

OBSTACLES FACING EXTENSION AGENTS IN THE DEVELOPMENT
AND DELIVERY OF EXTENSION EDUCATIONAL PROGRAMS FOR
ADULT FARMERS IN THE PROVINCE OF ESFAHAN, IRAN

Mohammed Chizari, Assistant Professor and Head
Tarbiat Modarres University, Tehran, Iran

Mostafa Karbasioun, Instructor
Shahrae Khouard University, Isfahan, Iran

James R. Lindner, Research & Extension Associate
Piketon Research and Extension Center, The Ohio State University

Abstract

The purpose of this study was to assess the viewpoints of extension agents regarding the most appropriate methods for teaching adult fanners, their own educational needs, and obstacles hampering them in developing and delivering educational programs for adult fanners in Esfahan Province, Iran. The population included all extension agents in the province of Esfahan who were involved in teaching processes and practices to adult fanners (N=102). Data were collected through a questionnaire mailed to each extension agent. The response rate was 83%. The most appropriate teaching methods as perceived by the extension agents were result demonstrations, method demonstrations, formal group meetings, and informal discussions. Most extension agents said that they needed training in identifying and organizing training content, various teaching methods, and needs analysis. Obstacles hampering extension agents in developing educational programs in the Province of Esfahan, Iran, were lack of teaching equipment poor educational facilities, dispersion among fanners, and poor linkages between research centers and extension administration.

Introduction

Adequate numbers of well-trained extension personnel are the basic resource for a successful extension system. Without adequate numbers of well-trained people, extension will be seriously limited in its ability to plan and execute effective educational programs and other technology transfer activities. As extension agents face the challenge of learning new skills to maintain their proficiency or become qualified for promotion, the importance of an effective staff training program for extension agents becomes evident (Buford, Bedeian & Lindner, 1995). These authors state further that to ensure extension agents are well trained, extension management must determine training needs, motivate staff to increase their capabilities, select training methods, and evaluate results of training.

Focusing more attention on the educational needs of extension agents is also important for extension managers as well as obstacles hampering their educational duties (Swanson, 1990).

Adhikarya (1989) points out that almost 40% of extension personnel worldwide have secondary-level educational qualifications, with another 33% at the intermediate level. Broad-based agricultural development in Iran will require reallocating extension resources and developing educational programs that can transfer appropriate technology to the farmers (Chizari & Mirikhoozani 1995). Van den Ban and Hawkins (1988) state that an extension agent wishing to give sound advice to farmers must understand not only the extension process but also must have adequate technical knowledge of the discipline in which AN agent gives advice.

The educational qualifications of extension agents in most developing countries, including Iran (Pezeshki-Raad, Yoder, & Diamond, 1994), are low in relation to the assignments and responsibilities extension agents are expected to carry out. According to Buford, Bedeian & Lindner (1995) possession of an advanced degree has become a recommended minimum qualification for extension personnel in developed countries. In Iran, it is widely agreed that a substantial training effort is needed to upgrade the skills, knowledge, and qualifications of extension personnel (Chizari, Pishbin, Lindner, 1997; Pezeshki-Raad, Yoder, & Diamond, 1994). Regular training of extension agents is fundamental to the delivery of effective extension programs.

Amin and Stewart (1994) found the training and visiting approach to be effective in increasing crop yields. However, using meetings and conferences to deliver extension programs may not be as effective as it once was (Gamon, Harrold, & Creswell, 1994). Research further suggests that the best type of delivery method to use depends on the audiences' maturity, educational level, background, and objectives (Rollings, & Golden, 1994; Obahayujie, & Hillison, 1988). Cano and Garton (1994) suggest adopting teaching approaches that will be effective with all the learning preferences. Additionally, for teachers to be effective, clientele need to have knowledge of what educational delivery method works best for them (Cano & Garton, 1994; Torres & Cano, 1994).

Purpose and Objectives

The purpose of this study was to assess the viewpoints of extension agents regarding the most appropriate methods in teaching adult farmers, their own educational needs, and obstacles hampering them in developing and delivering educational programs for adult farmers in Esfahan Province, Iran.

Specific objectives of the study were to:

1. Describe the teaching methods used by extension agents that they perceive as most effective in teaching adult farmers in the Province of Esfahan, Iran.
2. Describe the types and methods of education and training needed as perceived by extension agents in the Province of Esfahan, Iran.
3. Describe the obstacles, as perceived by extension agents in the Province of Esfahan, Iran that hamper the development and delivery of extension programs.

Methods and Procedures

Population

The population included all extension agents in the Province of Esfahan who were involved in teaching processes and practices to adult farmers (N=102). The extension organization directory of the Ministry of Agriculture was used to locate the agents in each township. The researchers verified the list before distribution of the survey.

Research Design and Data Analysis

The research design used for this study was a descriptive survey method. The survey was divided into three sections. The first section was designed to gather demographic data on the target population. The second and third sections were designed to gather data related to the specific objectives of this study. The instrument used a six-point Likert-type scale (1 = strongly disagree; 2 = disagree; 3 = slightly disagree; 4 = slightly agree; 5 = agree; and 6 = strongly agree). A six-point scale was used to prevent respondents from taking a neutral position (Clason & Dormody, 1994). Content and face validity were established by a panel of experts consisting of faculty and graduate students in the department of Agricultural Extension and Education at Tarbiat Modarres University, Iran. Instrument reliability was estimated by calculating a Cronbach's alpha coefficient. Reliability for the

instrument ranged from .78 to .92

Results

A pilot test was conducted with 20 extension agents in the Tehran Province three weeks before the study. There were no modifications made in the procedures and questionnaire as a result of the pilot study. Data were collected through a questionnaire mailed to each extension agent in the Province of Esfahan, Iran. Those who failed to respond were sent a postcard reminder. If the reminder failed to elicit a response, a follow-up letter and a duplicate questionnaire were mailed. The response rate was 83%. An early versus late respondent comparison was made to determine if nonresponse was a threat to the validity of the study (Kerlinger, 1986; Miller & Smith, 1983). Using this procedure, no statistically significant differences between the groups were found. Therefore, findings from this study are assumed to be generalizable to the population from which it was drawn. Data collected were analyzed using Statistical Package for the Social Sciences, Personal Computer Version (SPSS Inc., 1991).

Selected demographics of survey participants **are** listed below. The majority (54%) of the respondents had at least a college education, and 55% of those had an agricultural related degree. Seventy-six percent of the respondents were male. Most of the respondents were married (89%). A majority (59%) had five years or less field extension experience. More than half (55%) of the extension agents had ten or more years of work experience outside of extension. Fifty-three percent reported attending Extension Service sponsored inservices, and 72% of those indicated the inservices were either useful or very useful.

Objective One

As shown in Table 1, 66% of the extension agents stated that result demonstrations were the most effective method for teaching their clientele.

Table 1. Frequency, Rank, and Percentage of Appropriate Teaching Methods for Adult Farmers as Viewed by Extension Agents (n=85)

Rank	Responses	Frequency	Percentage
1	Result demonstration	56	66
2	Method Demonstration	32	38
3	Formal group meetings	25	29
4	Informal discussion	19	22
5	Field visits/study tours	14	17
6	Mass media channels	12	14
7	Lecture/instructor presentation	11	13
8	Folk media	5	6

Note. the responses with which the extension agents choose to “agree” (rating of 5) or “strongly agree” (rating of 6) were included.

Result demonstrations are the processes of showing farmers the impacts of using versus not using a particular agricultural practice. The second most effective method identified by extension agents was method demonstrations (38%). Method

demonstrations are the processes of showing farmers how to implement or perform a particular agricultural practice. Method demonstrations typically occur after result demonstrations. The two least rated items were lecture/instructor

presentation (13%) and folk media (6%).

Objective Two

As shown in Table 2, 85% of the extension agents reported identifying and organizing training content as important to their educational programs. Eighty-two percent of the extension agents stated that they needed training in various teaching methods, as well as needs analysis. The two least rated items were importance of social groups (49%) and marketing agricultural products for maximum profit (46%).

Objective Three

Table 3 summarizes the major obstacles hampering extension agents in developing and delivering educational programs for adult fanners. The majority (78%) of respondents reported that

lack of teaching equipment and facilities was an obstacle hampering the delivery of an effective adult educational program. Almost three-fourths (73%) of extension agents reported that dispersion among farmers was an obstacle hampering the delivery of adult educational programs. Seventy-one percent of respondents stated that lack of linkage between research centers and extension organizations was a major obstacle facing extension agents in conducting educational programs. The two least rated items were illiteracy among farmers (44%) and lack of up-to-date information to present to farmers (42%).

Conclusions and Recommendations

Based on the findings of this study, the following conclusions were drawn and recommendations made.

Table 2. Frequency, Rank, and Percentage of Educational Needs of Extension Agents (n=85)

Rank	Responses	Frequency	Percentage
1	Identifying and organizing training content	72	85
2	Various teaching methods"	70	82
3	Needs analysis	70	82
4	Farm machinery	69	81
5	Latest farming technology	64	75
6	Extension approaches ^b	53	62
7	Types of training support material	50	59
8	Technology dissemination	49	58
9	Principles of farm management	48	57
10	Determine training needs	47	56
11	Government regulations	45	53
12	Agricultural economics	42	49
13	Importance of social groups	42	49
14	Marketing agricultural products for maximum profit	39	46

Note. responses with which the extension agents chose to “agree” (rating of 5) or “strongly agree” (rating of six) were included

“discussion, lecture, brainstorming, panel, films, audio visual, etc; ^btraining and visiting, integrated approaches, university-based systems, commodity-based systems, private sector approaches, etc.

Table 3. Frequency, Rank, and Percentages of Major Obstacles Hampering Extension Agents (n=85)

Rank	Responses	Frequency	Percentage
1	Lack of needed equipment and facilities	66	78
2	Dispersion among farmers (age, education, and sex)	62	73
3	Lack of linkage between research centers and extension organization	61	72
4	Continuation of educational programs	57	68
5	Insufficient funding earmarked for extension education	54	64
6	Lack of inservice courses	53	62
7	Lack of means for upgrading or increasing educational qualification	52	61
8	Lack of confidence among farmers	51	60
9	Lack of job security	47	55
10	No extra pay, bonus, or incentives for teaching rural population	46	54
11	Rapid changes in agriculture	42	49
12	Poor attendance	41	48
13	Not enough administrative support	38	45
14	Illiteracy among farmers	37	44
15	Lack of up-to-date information to present to farmers	36	42

Note. Only the responses with which the extension agents chose to “agree” (rating of 5) or “strongly agree” (rating of six) were included.

Result demonstrations, method demonstrations, and formal group meetings were the most effective extension education teaching methods as perceived by the extension agents in the Province of Esfahan, Iran. The results presented here differ from the results of the Gamon, Harrold, and Creswell (1994) study, where they found meetings to be a less effective means of delivering educational programs. However, our study looked at the perceptions of extension agents, while the Gamon, Harrold, and Creswell(1994) study looked at the perceptions of clientele. Further study is needed to determine if the perceptions held by extension agents represent those held by clientele.

Most extension agents in the Province of Esfahan, Iran, indicated that they needed training in identifying and organizing training content, various teaching methods, and needs analysis. These results should be incorporated into future training and inservice courses offered to extension agents. Additionally, efforts need to be made to increase the

agent enrollment in training and inservice course offerings. Increased attendance can be accomplished by making attendance compulsory, offering incentives, or documenting usefulness of program to agents; most agents (72%) attending training and inservice find them useful. The difficulty in attracting extension agents to training and inservice courses has been documented here (53% reported attending inservices) and in the work by Pezeshki-Raad, Yoder, and Diamond (1994) and Chisari, Pishbin, and Lindner (1997).

Extension agents in the Province of Esfahan, Iran, stated that lack of teaching equipment and facilities, dispersion among farmers, and lack of linkage between research centers and extension organization were the major obstacles hampering them in development and delivery of educational programs. In a related study of agriculture educators' perceptions, lack of time, funds, and motivators were found to be major obstacles in developing and delivering adult education programs

(Chizari & Taylor, 1991). Our findings support the need for more funds, but do not support the need for more time or motivators as suggested by Chizari and Taylor (1991).

To have a greater impact in the Province of Esfahan, the Extension Service needs to hire, train (emphasis added), and motivate its employees. Extension agents in the Province of Esfahan will be more effective if they increase their knowledge of education delivery methods and how their clients learn, therefor helping Iran become more self-sufficient in food production. To increase funding for extension programming in the Province of Esfahan, Iran, the Extension Service needs to document its impact on helping Iran become self-sufficient in food production. Research results, like those presented here, can help the Ministry of Agriculture make decisions about resource allocations necessary to properly train effective extension agents. The results of this study may also help guide extension agents in the Esfahan Province of Iran in developing and delivering extension education programs.

References

Adhikarya, R. (1989). Strategic extension campaign: A case study of FAO's experiences. Food and Agriculture Organization of the United Nations.

Amin, A. H., & Stewart, B. R. (1994). Training and visit extension program outcomes in Ninia Governorate, Egypt. Journal of Agricultural Education, 35 (3), 30-34.

Ban A. W. van den, & Hawkins, H. S. (1988). Agricultural Extension. Essex, England: Longman Scientific and Technical.

Buford, J. A., Jr., Bedeian, A. G., & Lindner, J. R. (1995). Management in Extension (3rd ed.). Columbus, Ohio: Ohio State University Extension.

Cano, J., & Garton, B. L. (1994). The learning styles of agriculture preservice teachers as

assessed by the MBTI. Journal of Agricultural Education, 35 (1), 8-12.

Chizari, M., Pishbin, A. R., & Lindner, J. R. (1997). Self-perceived professional competencies needed and possessed by agricultural extension agents in the Fars Province of Iran. Proceedings of the 13th Annual Association for International Agricultural and Extension Education Conference.

Chizari, M., & Mirikhoozani, S. A. (1995). The role of rural women in agricultural extension activities and production of rice in Gilan Province, Iran. Proceedings of the 1 lth Annual Association for International Agricultural and Extension Education Conference, 1 1-19.

Chizari, M., & Taylor, W. N. (1991). Agriculture teachers perceptions of adult education programs: An examination of critical educational needs, obstacles faced, and support needed. Journal of Agricultural Education, 32 (2), 23-28.

Clason, D. L., & Dormody, T. J. (1994). Analyzing data measured by individual Likert-type items. Journal of Agricultural Education, 35 (4), 3 1-35.

Gamon, J. Harrold, N., & Creswell, J. (1994). Educational delivery methods to encourage adoption of sustainable agricultural practices. Journal of Agricultural Education, 35 (1), 38-42.

Kerlinger, F. N. (1986). Foundation of behavioral research (3rd ed.). New York: Holt, Rinehart, and Winston.

Miller, L. E. & Smith, K. L. (1983). Handling nonresponse issues. Journal of Extension, 21 (5), 45-50.

Obahayujie, J., & Hillison, J. (1988). Now hear this: Delivery methods for fanners. Journal of Extension, 26 (1).

Pezeshki-Raad, G., Yoder, E. P., & Diamond,

J. E. (1994). Professional competencies needed by extension specialists and agents in Iran. Journal of International Agricultural and Extension Education, 1 (1), 45-53.

Rollins, T. J., & Golden, K. (1994). Proprietary information dissemination and education system. Journal of Agricultural Education, 35 (2), 37-43.

SPSS, Inc. (199 1). Statistical package for the social sciences (SPSS/PC+). Chicago, IL.

Swanson, B. E. (1990). Report of the global consultation on agricultural extension. Rome: Food and Agriculture organization of the United Nations.

Torres, R. M., & Cano, J. (1994). Learning styles of students in a college of agriculture. Journal of Agricultural Education, 3 5 (4), 6 1-66.