

used cautiously. Since the medium focuses on the teaching performance and physical appearance of the instructor, more than one videotaping may be needed before the instructors can concentrate on the content of the lecture and their teaching skills.

11. Colleague appraisal based on classroom observation or videotape is especially useful in a continuous program of evaluation for course improvement purposes. The issues of confidentiality, authenticity of the behavior, obtrusiveness of the observers, and subjectivity in evaluating classroom behaviors can more easily be dealt with if the instructor has the opportunity to respond and discuss the evaluations.

Conclusion: Part III

Students and colleagues are generally considered the primary sources for information on the evaluation of teaching. Hopefully, we have summarized in Parts II and III the most important aspects in an overall strategy utilizing those sources. In Part IV, we complete our discussion of strategies with self as a source, alumni and records. Additionally, we conclude with sections on how to synthesize the various strategies in preparing quality documentation. Part IV will be published in the December 1984 issue of *NACTA Journal*.

Part III — Bibliography

1. Braskamp, L.A., Ory, J.C., and Pieper, D.M. 1981. Student written comments: Dimensions of instructional quality. *Journal of Educational Psychology*, 73, 65-70.
2. Centra, J.A., 1975. Colleagues as raters of classroom instruction. *Journal of Higher Education*, 46, 327-337.
3. Clark, J.L.D. 1980. Measures of student learning. In J.A. Centra (ed.), *Determining faculty effectiveness*. San Francisco, CA: Jossey-Bass.
4. Dawson, J.A. and Caulley, D.M. 1981. The group interview as an evaluation technique in higher education. *Educational Evaluation and Policy Analysis*, 3, 61-66.
5. Fuller, F.F. and Manning, B.A. 1973. Self-confrontation review: A conceptualization for video playback in teacher education. *Review of Educational Research*, 43, 469-528.
6. Ory, J.C., Brandenburg, D.C., and Pieper, D.M. 1980. Selection of course evaluation items by high and low rated faculty. *Journal of Research in Higher Education*, 12, 245-253.
7. Ory, J.C., Braskamp, L.A., and Pieper, D.M. 1980. The congruency of student evaluative information collected by three methods. *Journal of Educational Psychology*, 72, 181-185.



INTERNATIONAL AGRICULTURE

Robert R. Shrode, Chairman
Department of Animal Science
University of Tennessee
Knoxville, Tennessee 37996

Extension Education System In the Third World

Kamiar Kouzekanani and
R. Kirby Barrick

Introduction

World poverty is overwhelming in the rural third world, a fact which has fueled the exodus of millions into hopelessly crowded urban centers (UN, 1979). To alleviate rural poverty, a realistic approach could be to perceive the farming systems and practices utilized by small farmers as factors in social adaptation for survival and to assist the farmers in improving them. Peasant farmers should be persuaded that change is possible and that they have sufficient knowledge and ability to make change happen. Therefore, rural people should be provided with community education for development through which "community members come together to identify their problems and needs, seek solutions among themselves, mobilize the necessary resources and execute a plan of action or learning or both" (Compton & McClusky, 1978, p. 229). The extension education system can provide information regarding social, economic, cultural, and human needs of people in the rural Third World and then assist them to utilize the information to achieve community education to make life better for themselves.

Purpose

Many foreign students in the United States are enrolled in agricultural extension and education (Thuemmel & Welton, 1979). This study documents the self-reported perception of a group of international graduate students of extension education about selected policies, characteristics, and responsibilities of the extension education system in the context of the Third World. Results of the study could be used in the design and implementation of rural community development programs in the Third World.

Procedures

This research employed a descriptive survey in the form of a national census study. The study population was 115 international graduate students in extension education from 33 countries at 26 land-grant universities as of Autumn 1982. The data for this investigation

Kouzekanani and Barrick are members of the Department of Agricultural Education, The Ohio State University, 2120 Fyffe Road, Columbus, Ohio 43210.

were collected through the use of a mail questionnaire; 98 of the students completed and returned the questionnaire to the researchers. Descriptive statistics were used to summarize and interpret the data.

Results

The respondents were provided with selected characteristics, policies and responsibilities of the extension education system in the context of the Third World (Axinn & Thorat, 1972; Combs & Ahmed, 1978; Rogers, 1971) and requested to indicate their level of agreement or disagreement regarding each one.

The respondents strongly agreed that a combination of the sponsor (e.g., ministry of agriculture) and the clientele (e.g., small farmers) should establish the policies for extension education programs, and a combination of "top-down" and "bottom up" program development should be used in the extension education system.

The respondents agreed that the extension education system is responsible for assisting the entire rural social system (i.e., production, supply, marketing, governance, research and education/extension) to develop. Analysis of the data revealed that more attention should be given to the producers, marketers, and suppliers of the rural social system.

The respondents also agreed that highly successful extension education programs result when the (a) cost of recommended practices to farmers is low; (b) recommended practices are relatively simple; (c) benefit to farmers is immediate; (d) benefit of recommendations to farmers is high; and (e) local people select front-line agents. They also agreed that the success of an agricultural extension program in any particular locality tends to be directly related to the extent of personal contact between the people of that locality and the staff of the extension education system.

The respondents disagreed that the clientele should establish the policies for extension education programs. They also disagreed with "top-down" program development in the extension education system.

The respondents agreed that the extension education system could fulfill the educational needs of rural people in the following areas: (a) application of new production inputs; (b) knowledge and skills for family improvement; (c) supplementary skills for farm maintenance and improvement; (d) food storage, processing and preservation; (e) farm business management; (f) civic skills; and (g) general or basic education. (Mean scores were used to rank the educational needs).

Implications

1. A typical rural social system is comprised of six functional components: production, supply, marketing, governance, research and education/extension. These components must be perceived as the subsystems of the rural social system which are mutually dependent upon each other; changes in one subsystem are likely to affect the behavior of

other subsystems; and existence of the rural social system is dependent upon the well being of the subsystems. Therefore, enough attention should be given to all of them.

2. Citizen participation should be regarded as a vital factor in achieving community education for development. Results of this study indicated that a combination of the sponsor and the clientele should establish the policies for extension education programs.
3. Community development projects should be directed toward groups rather than individuals in order to simplify many of the extension education tasks (e.g., reaching all farmers, reducing inequity, alleviating logistical problems, creating social interaction).
4. Overbuilding syndrome should be avoided while developing extension education programs. Projects should be directed toward fulfilling the immediate needs of the public which then would be a good incentive in encouraging them to pursue the long-term objectives of the programs aimed at enhancing rural development.
5. The participants of this study indicated that the extension education system could fulfill the following educational needs of rural people:
 - (a) Application of new production inputs (e.g., varieties, improved farm practices, etc.);
 - (b) Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning);
 - (c) Supplementary skills for farm maintenance and improvement;
 - (d) Food storage, processing, and preservation;
 - (e) Farm business management;
 - (f) Civic skills (e.g., knowledge of how cooperatives, local and national government function);
 - (g) General or basic education (e.g., reading, writing and arithmetic).Education could certainly assist rural people in becoming critical, conscious individuals and active agents in order to break away from the traditional fatalism and feelings of powerlessness which exist in the rural Third World. It is a humanistic responsibility of true educators to assist rural people in reaching that end, and the extension education system should play a crucial role in accomplishing such a task.

References

- Axinn, G.H., & Thorat, S. 1972. *Modernizing world agriculture — comparative study of agricultural extension systems*. New York: Praeger Publishers.
- Compton, J.L., & McClusky, H.Y. 1980. *Serving personal and community needs through adult education*, ed. E.J. Boone, et al. San Francisco: Jossey-Bass Publishers.

Coombs, P.H., & Ahmed, M. 1978. *Attacking rural poverty: How nonformal education can help*. Baltimore: The Johns Hopkins University Press.

Rogers, E.M. 1971. *Communication of innovations*. New York: The Free Press.

Thuemmel, W.L., & Welton, R.F. 1981. *AATEA survey of teacher education activity in international agriculture*. Paper presented at the American Association of Teacher Educators in Agriculture, Atlanta, GA.

United Nations Development Program 1979. *Evaluation study no. 2: Rural development*. New York: The United Nations.

AGRICULTURAL EDUCATION: Definitions and Implications For International Development

D. Craig Anderson
Introduction

Purpose

The purpose of this manuscript is to discuss the role of agricultural education as one component of the agricultural programs of developing nations. Certainly the complexity of agriculture requires an array of inputs,¹ all of which are important in strengthening the agricultural development process. This manuscript will present a rationale for education in agriculture as one of the most crucial of such inputs. To accomplish this objective, following sections will address (1) the definitions attributed to the term 'agricultural education' in the context of international agricultural development, (2) a justification for the inclusion of agricultural education in development programs and (3) the general role agricultural education could assume in such programs.

Setting the Stage

During the past three decades, international attention has been directed at agricultural production in general, and specifically at the development of the agricultural sectors of the world's lesser developed nations. Agricultural development for these countries is critical. Characteristically, these nations are heavily dependent on agriculture as their primary economic activity (Tinnermeier, 1974; Ryan and Binswanger, 1979). Malassis (1975) indicates that developing nations typically (1) have extremely high percentages of their populations engaged in agriculture, (2) maintain a high percentage of agricultural exports in relation to total exports, and (3) have agricultural sectors which contribute heavily to the total gross domestic product (GDP). Ironically, however, agricultural GDP per agricultural worker rarely exceeds even half the per capita GDP in these same nations. In short, although

Anderson prepared this manuscript as a research assistant in the Department of Agricultural Education at Iowa State University, Ames, IA. 50010

developing nations are highly dependent on agriculture, it remains a weak sector of their economies. These conditions point out the urgent need to both stimulate production and enhance the relative stature of agriculture in developing nations.

Definitions of Agricultural Education

A number of individuals have addressed the development process for agriculture, and in so doing have referred to agricultural education. The result is a variety of meanings assigned to the term 'agricultural education' when used in the context of international development.

To those most familiar with the U.S. educational system, agricultural education commonly refers to those activities directed at the preparation of teachers of vocational agriculture. However, this is not the common definition as viewed from the perspective of international development.

For instance, Roberts (1980) infers that international agricultural education consists of programs in higher education such as short-term trainees at U.S. universities, U.S. faculty degree teaching in foreign countries, and short-term training in-country conducted by university faculty members. Broadening this perspective, others classify agricultural education as the general mission of colleges of agriculture in higher education — quality instruction in all agricultural subject areas (Love, 1982).

A popular interpretation of agricultural education is that it is fundamentally synonymous with agricultural extension. This can include either programs for training extension workers or, most commonly, field programs directed at small farmers. Indeed, extension in some form is commonly visualized as the primary mechanism for promoting increased productions via the diffusion of new technologies and their ultimate adoption by farm clientele. Adult education programs for rural populations are a form of extension that are viewed by some as a means for educating adult farmers, both in agriculture and other subject areas (Hall and Kidd, 1978). Others advocate the utilization of indigenous knowledge systems and indigenous technology in both adult education and extension. Brokensha et al.(1980) contend that this methodology greatly enhances the success of extension programs.

Coombs and Ahmed (1974) are also proponents of nonformal extension education as a means for achieving rural development, including agriculture. They define it as "any organized, systematic, educational activity carried on outside the framework

¹Inputs are of two general types. Institutional support inputs are policies, procedures, and mechanisms which are conducive to agricultural growth (e.g., extension education programs, adequate market channels, favorable pricing mechanisms). Production-oriented inputs are resources and practices contributing to production enhancement (e.g., new and improved plant varieties, fertilizer and pesticide usage, water management).