management reflects a personal and professional concern for subordinates, and involvement in operational tasks and decisions. Managers got high marks for involving and using the skills and knowledge of agents in planning and implementing programs (91.0%), clarifying extension policy to employees (81.6%), and caring for the education needs of agents (74.6%). However, agents felt that managers were not caring of the personal needs of agents and living situations, as many as 80.9% indicating little or some care.

Objective 4

Table 4 indicates the perceptions of agents regarding authority patterns in the extension organization with respect to managers.
The data show that extension managers are not perceived having much authority in the organization. Over three-fourths of the agents felt that managers had little or only some authority in recruiting and rewarding employees, managing their budgets, and purchasing equipment. Consequently, nearly three-fourths of the agents felt that authority given to managers was not or only somewhat commensurate with job responsibilities.

Table 1

Perceptions of Extension Agents in the Central Province of Iran Regarding Program Planning Practices Followed by Managers

Practices	Extent followed	n	%
Inform extension agents about the general goals of the extension organization.	Little	2	2.9
	Somewhat	27	39.7
	Very much	39	57.4
Involve extension agents in developing goals and preparing extension programs.	Little	18	26.9
	Somewhat	18	26.9
	Very much	41	61.2
Prioritize extension objectives and programs.	Little	10	14.9
	Somewhat	23	34.3
	Very much	34	50.8
Facilitate agents with needed resources to inform farmers about extension programs and objectives.	Little	28	43.0
	Somewhat	33	50.8
	Very much	4	6.2

Table 2

Perceptions of Extension Agents in the Central Province of Iran Regarding Program Implementation Practices Followed by Managers

Practices	Extent followed	n	%
Coordination between long-term and short-term programs	Little	9	13.4
	Somewhat	43	64.2
	Very much	15	22.4
Adequacy of budgets for implementation of programs	Little	20	30.3
	Somewhat	25	37.9
	Very much	21	31.8
Appropriate timing in implementing of programs	Little	14	20.9
	Somewhat	28	41.8
	Very much	25	27.4
Programs that meet needs of farmers	Little	11	16.4
	Somewhat	23	34.3
	Very much	33	49.3
Flexibility of program implementation	Little	16	23.9
	Somewhat	35	52.2
	Very much	16	23.9

Table 3

Perceptions of Extension Agents in the Central Province of Iran of the Consideration Style of Managers

Practices	Extent followed	n	%
Involve and use the skills and knowledge of extension agents.	Little	6	9.0
	Somewhat	29	43.2
	Very much	32	47.8
Clarify extension policies.	Little	13	19.4
	Somewhat	19	28.4
	Very much	35	52.2
Care about educational needs of agents.	Little	17	25.4
	Somewhat	20	29.9
	Very much	30	44.7
Care about personal problems and living situations.	Little	41	60.3
	Somewhat	14	20.6
	Very much	13	19.1
Fair and clear policy regarding agents= salaries.	Little	37	54.4
	Somewhat	25	36.8
	Very much	6	8.8
Consider pre- and in-service education programs in the job performance of agents.	Little	21	29.9
	Somewhat	13	19.4
	Very much	34	50.7

Conclusions

Extension managers are perceived by extension agents to involve them as stakeholders in planning and implementing programs. This conclusion is supported by the finding that extension managers to a large extent informed agents about general extension goals, involved them in developing goals and prioritizing objectives, and coordinated long- and short-term programs.

Extension managers are not facilitating agents with the resources necessary so they could inform farmers about extension programs and program objectives. In many parts of Iran only a small proportion of farmers are regularly visited by extension agents and on some of their problems they find it very difficult to get any advise at all (World Bank, 1994). It is worthy to note that programs are perceived as meeting, to a large degree, the needs of farmers. This conclusion contradicts the accepted extension tenet that farmer involvement is crucial to program success. In this study, the program is perceived to be successful, yet farmers are not informed about programs.

Extension managers engage in an employee-centered management style, but their effectiveness is impaired by a top-down authority pattern. This conclusion is supported by the finding that managers cared for agents in work-related areas (but not personal aspects), and involved them in planning and implementing programs. However, they were perceived by agents to lack managerial authority in personnel, fiscal, and budget matters. Röling (1992) has blamed lack of managerial freedom to recruit and terminate personnel, and to reward outstanding performance as some of the barriers to effective extension work in developing countries.

Table 4

Perceptions of Extension Agents in the Central Province of Iran of Authority Patterns in the Extension Organization

Practices	Extent followed	n	%
Local extension organization plans and conducts its own programs.	Little	22	32.8
	Somewhat	33	49.3
	Very much	12	17.9
Managers have authority to hire and fire personnel.	Little	35	53.0
	Somewhat	18	27.3
	Very much	13	19.7
Managers have authority to distribute and organize their own budget.	Little	20	29.4
	Somewhat	25	36.8
	Very much	23	33.8
Managers have authority to purchase materials and equipment needed to implement the extension programs.	Little	20	29.4
	Somewhat	28	41.8
	Very much	19	28.3
Managers have authority to reward employees.	Little	47	70.2
	Somewhat	13	19.4
	Very much	7	10.4
Level of authority is commensurate with task responsibilities.	Little	20	29.9
	Somewhat	28	41.8
	Very much	19	28.3

Recommendations

1. Managers should facilitate agents with resources so they could inform farmers to a greater extent about extension programs.

2. Adequate budgets should be provided so extension managers can plan realistic programs and extension agents can implement programs needed by farmers.

3. Extension activities should be appropriately timed around the farmer=s schedule. Obviously, if farmers are involved in all steps of planning extension activities this kind of problem will not occur.

4. Authority should be given to managers to reward employees, manage their budgets, and purchase equipment. Managers cannot help meet the personal needs of agents and motivate them if they do not have any authority.

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Attitudes of Farmers Toward Farming in Trinidad

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Abstract

This study explored and described farmers' attitudes toward farming in Trinidad. It examined farmers' overall attitude, determined the attitude component factors, and how these varied based on selected farmer and farm system variables. The prevailing view that "farmers have unfavorable attitudes" was challenged. Some areas of "unfavorable attitudes" were identified and examined to determine if these were constant for all categorizations of farmers.

The results showed that overall, farmers had favorable attitudes toward farming, which varied based on some characteristics of the farmer and the farm system. No differentiation was evident on farmers' attitudes and attitude component factors based on gender, ethnicity and land tenure status. Also, from the three factors identified, technology belief showed the highest level of differentiation among farmers.

Introduction

Food production by limited resource farmers in small developing countries is quite complex and multifaceted. Farmers operating under conditions of limited and irregular access to the resources needed for production are likely to hold varied attitudes toward farming. The intensities of these attitudes would vary depending on their personal circumstances, access to and control over circumstances in their operating environment.

McGuire (1985) suggested that an attitude is a mediating process linking a set of objects of thought in a conceptual category which evokes a significant pattern of response. Van den Ban and Hawkins (1986) defined an attitude as the more or less permanent feelings, thoughts and predispositions a person has about certain aspects of the environment. They further described it as an evaluative disposition towards some object or subject which has consequences for how a person will act toward the attitude object. Consequently, a range of opinions as they symbolize attitudes and behavioral responses are to be expected in the farming sector.

Policy makers often lament the unfavorable attitude of farmers toward agriculture. The National Agricultural Development Plan (1989-1995) cited the perceived lower wages and incomes as the main reasons for farmers low participation in agricultural programs and projects, and set a major objective to increase the sense of appreciation for agriculture among them. Additionally, extension workers often verbally claim that this unfavorable attitude is one of the major reasons for low farmer participation in their programs and low technology utilization.

Furthermore, commonly held views are that " agriculture is not attractive to young people and that the future of the sector is in some way jeopardized by this" (Ministry of Agriculture Land and Marine Resources, 1995; p.15), and "agriculture is unattractive as a source of income and chosen path, and is held in low esteem" (Ministry of agriculture land and Marine Resources, 1993; p.14)

These claims have some support. Several local studies (Ganpat, 1993; Bholasingh, 1995) which measured the opinions of farmers and young farmers in specific environments, provided some evidence of less than favorable dispositions to farming. This type of evidence, in addition to the expressed feelings of extension workers, have informed the broad policy framework for planning of agricultural programs.

Problem

If farmers have unfavorable attitudes toward agriculture as claimed, the authors expect that, under normal circumstances, the agricultural industry would stagnate, and farmers may exit the industry depending

on external opportunities. Food production levels would be expected to decrease over time.

However, this notion of unfavorable attitudes conflicts with the review of domestic agricultural production (Ministry of Agriculture, Land and Marine Resources, 1995) which revealed that during 1981-1992 there were significant increases in the production levels of vegetables, poultry, milk, pork, rice and fruits; and that the production of root crops, legumes and beef and labor force participation in the sector was fairly constant.

The authors challenge the prevailing view that farmers generally have unfavorable attitudes toward farming. They believe that this claim is misleading; inferred from simplistic assessments, based mainly on single statements that measure more or less one attribute of farmers' overall attitudes. The results are that broad generalizations are made about all farmers, regardless of differing circumstances in their farming systems. Consequently, if action taken and programs planned are based on assumed unfavorable attitudes, then farm systems that have potential to further improve domestic agriculture would be left unattended.

The positive trend in food production recorded, suggested that farmers' attitude toward agriculture is probably positive in nature. However, there may be specific negative views/ opinions/ perceptions which will vary depending on the farmer's personal circumstances and system of farming. These should be identified as a first step toward improving any system.

Objectives

The objectives of this study are to:

(1) examine farmers' overall attitudes toward agriculture, and determine the component factors that form these attitudes; and

(2) determine the similarities and differences that exist in farmers' attitudes and attitude component factors by selected farmer and farm system variables.

Methods

A questionnaire was administered to 470 farmers in 1995 through personal field interviews. These farmers were selected from a population of 40,000 farmers by proportionate random sampling, to reflect the major agricultural commodities produced, and spatial distribution of farmers across Trinidad. The questionnaire was finalized in consultation with the two regional and eight county agricultural extension officers in the survey areas. It was pretested among five farmers, and modified accordingly, before being used. A 5-point Likert-type scale ranging from strongly agree to strongly disagree was used to measure respondents' level of agreement or disagreement to each of 27 items .

Attitude scale data were subjected to Likert and factor analytic techniques to define the scale and identify the operating factors that constitute farmers' attitudes. The item set before validation comprised 27 statements. A "Likert analysis" computer program developed by the Caribbean Agricultural Research and Development Institute (CARDI), Trinidad, was used to evaluate the item set, specifically to eliminate the items with low item to total correlation. The final attitude measure consisted of 22 items, 11 of which were positively stated and 11 negatively stated. Each item was scored from 1 to 5, with the weighting scheme reversed for unfavorable statements so that the higher values always indicated a more favorable attitude with respect to the attitude being measured. The summed score across items for a given respondent, therefore, ranged from 22 to 110, with scores greater than 66 indicating favorable attitudes, and scores 66 and lower an unfavorable attitude. Factor analyses on the 22 items were done to identify the operating factors that constitute farmers' attitude, using the Statistical Package for the Social Sciences (SPSS). Farmer and farm system data were also collected. T-tests examined the differences in total attitudes and component factors by these variables.

The final scale had good reliability (Cronbach α=0.97). R-type factor analysis of the Likert scale, using orthogonal varimax rotation, extracted three factors with Eigenvalues. 1. These factors were labeled and defined as follows:

Factor 1: Future of farming - the concern that farming has a bleak future; that farmers are powerless to change this direction, and would exit the industry at their earliest convenience.

Factor 2: Farming as a challenge - the opinions that farming is a challenging occupation, is dynamic, and that farmers are proud to be involved in the industry.

Factor 3: Technology beliefs - farmers' assessment of the risks versus the benefits of offered technologies, as well as their appropriateness and ease of learning.

Results

Description of Sample:

The sample (Table 1) consisted of a majority of farmers in the southern region (60.4%); mostly crop based (79.4%); farming mainly on a full time basis (51.3%); on more than 2 acres of land (66%); and a slight majority (57.2%) in short term enterprises.

The sample also reflected an older group (71.5%, older than 35 years of age); very experienced in farming (64.5% with more than 15 years experience); and a remarkably low level of education (72% with less than secondary level education). The majority of the interviewees were men (88%) of East Indian descent (72%).

Similarities and Differences in Overall Attitudes, Attitude Factors and Selected Statements (Tables 2 & 3):

Overall attitude:

Farmers' overall attitudes toward agriculture were moderately positive. This positive trend was maintained regardless of differentiation by region, enterprise type, enterprise term, farming status, tenure, age, farm experience, education level, gender, and ethnicity.

However, overall attitudes, though positive, were significantly different (p .01) when categorized by farming regions, farm size, enterprise term, and education. There were no significant differences when categorized by part time/full time status, enterprise type, land tenure status, age, farming experience, gender and ethnicity.

An examination of the component factors showed that farmers were generally positive about their future, ready to accept the challenges of farming, and positive in their technology beliefs.

Farm System Variables:

Regionally differentiated attitudes:

When segregated by farming regions, farmers' overall attitudes were positive and different (p.01). Farmers in the South region had a slightly more positive attitude than North farmers (Table 2).
While farmers in both regions were hopeful about the future of agriculture, southern farmers were more hopeful (p.01) compared to Northern farmers. They were also more positive in their technology beliefs (p.001). Farmers from both regions could not be differentiated in their view of farming as a challenge.

Part time/full time status:

Although part time and full time farmers were generally undifferentiated by their overall attitudes, they were different on the technology belief factor . Part time farmers were more positive in their belief about technology use (p.01) than full time farmers.

Farm size:

Farmers with more than 2 acres of land had stronger overall positive attitudes (p.01) than those on less than 2 acres (Table 2). They were also more hopeful about the future of farming and had stronger technology beliefs (p.01). They were undifferentiated on the farming as a challenge factor.

Enterprise type:

Crop and livestock farmers had similar overall positive attitudes (Table 2). Crop farmers, however, had stronger positive technology beliefs (p.001) than livestock farmers. Crops and livestock farmers could not be differentiated based on their concern for the future of farming and farming as a challenge factors.

Enterprise term:

Farmers engaged in the production of short term crops had stronger overall positive attitudes (p.01) and more favorable technology beliefs (p.001) and were more positive about the challenge of farming (p.05) than those engaged in the production of long term crops (Table 2). They were, however, similar in their concern for the future of farming.

Land tenure status:

Farmers with all types of land tenure arrangements were no different in their overall attitude or attitude component factors (Table 2).

Table 1

Sample Distribution for Farm System and Farmer Variables

Farm System Variables	Sample Size (%) (N=470)	Farmer Variables	Sample Size (%) (N = 470)
Region:		Age:	
North	186 (39.6)	<35 years	134 (28.5)
South	284 (60.4)	>35 years	336 (71.5)
Time Status:		Farm Experience:	
Full time	241 (51.3)	<15 years	167 (35.5)
Part time	85 (18.1)	>15 years	303 (64.5)
No response	144 (30.6)		
Farm Size:		Education Level:	
< 2 acres	159 (33.8)	Non/primary	342 (72.8)
> 2 acres	311 (66.2)	Secondary	128 (27.2)
Enterprise Type:		Gender:	
Crops	373 (79.4)	Male	415 (88.3)
Livestock	97 (20.6)	Female	55 (11.7)
Enterprise Term:		Ethnicity:	
Short term	269 (57.2)	Non Indo-Trinidadian	131 (27.8)
Long term	201 (42.8)	Indo- Trinidadian	339 (72.2)
Tenure:			
Private	262 (55.7)		
State/other	218 (44.3)		

Farmer Variables:

Age:

Old and young farmers had similar overall attitudes (Table 3). However, younger farmers had stronger technology beliefs (p.01), and felt that farming was more of a challenge (p.05) than older farmers. Both groups had similar views about hope for the future of farming.

Farming experience:

Farmers had similar overall attitudes despite differences in their farming experience (Table 3). However, those farming for less than 15 years had a stronger positive attitude toward technology use than those with more experience (p.01). They were undifferentiated by the other component factors.

Education:

Farmers with secondary level education were significantly more positive in their overall attitudes than those with none/primary education (p.001) (Table 3). They had stronger technology orientation (p.001) and were more hopeful about the future of agriculture (p.01).

Gender:

Farmers were undifferentiated in their overall attitude and attitude component factors based on gender (Table 3).

Ethnicity:

Farmers had similar overall attitudes, regardless of their ethnic background (Table 3). Both groups showed no differences on all the other factors and items investigated.

Conclusions

The purpose of this analysis of attitudes was not to investigate causal links to farmers' attitude, but rather to explore and describe their diversity in attitudes, as an initial step towards understanding farmers' behavioral responses.

Table 2

Overall and Component Factor Scores of Attitudes of Farmers by Farm System Variables

Farm System Variables	N	Overall Attitudes	Factor 1 (Hope for Farming)	Factor 2 (Farming as a Challenge)	Factor 3 (Technology Beliefs)
Region:					
North	186	70.42	13.66	23.51	15.77
South	284	72.15	14.56	22.97	17.27
t-value		-2.17**	-2.36**	1.72	-5.41***
Time Status:					
Part time	85	70.41	13.41	22.50	17.44
Full time	241	70.46	13.69	23.03	16.29
t-value		-0.05	-0.52	-1.18	2.83**
Farm Size:					
< 2 acres	159	70.01	13.64	23.88	16.27
> 2 acres	311	72.23	14.52	23.25	16.87
t-value		-2.69**	-2.23**	-0.55	-2.04**
Enterprise Type:					
Crops	373	71.71	14.16	23.11	16.98
Livestock	97	70.53	14.36	23.47	15.50
t-value		1.21	-0.42	-0.94	4.35***
Enterprise Term:					
Short term	373	72.31	14.34	23.44	17.03
Long term	97	70.33	14.01	22.85	16.20
t-value		2.52**	0.89	1.90*	2.96***
Tenure:					
Private	262	71.68	14.21	23.19	16.84
Other/state	218	71.66	14.30	23.15	16.62
t-value		0.03	-2.10	0.14	0.71
Eigen Value			2.88	2.0	1.0

* significant at the 0.05 level; ** significant at the 0.01 level; *** significant at the 0.001 level.

The results of the survey showed a surprisingly high level of positivity among farmers, regardless of differentiation. This evidence supports the proposition that guided the study, and contradicts the statements from national documents used for planning purposes.

The importance of investigating differentiations was highlighted by the fact that overall attitudes, though positive, varied depending on characteristics of both the farmer and the farm system. Moreover, when overall attitudes are analyzed into component factors, the differentiations that exist are brought sharply into focus.

While some measure of differences existed on all factors investigated, major contrasts were evident on the "technology belief" factor. These differences should be an important consideration when planning programs aimed at increasing technology use by farmers.

Finally, we wish to suggest that more emphasis should be placed on the analysis of attitudes of farmers. Most organizations do their economic analyses well, as a pre-requisite for program planning. However, where program plans are to be developed based on the socio-psychological predispositions of farmers, these also need to be carefully analyzed.

Table 3

Overall and Component Factor Scores of Attitudes of Farmers by Farmer Variables

Farmer Variables	N	Overall Attitudes	Factor 1 (Hope for Farming)	Factor 2 (Farming as a Challenge)	Factor 3 (Technology Beliefs)
Age:					
< 35 yrs	134	72.16	14.64	22.73	17.20
> 35 yrs	336	71.16	14.04	23.34	16.47
t-value		1.13	1.40	-1.76*	2.31**
Farming Experience					
< 15 yrs	167	71.85	14.36	22.86	17.10
> 15 yrs	303	71.25	14.11	23.36	16.44
t-value		0.72	0.63	1.51	2.27**
Education:					
Primary	342	70.71	13.90	23.17	16.35
Secondary	128	73.59	15.00	23.25	17.59
t-value		-3.28***	2.62**	0.23	3.96***
Gender:					
Male	415	71.65	14.22	23.26	16.70
Female	35	69.81	13.92	22.67	16.45
t-value		1.49	0.51	1.20	0.56
Ethnicity:					
Non-indo Trinidadian	131	71.32	14.58	22.76	16.31
Indo-Trinidadian	339	71.14	14.01	23.18	16.66
t-value		0.19	1.24	-1.16	-0.43
Eigen Value			2.88	2.0	1.0

* significant at the 0.05 level; ** significant at the 0.01 level; *** significant at the 0.001 level.

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Perceived Learning Needs and Program Delivery Preferences of Ranchers in Noorabad Township of Luristan Province, Iran

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Abstract

The purpose of this study was to determine the perceptions of ranchers in Noorabad Township of Luristan Province of Iran of their learning needs and preferred program delivery methods. A sample of 102 ranchers was selected using a systematic sampling technique with a random entry point. Data were collected through personal interviews with each rancher. Major conclusions were that ranchers need to learn a variety of rangeland conservation and management concepts. Overgrazing, appropriate method of salting rangelands, water time, pitting, ripping and furrowing techniques for saving water, preventing soil erosion and general deterioration of rangeland were considered/discussed. The choice of education methods, season and location of educational programs, and recruitment methods for educational programs were also investigated in this study. The low level of literacy, migratory patterns, and significant learning needs of ranchers in the study pose a special challenge for the office of Extension and Training of the Forest and Range Organization of Iran.

Introduction

Famines have most often resulted from climatic causes, but whole civilizations have declined from grandeur to penury and woe because of failure to protect once fertile and productive soils (Heath, Metcalfe, & Barnes, 1973). According to the National Research Council (1990), rangelands are one of the most important land use types in the world. Roughly 47% of the earth=s land surface is rangeland, about 80% of which is at least moderately degraded. Hodgson and Illius (1996) stated that pastoral agriculture occupies around 20% of the land surface of the globe, and is directly or indirectly responsible for meeting the economic and material needs of a substantial proportion of the human population. It is also the predominant form of land use in many of the more fragile areas of the world. Despite its importance, rangeland has received the least research attention of all land use types. The loss of desirable vegetative cover is a threat to world food supplies, to the quality of human life, and to the environment, because most of the red meat consumed by human beings are produced in rangelands, and some 135 million people, about 20 percent of the world=s population, base their economies and societies on range land resources (National Research Council, 1990). Even after several decades of assistance, developing countries remain in poor condition and continue to further deteriorate. Many projects have failed outright and Projects perceived as being successful seldom survive after withdrawal of donor support and guidance (Child, Heady, Hickley, Peterson, & Pieper, 1984). These authors also contend that the reason for failure is the tendency to aim for technological and physical development rather than working with people and involving them at the outset in project planning. They state further that the strategy should be to advance technology and human development at the same time. An unfortunate consequence of past efforts in international development is that a great deal of attention was directed toward the transformation of what are belatedly recognized to be critically important social adaptations, without corresponding efforts to understand the context or consequences of the changes promoted (National Research Council, 1990).

Rangelands, with an area of almost 90 million hectares, occupy 55% of Iran (Report of the Islamic Republic of Iran on Forestry Development and Key Events, 1996). However, in many regions of Iran, rangelands are being degraded through overgrazing, fuel wood collection, uncontrolled burning, the unregulated exploitation of forest products, the growth of transportation networks, and agricultural expansion into marginal areas.

The Forest and Range Organization (FRO) of Iran is responsible for the management of range lands in the country. An Office of Extension and Training was established in the FRO in 1990 to educate and work with different target audiences, including ranchers. Vallentine (1989) maintains that education-information constraints have compounded the slowdown in range improvements, and argues for higher priority to teaching range improvement principles and skills, and providing more on-the-ground experience through university curricula, in-service training, and extension education.

Determining the learning needs of ranchers who are currently responsible for the productivity and management of rangelands in the country, and developing and delivering sound educational programs toward their needs will help natural resource program planners to implement relevant programs. As a result capital, time, and executive energy will be effectively utilized by the FRO. Also ranchers will support and participate in such programs.

Luristan Province in western Iran is a mountainous area where the temperature, rainfall, and rangelands are attractive for both nomadic and farming populations. Its economy is based on dry-farming or irrigation agriculture. Sheep and goats are predominant domestic animals in the province. Noorabad Township has a total area of 277,250 hectares with 88,500 hectares of forest, 65,000 hectares of rangeland and 15,000 hectares of folded mountain ridges (rim). One of the most serious problems in Luristan Province is illiteracy. According to a 1987 national survey, nearly 50% of the population is illiterate (Luristan Province Department, 4th ed., 1991). The survey also showed that people in villages could not pursue their education because of a lack of schools.

Purpose and Objectives

The purpose of this study was to determine the perceptions of ranchers in Noorabad Township, Luristan Province, Iran of their learning needs and preferred program delivery methods. The specific objectives of the study were to identify: 1) the rancher=s perceived learning needs for rangeland management, 2) the rancher=s perceived learning needs for rangeland conservation, 3) the rancher=s preferred educational methods to deliver information, 4) the rancher=s preferred season and place for educational programs and, 5) the rancher=s preferred methods to recruit ranchers.

Methods and Procedures

Population

The population of this study included all 836 individuals in Noorabad Township who were issued permits by the Natural Resources Administration Department of Luristan Province to graze their livestock on a part- or full-time basis. The list of ranchers in Noorabad Township, and their locations, were developed by researchers from information provided by the Natural Resources Administration Department, Luristan Province, and the Cooperatives of Nomads and Sheep Raisers of Noorabad Township. A sample of 102 ranchers was selected using a systematic sampling technique with a random entry point.

Research Design and Data Analysis

The research design used for this study was a descriptive survey. The survey instrument had five sections. The first section included demographic data on the target population. The remaining four sections contained questions related to the study=s objectives. Respondents were asked to indicate their level of agreement-disagreement with statements on perceived need for learning rangeland management and conservation concepts, and preference for various aspects of educational program delivery. A six point anchored scale from strong agreement (6) to strong disagreement (1) was used to prevent respondents from taking a neutral position (Clason & Dormody, 1994). Content and face validity were established by a panel of faculty and graduate students in the Department of Agricultural Extension and Education at Tarbiat Modarres University, Tehran, and extension specialists in the Forestry and Range Organization. The instrument was piloted with 10 ranchers in Sealsalah District three weeks prior to the study, and needed modifications were made. A Cronbach=s internal consistency reliability of .90 was obtained. Data were collected through personal interviews with 102 ranchers. Data collected were analyzed using the Statistical Package for the Social Sciences, Personal Computer Version (SPSS, Inc., 1991).

Findings

Demographic Characteristics

The majority (89.2%) of the respondents were illiterate. Fifty percent of respondents were 51 years or older. Eleven percent of respondents indicated agriculture as their major occupation. Slightly more than 31% of respondents reported that they had 25 years of experience as ranchers. Only three percent indicated that they possessed 300 hectares or more of grass land. On the other hand, 36% of respondents indicated that they had between 151 to 200 sheep and goats. Seventy percent of the ranchers said that they were semi-migrants, and only nineteen percent indicated that they were stable. All respondents were male and married.

Objective 1

The rank importance of 14 rangeland management concepts as perceived by ranchers are shown in Table 1. A majority of ranchers indicated that they needed training on concepts regarding various grazing systems (75%), land holdings and livestock numbers (71%), determining intensity of grazing (71%), and comparison without and with a project (65%). Economic analysis of pastoral management and practices (37%), participative approaches and rangeland farming systems (35%), and livestock management (33%) were the least important learning needs.

Table 1

Perceived Learning Needs of Ranchers for Rangeland Management Concepts (n=102)

Rank	Concept	Number[1]	Percent[1]
1	Various grazing systems	76	75
2	Land holdings and livestock numbers	72	71
2	Determining intensity of grazing	72	71
3	Comparison without and with a project	66	65
4	Appropriate method of salting rangelands	64	63
5	Grazing season and time	59	58
6	Water points	56	55
7	Reading and writing	48	47
8	Grazing management systems	42	41
8	Loss of pasture from overgrazing and early grazing	42	41
9	Economic analysis of pastoral management and practices	38	37
10	Participative approaches	36	35
10	Rangeland farming systems	36	35
11	Livestock management	34	33

[1] Number and percent of ranchers strongly agreeing (6) or agreeing (5) that they needed to learn the concept.

Objective 2

The rank of 14 rangeland conservation concepts considered by ranchers to be important to learn are presented in Table 2. Over one-half of the ranchers indicated concepts most needed to be learned were pitting (85%), factors involved in rangeland degradation (84%), and furrowing (82%). On the other hand, least needed concepts were seedbed preparation (40%), benefit of fencing (38%), various seeding techniques (36%), and fertilization (30%).

Objective 3

The educational methods perceived to be most useful in delivering information to ranchers are reported in Table 3. The most useful method was considered to be practical/hands on (40%). The other methods were considered to be much less useful.

Table 2

Perceived Learning Needs of Ranchers for Rangeland Conservation Concepts (n=102)

Rank	Concept	Number[1]	Percent[1]
1	Pitting	87	85
2	Factors involved in rangeland degradation	86	84
3	Furrowing	84	82
4	Maintenance and improvement of soil fertility	79	77
5	Ripping	76	75
6	Techniques for stopping rangeland deterioration	71	70
7	Techniques for stopping soil erosion	64	63
8	Time of planting forage plants	58	57
9	Techniques for water saving	52	51
10	Importance of animal diet balance	44	43
11	Seedbed preparation	41	40
12	Benefit of fencing	39	38
13	Various seeding techniques	37	36
14	Fertilization	31	30

[1] Number and percent of ranchers strongly agreeing (6) or agreeing (5) that they needed to learn the concept.

Objective 4

Thirty-two percent of the ranchers stated that spring was the most appropriate season for implementing educational programs (Table 4). Summer was appropriate for 27% of respondents, autumn for 22%, and winter for 19%. Most respondents (44%) indicated that nomadic regions were the most appropriate place to conduct educational programs (Table 4). Other locations were less favored.

Objective 5

Ranchers were asked to indicate on a six-point scale their agreement-disagreement with the appropriateness of seven methods used by the Extension Office of the Natural Resource Administration Department to recruit ranchers for various extension education activities. The recruitment method considered most appropriate was the use of local religious councils (37%). Other appropriate recruitment methods were the natural resources administration department (16%) and cooperatives of sheep raisers (15%).

Table 3

Educational Methods Considered Most Useful to Deliver Information As Perceived by Ranchers (n=102)

Rank	Educational Method	Number[1]	Percent[1]
1	Practical/hands-on	41	40
2	Films and slides	18	18
3	Short term courses	17	17
3	Question and answer/discussion group	17	17
4	Distance education	9	9

[1] Number and percent of ranchers strongly agreeing (6) or agreeing (5) that educational method is useful in delivering information.

Table 4

Appropriate Season and Place to Conduct Educational Programs as Perceived by Ranchers (n=102)

Season	Number[1]	Percent[1]
Spring	33	32
Summer	28	27
Autumn	22	22
Winter	19	19
Place	**Number**	**Percent**
Nomad regions	45	44
Rural regions	17	17
Rural schools	21	21
Natural Resources Administration Dept.	19	19

[1] Number and percent of ranchers preferred season and place for educational programs.

Table 5

Appropriate Methods To Recruit Ranchers for Educational Programs (n=102)

Recruiting Methods	Number[1]	Percent[1]
Local religious councils	38	37
Natural resources administration department	16	16
Cooperatives of sheep raisers	15	15
Personnel of nomad organizations	11	11
Veterinary personnel	11	11
Personal invitation	8	8
Extension agents	3	3

[1] Number and percent of ranchers strongly agreeing (6) or agreeing (5) that method was appropriate.

Conclusions

Ranchers in Noorabad Township, Luristan Province, Iran need to learn a variety of rangeland conservation and management concepts. This conclusion is supported by the finding that a majority of the study=s respondents (over 50%) strongly agreed or agreed that they needed to learn 16 of the 25 concepts. Grazing systems and practices, and rangeland rehabilitation are critical learning areas. A number of concepts in rangeland management related to overgrazing, appropriate method of salting rangeland, and water time (certain time for animals to drink water). A majority of the study respondents (over 50%) also indicated a need to learn specific rangeland conservation concepts such as pitting, ripping and furrowing, techniques for saving water, and for preventing soil erosion and general deterioration of rangeland.

The choice of education methods, season and location of educational programs, and recruitment methods for educational programs should take into consideration the preferences of ranchers as expressed in this study. The low level of literacy, migratory patterns, and significant learning needs of ranchers in the study pose a special challenge for the Office of Extension and Training of the Forest and Range Organization of Iran. If this is just an example of the educational need of ranchers in the country, the FRO should be planning a major educational effort.

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The Extension paraprofessional model: Relationship of program effectiveness with paraprofessional teaching style and personality profile

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Abstract

To create and maintain a high-quality paraprofessional program, administrators would benefit from knowing characteristics of successful paraprofessionals. This study examined the educational effectiveness of paraprofessionals and compared paraprofessional teaching style and personality type with their program effectiveness. Results indicate that there are associations among these variables and the level of positive behavioral change in participants. Participants working with paraprofessionals whose Myers-Briggs type indicator scores fell in the E (Extraversion), S (Sensing), T (Thinking), and J (Judging) ranges and participants working with paraprofessionals scoring in the teacher-centered range of the Principles of Adult Learning Scale were more likely to report higher levels of positive behavior change. Information from this study can guide and direct personnel and training decisions and enhance programs of organizations that utilize the paraprofessional model for education delivery.

Introduction

Numerous countries and disciplines within the Cooperative Extension System are under pressure to adopt more efficient, accountable, and less expensive means of educational programming. One approach utilized by many systems to achieve the objective of providing cost effective education is the expanded use of paraprofessionals in teaching roles. The paraprofessional model has persisted as an education and service model for at least two centuries and in many countries, serving both special population groups as well as the general public. Current legislation, combined with sociocultural concerns and changes, and an increasing set of empirical findings supporting the effects of the paraprofessional model, are likely to result in increasing demands for this model throughout the next century. This demand underscores a need for standards of practice in recruiting, hiring, training, and supervising paraprofessionals.

Wasik (1997) indicated that the most intense debate in arranging for home visiting services, like EFNEP, is whether to employ professionals or paraprofessionals. She also stated that one of the assumed advantages of hiring paraprofessionals, that of salary savings, may shrink when the necessary resources needed to support the paraprofessional are added (e.g, inservice training). In their publication, *New Careers for the Poor,* Pearl & Reissman (1965) state that, while some agencies document benefits and value of the paraprofessional, others encounter negative experiences with ineffective paraprofessionals which make program administrators question the efficacy of this approach. Therefore, the need to identify and select paraprofessionals that require less of these support resources is quite important.

The identification of characteristics of effective paraprofessionals has become one of the major dilemmas encountered when implementing the paraprofessional model. According to Iscan and Nelson (1977), there appeared to be considerable controversy as to what constitutes a successful paraprofessional and what type of individual should be recruited and selected in a paraprofessional role. Programs vary widely in their criteria for choosing paraprofessionals. Criteria for identifying and selecting effective paraprofessionals have tended to emerge out of a trial and error process (Larner & Halpern, 1987), and have included accessibility, available transportation, and being indigenous to the communities in which the paraprofessionals will work (Spindler, 1967; Brand, 1972; Randall, Brink & Joy, 1989). Other authors have looked at a variety of criteria that organizations consider in recruiting and selecting paraprofessionals. The EFNEP trend has been to hire individuals who are indigenous to the target audience with whom they work. Inservice training has been emphasized as a way to provide

these paraprofessionals the EFNEP subject matter information that they use in their work.

Yerka=s (1974) research and the later research of Cadwaller (1985) and Cadwaller and Olson (1986), as well as the commentary of Giblin (1989), however, questioned whether the paraprofessional=s subject matter knowledge is the most important characteristic in determining program outcomes with clients. Yerka (1974) found that job persistence, experience, attitude toward work, age, and knowledge of teaching-learning strategies also contributed greatly in explaining variance in program knowledge outcomes. Santopolo and Kell (1976) identified positive attitude, enthusiasm, persuasiveness, self-confidence, commitment, concern and initiative as critical job requirements for paraprofessionals. Iscan and Nelson (1977) identified several personal characteristics of EFNEP aides, now commonly known as program assistants, and specifically the ability to relate with people, attitude toward others and the ability to express, as the highest ranked characteristics important for an EFNEP aide=s success. Cormier, Cormier, &Weisser (1984) identified the ability of either a professional or a paraprofessional home visitor to convey warmth and caring, to be empathetic, and to be able to put clients at ease as skills essential to establishing working relationships with clients. Wasik (1993) suggests that personal maturity, good judgment, and interpersonal skills are key considerations in the selection of successful professional and paraprofessional home visitors. However, in 1997, Wasik noted that many assumptions about the characteristics needed by successful paraprofessionals are not based upon empirical studies.

Given the importance of these non-subject matter knowledge characteristics to a paraprofessional=s program success, being able to identify individuals that possess these characteristics would help an organization such as EFNEP to hire individuals that would require less support resources from the organization while still being successful. Identifying which personal characteristics of EFNEP program assistants, or potential program assistants, are most closely associated with program success would be valuable information for Extension organizations in making personnel and staff development decisions and, ultimately, making the paraprofessional model operate effectively and efficiently.

Purpose and Objectives

Extension program administrators can benefit from knowing the characteristics of effective paraprofessionals so they can make informed decisions. Two categories of an individual=s personal characteristics that are related to interaction with others in a teacher-student relationship are the individual=s personal teaching style and personality type. Is a particular teaching style more effective? Is a certain personality type more effective? The answers to these questions would be useful in the recruitment and selection process as well as in the development of relevant pre-service and inservice training programs for paraprofessionals.

This study examined the effectiveness of paraprofessionals in working in a state EFNEP program in relation to the teaching style and personality type of each paraprofessional. The study was designed to 1) identify the educational effectiveness of EFNEP paraprofessional programs, and 2) compare individual EFNEP paraprofessional teaching styles and personality profiles with program effectiveness.

Methods

Procedures

The population for this study consisted of the forty-one Extension Expanded Food and Nutrition Education Program (EFNEP) paraprofessionals in South Carolina. Administered by the Cooperative State Research Education and Extension Service of the U.S. Department of Agriculture in cooperation with State Cooperative Extension Services, EFNEP has employed paraprofessionals to provide nutrition education to limited resource audiences in the 55 states and territories of the United States of America since 1969. The EFNEP paraprofessionals in this study were 100% female, 88% African American, 12% Caucasion, and 100% with a high school diploma or G.E.D. A profile of the audience reached by the EFNEP paraprofessionals in South Carolina in 1997 revealed that the 1105 graduated EFNEP participants were 63% rural, 53% with incomes of less than 50% of poverty level, 56% receiving Food Stamps, 74% with a high school diploma or G.E.D, 26% with less than a 12^{th} grade education, 32% Caucasian, 66% African-American, 1% Asian, and 1% Hispanic.

Instrumentation

The study examined paraprofessional effectiveness and compared paraprofessionals= teaching styles and

personality characteristics with program effectiveness. Data from the 1997 Adult Enrollment form, a component of the national EFNEP record keeping system, were utilized to measure program effectiveness. The Adult Enrollment form provides demographic and behavioral change data of participants as it relates to resource management, food safety and nutrition behaviors. These included: 1) planning meals in advance, 2) comparing prices, 3) running out of food before the end of the month, 4) not allowing meat or dairy foods to sit out for more than two hours, 5) not thawing foods at room temperature, 6) thinking of healthy food choices when deciding what to feed their families, 7) preparing foods without adding salt, 8) reading labels to select food with less sodium, and 9) reading labels to select food with less fat. Program effectiveness was defined in this study as statistically significant positive behavioral change in these nine areas as reported by program participants on the Adult Enrollment form.

The Principles of Adult Learning Scale (PALS) designed by Conti (1982) was used to assess paraprofessional teaching styles. This 44 item instrument is a summative rating scale using a modified Likert-type scale to identify an individuals= preferred teaching style, either teacher-centered or learner-centered. PALS has been tested by Conti for construct validity, criterion-related validity, and content validity (Conti, 1985b). He also has tested the PALS for reliability and internal consistency within the field of adult education (Conti, 1985b). Possible scores on the PALS range from zero to 220. The normed mean for the PALS is 146. High scores on the instrument are associated with learner-centered teaching behaviors. Lower PALS scores are associated with teacher-centered behaviors. A learner-centered teaching approach is described by Conti as being a collaborative process that assumes that adult learners are problem-centered and learn better when they deal with problems directly concerning them and the learning has immediate application to solving those problems. In the learner-centered mode, the teacher functions as a facilitator who supports the learner=s self-directed learning efforts. The teacher-centered approach is an authoritarian approach to learning in which the authority for what is to be learned and how it will be taught resides with the instructor (Conti, 1985a).

In a study of the relationship between teaching style and adult student learning in an adult basic education program, Conti (1985b) found that for short-term learning goals directed toward a specific goal (in this case, the GED), a teacher-centered approach appeared to be the more effective approach. However, for the development of skills that require a long-term process of learning that involves student self-concept, the more learner-centered approach appeared to be more effective. Each EFNEP paraprofessional=s score on the PALS was placed into one of three ordinal categories of low, medium or high for analysis purposes.

The Myers-Briggs Type Indicator (MBTI) was used to assess personality characteristics of paraprofessionals. The MBTI is culturally sensitive, based on Jung=s theory of psychological types, and reports preferences on four sub-scales. The four scales are Extraversion-Introversion Scale (EI), Sensing-Intuition Scale (SN), Thinking- Feeling Scale (TF), and Judgment-Perception Scale (JP). The EI scale describes whether an individual likes to focus his/her attention on the outer or inner world. The SN scale describes how an individual perceives or acquires information; does he/she use his/her senses or rely on intuition? The TF scale describes how the individual makes decisions or judgments about something either through thinking or feeling. The JP scale describes how an individual orients himself or herself to the outer world by taking primarily a judging attitude or a perceptive attitude (Myers, 1962). Paraprofessional=s results from each sub-scale of the MBTI were analyzed as a two-level nominal variable for analysis.

Statistical analysis

Data collected in the project were analyzed using the Statistical Package for the Social Sciences (SPSS), Version 7.5 for Windows (SPSS,1997). Descriptive statistics were used to identify levels of impact of EFNEP programming. Crosstabulations, with appropriate measures of levels of associations, were used to determine levels of association between variables. Levels of statistical significance were determined at the .05 level.

Results

Results from this study indicate the paraprofessional approach has a positive impact on behavioral changes among participants related to nutrition choices, food safety practices, and food-related economic practices. For the nine expected behavior practices, the following percentages of participants reported some level of positive change during the 1997 program year: planning meals in advance (58%), comparing prices when shopping (44%), running out of food before the end of the month (36%), not allowing meat

or dairy foods to sit out for more than two hours (47%), not thawing foods at room temperature (62%), thinking of healthy food choices when deciding what to feed their families (50%), preparing foods without added salt (47%), reading labels to select foods with less sodium (57%), and reading labels to select food with less fat (59%).

Looking at the effectiveness of EFNEP based on the paraprofessional=s teaching style and personality traits, the results indicate that there are associations among these variables and the level of change in participants.

Teaching Style

The mean score for the 37 EFNEP paraprofessionals who completed the PALS was 89.7. This indicates that the paraprofessionals as a group are much more teacher-centered than the norm as found by Conti (1985a).

Examination of the paraprofessionals= PALS teaching style scores and the reported level of behavior changes by participants indicated statistically significant levels of association for six out of the nine behaviors. The three behaviors for which no statistically significant associations were found were: comparing prices when shopping, running out of food before the end of the month, and not thawing foods at room temperature. For each of the six behaviors that had a significant level of association with the PALS score, participants reporting greater degrees of positive change in food-related behaviors were working with paraprofessionals whose PALS scores were more teacher-centered, as opposed to the paraprofessionals whose scores were more toward the learner-centered end of the scale.

Personality Traits

Personality traits, as measured by the Myers-Briggs Type Indicator (MBTI) scale, also indicated several statistically significant associations with the levels of behavioral change reported by EFNEP participants. For the extraversion/introversion (E/I) preference area of MBTI, seven out of the nine reported behavioral changes produced a statistically significant measure of association between level of behavioral change and level of preference. The two behaviors that did not produce significant associations were: comparing prices when shopping, and running out of food before the end of the month. For the seven behaviors that were associated with the E/I area, the analysis indicates that participants working with a paraprofessional in the extraversion (E) range of the MBTI are more likely to report higher levels of positive behavioral change than those working with a paraprofessional in the introversion (I) range.

In the sensing/intuition (S/N) MBTI preference area, seven out of the nine behavioral items were associated with the personality trait level of the paraprofessional. The two behaviors that did not produce significant associations were: running out of food before the end of the month, and thinking of healthy food choices when deciding what to feed their families. For those behaviors that were associated with the S/N preference area, participants who worked with paraprofessionals scoring in the MBTI sensing (S) range were more likely to report higher levels of positive behavioral change than those working with a paraprofessional in the intuition (N) range.

The thinking/feeling (T/F) MBTI preference level was also associated with the level of reported positive behavioral change of participants in the same seven behavioral items as that found in the Extraversion/Introversion (E/I) range. The two behaviors that did not produce significant associations were, again: comparing prices when shopping, and running out of food before the end of the month. EFNEP participants who worked with paraprofessionals scoring in the MBTI thinking (T) preference range were more likely to report higher levels of positive behavioral change than those individuals working with paraprofessionals in the Feeling (F) range.

The judging attitude/perception attitude (J/P) MBTI level was associated with reported behavioral change in all nine of the reported behavioral change items. The analysis showed that those participants working with paraprofessionals whose MBTI scores fell in the judging (J) range were more likely to report higher levels of positive behavioral change than those participants working with a paraprofessional whose score was in the Perception (P) range.

Discussion

One of the findings of this study is that a relationship exists between the teaching style used in the education setting by the EFNEP paraprofessionals in this study and the level of participant behavior change. Although the adult education literature (Freire, 1970; Kidd, 1976; Knowles, 1970) suggests that the collaborative, learner-centered method of teaching is generally the most effective, this study

indicates that teacher-centered approach more effectively elicits educational program impact. These results also appear to support Conti=s findings in his study of an adult basic education program (Conti, 1985b). In that study, those individuals studying for the GED were more successful when taught by a more teacher-centered instructor. Perhaps the EFNEP curriculum objectives (i.e. specific behavioral changes) are somewhat like the goal of getting the GED in that they are very focused on specific, short-term goals. Another possible explanation is that EFNEP program participants are, generally, unfamiliar with adult learning situations and may require a more structured, organized learning environment in order to understand new concepts and develop skills necessary to change behavior.

This study also indicates that paraprofessionals whose MBTI personality traits fell in the ESTJ range more effectively achieved positive behavior change among their program participants. The individual with these personality traits tends to focus on the outer world of people and the external environment. This type of individual prefers to communicate by talking rather than writing, and needs to experience the world in order to understand it and thus tends to like variety and action. This Apeople-focus" corresponds with the literature which suggests that interpersonal skills are critical for successful paraprofessionals.

The paraprofessional with the sensing and thinking combination of preferences would tend to focus attention on realities and tends to handle this with objective analysis, thus becoming practical and analytical. The individual with this personality preference combination appears to be more successful. This conflicts with the literature which suggests that a successful paraprofessional should convey warmth, be empathetic, friendly, enthusiastic and understanding, traits which describe the feeling and intuition preferences of the MBTI. Sociocultural characteristics of the paraprofessionals and the clients in this study, primarily Southern African American, may explain in part the preference for this personality type.

Recommendations

Based on the results of this study, the following recommendations are proposed:

1. Studies need to be conducted beyond the scope of this study to provide additional information as to relationships between paraprofessional characteristics and program effectiveness. The results of this study support several earlier findings in the literature regarding teacher characteristics and educational program effectiveness, and conflict with other findings. Additional studies involving paraprofessionals with other sociocultural backgrounds, in other disciplines within Extension or other non-formal education organizations, and from other countries would contribute to the understanding of these relationships and their potential use. Such studies might identify other paraprofessional characteristics which can be used as indicators of an individual=s potential effectiveness.

2. Administrators of educational programs utilizing paraprofessionals to deliver educational programs directly to clientele should explore the use of measures of personality type and preferred teaching style in the paraprofessional recruitment, selection, orientation, and inservice training processes.

Hiring, training, and ongoing staff support decisions are critical for the provision of quality paraprofessional-delivered programs. Programs that cannot hire and retain quality staff will not be effective. Ineffective paraprofessional staff or high levels of staff turnover results in the inefficient use of valuable organizational resources. Program administrators could benefit from knowing the characteristics of effective paraprofessionals so they can make informed personnel and staff development decisions.

Preferred teaching styles and personality preferences can be identified for current and potential paraprofessional employees using tools such as the Principles of Adult Learning Scale and the Myers-Briggs Type Indicator. This knowledge can help to identify positive aspects of potential employees in the selection process. Knowing this information about current paraprofessional employees can also provide insight to organizations as to what inservice training might be provided to help employees understand the concepts of teaching style and personality trait types and use this information to plan and conduct more effective educational programs.

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TOOLS OF THE PROFESSION

Book Review

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Rogers, A. & Taylor, P. (1998). **Participatory Curriculum Development in Agricultural Education: A Training Guide.** Rome: Food And Agriculture Organization of the United Nations. pb, 154 pgs.

Curriculum development is often difficult for small educational organizations or agencies who lack the time, resources and expertise. Curricula must be up-to-date and must meet the needs of individual learners if they are to be useful. The process of creating new curricula or revising old curricula can be a long process full of frustration.

To address these problems, FAO has published a training guide to help educators involve their clients in curriculum development. The clear, straight forward approach of this guide is also aimed at helping educational groups to understand the relation between curriculum and learning as well as the issues involved in making curriculum development a part of the organization=s ongoing activities.

The guide has six chapters. Chapter one talks about the meaning of curriculum development and helps readers clarify curriculum issues for their organizations. Activity boxes provide space for readers to write their own concerns and priorities. The distinction between a formal curriculum (the textbooks, training manuals and references that deal with the content that is delivered to learners) and the hidden curriculum (attitudes about learning, values, ideology that are communicated to learners) is explained. Another activity box helps the curriculum development team identify stakeholders so that their needs may be addressed. Different curriculum development models are discussed to highlight their relative strengths. Differences among formal, nonformal and informal education, as they impact the curriculum development process, are described.

Chapter two focuses on learning theory in practical, applied terms. The importance of learners= knowledge, understanding, skills and attitudes are discussed. The learning process and alternative learning styles are described. Activity boxes help readers to determine how all of this theory can be applied by their organizations in order to address the specific educational needs of their learners.

Chapter three helps readers examine their organizations= Astakeholders" to determine who should participate in a particular curriculum development effort. Stakeholders are divided into Ainsiders" (i.e., members of the educational organization, the educators, the students, those who produce the learning materials) and Aoutsiders" (i.e., interest groups, policy-makers, politicians, employers, funders, former students). The list of important stakeholders changes from organization to organization and also from one curriculum development effort to another. This guide provides advice on identifying stakeholders to help develop a particular curriculum. It tells how to involve them in the curriculum development process. It helps the educational planner determine the degree of participation of each of the stakeholders and briefly reviews methods of working with stakeholders.

Chapter four discusses the process of creating the curriculum through participation of the stakeholders (as opposed to the curriculum expert who decides what stakeholders need and how learners should receive the education). It describes how to determine learning objectives for skills, knowledge or attitudes and how to write activities that meet the selected objectives. It discusses sequencing activities to deliver content in a way that will have the greatest impact on the learners. It describes how to implement the curriculum and evaluate that curriculum. For each of these steps in curriculum development, alternatives are given. Activity boxes help readers to analyze the choices and choose the best alternative for their purposes and learners= needs.

Chapter five tells how curriculum development efforts sometimes fail during the implementation stage. It suggests how educators can deal with these barriers to curriculum implementation and how they can deal with change. It tells how curriculum can affect institutional change and how curriculum can be applied to the organization=s staff development needs.

Chapter six is a brief summary of key points raised in the other chapters. It is the only chapter that does not include an extensive Afor further reading" list.

The strength of this training guide is that it deals with a full range of theoretical issues in a very practical manner. It would be useful to administrators of extension (and other nonformal education) programs as well as those charged with curriculum development and those in charge of educational delivery. It comprehensively addresses the process and issues of curriculum development. Its emphasis on ***participatory*** curriculum development is on the cutting edge of education for international development. There are no illustrations, the presentation is somewhat dry in places, therefore, the no-nonsense style will appeal most to those who are already motivated to develop or revise curricula. The clear guidelines and step by step process will be helpful to a variety of educators around the world. Learners will appreciate the value placed on their own input as an essential element in structuring their own education.

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TOOLS OF THE PROFESSION

Book Review

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Selener, D. (1996). **Documenting, Evaluating and Learning from our Development Projects: A Participatory Systematization Workbook**. New York: The International Institute of Rural Reconstruction. 107 pgs, $20 US.

Daniel Selener, working with the International Institute of Rural Reconstruction, has made notable contributions to the management of international development programs. He has authored two publications which have been reviewed in this Journal=s fall 1998 issue (volume 5, number 3, pp. 75-78). *Farmer to Farmer Extension: Lessons from the Field,* describes farmers who have been successful as nonformal educators among their peers. *Participatory Action Research and Social Change* analyzes over 1,000 references to develop a useful definition of "participatory action research." The definition includes research and evaluation methodologies that empower people and contribute to a more just society.

Prior to these two publications, but closely related in theme and purpose, Selener authored this workbook on evaluation of development projects. Written for staff of non-governmental organizations, grass-roots organizations and government agencies, this workbook provides a broader approach to evaluation than the traditional one-time, impact evaluation done by an external evaluator whose interest is mere documentation.

Section one addresses "systematization" which is defined as "a methodology which facilitates the ongoing description, analysis and documentation of the processes and results of a development project in a participatory way" (p. 7). "The five on-going activities of the systematization process are: description of project; analysis of project activities, decision making and action to improve project performance, documentation, and sharing lessons learned" (p. 9).

Section two builds on the definition and describes five on-going activities for the purposes and benefits of systematization. According to Selener, systematization should not only improve project performance and results but also strengthen the organization, promote self-reliance among rural people, foster cooperation between communities and development organizations and strengthen civil society.

Section three deals with issues in planning an evaluation which fits the definition and objectives of systematization. Workbook users are encouraged to analyze their projects within a broad context considering political, economic, cultural, historical, environmental and religious aspects as well as indigenous knowledge. Analysis should be done by a team of stakeholders--those who have an interest in the project, so that everyone=s point of view is considered. This section helps the evaluation team to clarify issues related to why, what, how and by whom the evaluation will be done. These issues must be clarified before evaluation is attempted. The end of this section provides advice about how to overcome possible obstacles (lack of staff time and skills, lack of financial resources) that may be encountered.

Section four deals with focus. What is to be evaluated and what is not to be evaluated are important choices. Four areas of analysis which can be considered are 1) the conceptual framework (project strategy and ideology), 2) the general context (local community, regional, national, and global factors), 3) characteristics of participants, and 4) the nature of the project (goals, objectives, activities, implementation, results, impacts). Lists of key questions are given for each of these areas of analysis.

Section five guides users to summarize the lessons learned to enable sharing with others who may benefit

from those lessons. It also indicates a variety of techniques that can be used to report results.

The last section is a "toolbox" of techniques that can be used during the evaluation process. This section contains 14 descriptions and worksheets for generating ideas, solving problems, facilitating group discussion, analyzing choices and making decisions.

This workbook will be criticized by some researchers and administrators of funding agencies who want research to deliver "hard data" that is statistically accurate and totally objective. Some critics will object to the rejection of the external evaluator. Managers of grass-roots projects, however, should find the workbook to be a practical and thorough guide to planning and implementing an evaluation to produce results that are immediately useful.

The workbook raises a wide variety of evaluation issues and helps the user choose the best alternative to resolve each issue. It is well organized and comprehensive. Some project managers may lose patience before they work through all of the issues and alternatives. They should, however, have no trouble understanding the content and applying it to project evaluation.

Some of the tools in the last section may require knowledge and experience to supplement the brief presentation in the workbook. Brainstorming, for instance, is not clearly or completely described. Any technique can be misused. Steps can be skipped leading to disappointing results. This is a minor concern, however, with a workbook that is carefully written and easy to use.

All of the references listed at the end of the workbook are in Spanish. Related literature in English, however can be found in Selener=s other two publications mentioned at the beginning of this review.

The workbook (ISBN 9978-04-241-5) can be purchased from Global Action Publications, Apartado Postal 17-08-8494, Quito, Ecuador.

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TOOLS OF THE PROFESSION

European Seminar in Extension Education
Perspective of a First-Time Seminar Participant

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I was fortunate to attend the 14th European Seminar in Extension Education (ESEE) in Cracow, Poland. For six days in September this year, over 70 seminar delegates from 23 countries participated in plenary session presentations and had the opportunity to choose from over 30 papers in concurrent sessions. They also observed agricultural extension programs and rural life in South Poland, visited historic churches and palaces, and other interesting sites, and were treated to a delightful fare of food, drink, and Polish hospitality difficult to emulate. These brief impressions may give Journal readers a flavor of the technical sessions, and social and cultural activities in which we were involved.

The Seminar

The first European Seminar was held in 1973 in Helsinki, Finland. Since then, the event has been organized every other year in several West European countries including Denmark, Ireland, and the Netherlands. This year=s seminar was the 14th and the first held in Central/Eastern Europe.

The responsibility for overseeing the planning and conduct of the seminar rests with one or more institutions in the host country with assistance from institutions in other European countries. There is a strong link with *The Journal of Agricultural Education and Extension*.

The organizing committee for this year=s seminar was made up of faculty from agricultural universities in Cracow and Warsaw, and the Warsaw School of Economics. The next seminar in 2001 will be held in the Netherlands with Wageningen Agricultural University giving leadership.

The primary objective of the seminar is to engage extension professionals in a dialogue on philosophy, programs, organizing systems, methods and techniques, and current and emerging issues in knowledge systems.

The 14th Seminar

The seminar=s professional meetings were held at the modern conference center of the Agricultural University of Cracow, a city rich in history and tradition.

The seminar focused on the significant role of agricultural extension in a world characterized by rapid growth and change, global communication links, technological developments and modernization.

Seminar participants represented agricultural research and extension in universities and colleges across Europe, private sector extension and knowledge systems, and government extension/advisory services. Other AIAEE members participating included Henry Bahn, Barbara Ludwig, David Mustian, and John Richardson (U.S.), Gustav Duvel (South Africa), and Jim Phelan (Ireland).

The opening plenary session of the seminar focused developments in Poland. It included presentations on the opportunities, challenges and threats to Polish agriculture that are likely to arise from the impending merger of Poland with the European Union; the significant role agricultural extension plays in a global world; and trends in agricultural extension research and teaching in Poland.

This was followed by an international plenary session at which four papers were presented. A.W. van den Ban (Netherlands) discussed the question “What are the consequences of the way agricultural extension organizations are financed to the way these organization are serving farmers?” He cited 10 ways of financing, and discussed the reasons why different actors (government, commercial companies, farmers associations, consulting and accounting firms, and non-governmental organizations) support extension. Indicating the paucity of and need for research on consequences of alternative financing on farmers, van den Ban supported the notion that government

funding will continue to focus on public good activities such as technology transfer, dissemination of environmental and resource technology, and human resource development, and that privatized extension will meet specific needs of special clientele groups. Jim Phelan (Ireland), discussing the future viability of farming, maintained that part-time farming combined with a non-farm job was the only way farmers could survive difficult economic conditions. To document quality of extension work in the new millennium, Barbara Ludwig (U.S.) discussed the structure, core activities, and collaborative operating mode of high performing organizations, advocated a symbiotic professional-community engagement for extension in the future, and indicated quality indicators for high performing extension professionals. In his presentation Niels Röling (Netherlands) argued for a system of adaptive management based on social learning to meet the Aeco-challenge" created by humans as they have transformed the biosphere. He used the ASantiago theory of cognition" grounded in perception, emotion, and action proposed by two Chilean biologists to disprove the assumptions of economics which drives society, and to suggest conceptual tools for understanding the facilitation of social learning.

Concurrent session papers focused on five major themes and issues B program accountability, learning, sustainable development, leadership, and change. Significant points from selected papers are highlighted.

The first volume of published conference proceedings contains full papers. Volume 2 will include plenary session presentations, discussion summaries, and recommendations.

Gustav Duvel (South Africa) described an intervention and monitoring model to track accountability, and John Richardson (U.S.) presented a world-view of accountability. Duvel argued that human needs, perceptions, and knowledge are the immediate precursors and determinants of behavior change, and suggested that these be the focus of objectives and be used in analyzing the desired change. Richardson stressed the growing need worldwide for gathering evidence on program impacts and cost effectiveness to document accountability, and suggested that systems based on gathering credible numbers and recounting success stories can meet this need. The importance of and need to focus on outcomes to determine quality of extension programs as opposed to the current emphasis on inputs and activities was the theme of David Mustian=s paper on program performance measurement (U.S.).

Lena Levander (Finland) recounted her interesting experience of teaching an oral presentation skills course arguing that reflective practice and dialogue by students can enhance transformative learning. Also in the realm of learning Henry Bahn (U.S.) posited that learners who may be unwilling to learn information about external influences on their lives, such as regulatory and environmental issues in agriculture, may need learning motivations and methods different from the traditional technology transfer approach.

Sustainable development was the focus of several presentations. Tadeusz Wieczorek (Poland) emphasized the need to integrate ecological themes in agricultural education curricula and extension education programs; Alex Koutsouris (Greece) advocated the farming systems approach as a source of inspiration for building curricula in higher agricultural education; Satish Verma and Paul Coreil (U.S.) cited examples of successful environmental education of citizens to support their view that extension services should play an increasingly important role in balancing developmental needs and environmental imperatives; Aysen Olgun (Turkey) argued that enlightened government policies and integrated planning of agricultural technology and natural resource conservation education by extension services are vital to protection of the environment in developing countries; Laura Seppanen (Finland) recounted how she had worked with a Finnish couple in planning rotations of organic vegetable production and green manure crops, and suggested that agricultural advisors should study the history of farmers and their farm operation, expand both time (past and future) and space dimensions, and be slow and deliberate in their actions.

Presentations on leadership included empirical research on self-perceived leadership abilities of rural women, and characteristics of opinion leaders in diffusing agricultural innovations. Stavros Androulidakis and George Siardos (Greece) extracted two ability profiles B trustworthy-practical-encouraging; and listening-conflict resolution tact B from the data on 500 rural women and inferred relationships with selected demographics. Using the sociometric technique, Slawomir Zawiska (Poland) described socially respected and farming opinion leaders as optimistic, innovative, and larger, more modern farmers who use outside communication sources. Interestingly, it was found that these leaders are

esteemed for their role in testing innovations rather than providing information on innovations. Change and adaptation to change by extension was an oft-repeated theme of the seminar. How extension systems in different countries were responding to the varieties of changes confronting them was the question asked in several presentations.

Artur Cristovao (Portugal) commented on the changes and adversities experienced in Portugal=s extension system and discussed future trends.

Eelke Wielenga (Netherlands) traced changes in Dutch agriculture and agricultural extension, redefined extension as it has been evolving and where it is today, and enunciated a number of new and challenging roles for the extension of the future.

The transition to privatized national economies of Central and Eastern European countries has been affecting the agricultural sector and the establishment and organization of extension/advisory services.

The case for establishing an extension system in the public sector to help farmers become competitive in domestic and international free market economies was made by Jozsef Kozari (Hungary). He enunciated a set of principles of agricultural extension for Hungary, including learning from historical and indigenous experiences, credibility and accessibility of information, and culturally-adapted structures and methods.

Satish Verma and Lakshman Velupillai (U.S.) described the background and progress of a Private Farmers Training and Outreach Center at a state agricultural university in Ukraine to assist private farmers adapt to a market economy.

A successful training program of members of the Albanian Fertilizer and Agri-business Dealers Association in extension and communication skills to empower them to transfer to farmers new products and practical information packages in a decision-oriented, free market economy was reported by Claude Freeman, Stavros Androulidakis, Ylli Bicoku and Sabah Sena (Albania).

Milan Slavik and Ivan Miller (Czech Republic) emphasized the role of secondary agricultural schools and agricultural universities as sources of information for agricultural producers, and spoke of the intent of the Czech University of Agriculture to collaborate with the University of Reading, U.K. in offering a course on Extension and Communication.

Study Tours and Sightseeing

Study tours took us south and west over rolling land to the Tatras mountains. We saw interesting agro-tourism industry development enterprises (horseback riding and recreation, a farm-based guest house and restaurant, a century old cottage featuring household utensils and musical instruments, an arts and crafts shop), private crop production and dairy farm operations, an organic vegetable and fruit farm, and a fruit and vegetable processing partnership company employing over 100 workers. Tourist attractions visited included the Wavell Palace and Market Square (Cracow), the Salt Mine (Wieliczka), and the Zakopane market.

A Salute

In May 1998, some of us from AIAEE attended the annual conference of the South African Society of Agricultural Extension (SASAE). On return, I published in our Journal my impressions of the Society, the conference, and the country. I think what I wrote then about the technical portion of that conference could be said of the European Seminar. So, I will say it again. AY was excellent: well-organized, papers of high quality, published in a set of proceedings, and interesting, animated discussion during and after the sessions. Opportunities for fellowship, and for exploring issues and ideas with colleagues from other countries face-to-face are the best part of a get-together such as this. I found much goodwill and professionalism in the participants. One realizes on such occasions that people have different versions of realities and problems, but can turn these into challenges and find unique solutions."

Poland is currently undergoing economic changes as it makes progress in developing a free market system. It is faced with important policy questions. Unique among the countries that have emerged from under the Soviet influence, it fought the aggressions of its neighbors throughout its history. There is much optimism and hope in a better future, and there is the courage to reach goals. At the same time there are lingering concerns and questions. Visits like this reinforce my conviction that people the world over have faith in people, dream of a better life, and want to work to realize those dreams. My thanks to fellow extension workers in Poland and the 22 other countries who were represented at the seminar for their warmth and kindness. Give us the chance to do the same for you one day.

TOOLS OF THE PROFESSION

Journal of Agricultural Education and Extension
Selected Abstracts

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It is always important for agricultural and extension education professionals to stay abreast of the latest research, program development and evaluation techniques, and philosophical developments from around the world. Periodically, the *Journal of International Agricultural and Extension Education* publishes selected abstracts from *The Journal of Agricultural Education and Extension* (formerly the European Journal of Agricultural Education and Extension). The *Journal of Agricultural Education and Extension* is published quarterly by Wageningen Agricultural University, The Netherlands.

Ecological agriculture research: increasing competence through PhD courses

G. Lieblein, C.A. Francis, L. Salomonsson and N. Sriskandarajah

A PhD course in ecological agriculture was organized for the Nordic/Baltic Region by an international team. Components were a pre-course literature review and written thesis summary, a week-long intensive workshop in Stange, Norway, and follow-through reports and evaluations. Research in ecological agriculture requires a firm foundation in science and experimental methods as well as a set of other research methods for inquiry at different levels of the spatial hierarchy. PhD students need to learn about and practice a range of inquiry methods to study and evaluate both component technologies and more holistic aspects of practices, farms, and food systems. Most important is to learn when and where these methods should be applied. Lectures, large group discussions, and small group working sessions were used to involve each student in a team with facilitators in grappling with the challenges of research design and implementation. Traditional methods of experiment design, on research station and on farm, as well as different social science methods, were presented along with concepts and methods of systems. Students were encouraged to apply these ideas to their own PhD projects. Evaluation showed that most research projects were focused at the individual enterprise (crop, animal, field) or at the whole farm scale. As a result of the course, students recognized the importance of a range of hierarchical levels at which questions could be asked, and the majority adopted some new methods that broadened research relevance. Finally, the course and workshop experience expanded the circle of scientific peers with whom students could consult as they continue their research careers. The course was rated by students as moderately to highly valuable as part of their PhD study.
J Agr Educ Ext (1999, 6, 1, pp 31-46)

Human constraints to sustainable agriculture in the arid regions of South Africa

G.H. Düvel and A. J. Botha

The efficient conservation of natural resources is accepted to be largely dependent on the conservation behavior of farmers and can be directly attributed to the adoption of conservation practices. This paper examines the influence of various behavior determinants in an effort to identify those variables contributing most significantly towards the explanation of conservation behavior and thus to identify the constraints for sustainable agriculture. Data was gathered by means of structured interview schedules in a survey carried out in four ecologically sensitive districts; all under extensive rangeland conditions, and involving a 20 percent stratified sample totaling 79 respondents.

The findings suggest that particularly the mediating variables, namely needs, perceptions and knowledge, are closely related to conservation behavior and the conservation status of natural resources. This supports their hypothesized, direct rather than indirect influence on adoption behavior, should be identified and receive attention in extension strategies or programs aimed at promoting sustainable agriculture.
J Agr Educ Ext (1999, 6, 1, pp 47-60)

Perceptions of teachers= instructional behavior in secondary agricultural education

H.J.A. Biemans, C.T. Jongmans, F.P.C.M. de Jong and Th.C.M. Bergen

This study was designed to examine student teacher perceptions of teachers= instructional behavior in schools for secondary agricultural education. For this purpose, two questionnaires (a teacher version and a student version) were used, consisting of the scales >teacher-led activation=, >student-led activation=, >clarity=, and >control=. Clarity of instruction as judged by the students, increases when a teacher makes the effort to activate his or her students. Systematic differences exist between the teachers= perceptions and the students= perceptions: on all scales, teachers appear to give themselves higher >marks= than the students= do. It is argued that, through critical reflection on their own teaching, teachers will become aware of the discrepancy between their own and the students= perceptions. This awareness is likely to be a driving force for the improvement of teachers= instructional behavior.
J Agr Educ Ext (1999, 5, 4, pp 231-238)

Some leading issues in international agricultural extension, a literature review

R. Haug

The purpose of this article is to discuss current issues relating to public agricultural extension such as the role of the state, reductions in public spending, financial viability, partnership, privatization, institutional structures, decentralization, participation, gender, local knowledge, pluralism and sustainability all in a globalization and marginalization context. The article provides a holistic and cross-disciplinary overview of important factors and forces having a significant effect of the future paths of public agricultural extension services. Agricultural extension systems world-wide are going through necessary renewal processes and it is still an open question what role the public sector are going to play regarding extension in the future. Different systems of partnership between public and private sectors may offer a win-win situation where the advantages of public extension (e.g. open access) join forces with private sector “efficiency”, capital and market orientation. However, we may also experience the opposite situation where privatization is accompanied by commercialization, market failure and further marginalization of small-scale farmers.
J Agr Educ Ext (1999, 5, 4, pp 263-274)

Assessing the Teaching of Landscape Management Skills and Knowledge in the Austrian Agricultural Education System

M. Penker

The threats to traditional cultural landscapes and the concomitant demands from society for remedial landscape management represent a new challenge for agricultural education. The research described here examined the extent to which relevant landscape management skills and knowledge are transferred to would-be farmers (if at all) within the Austrian agricultural school system. A plurilateral approach was taken, involving a standardized text evaluation of curricula (as defined in legislative documents), examination of further vocational training programs for teachers, and investigation of the actual teaching situation in selected schools. This combination of methods produced a comprehensive overview of the situation in agricultural schools and academies with regard to landscape management teaching. The teaching programs prescribed by law and the actual programs carried out by teachers were compared with a theoretical >best-case= program for teaching landscape management, and this revealed considerable shortcomings in current teaching. The research also identified potential constraints to the integration of landscape management elements within the agricultural school system.
J Agr Educ Ext (1999, 5, 4, pp 255-262)

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