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EXTENSION EDUCATION AS PERCEIVED BY
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EDUCATION: A NATIONAL STUDY

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

by

Kamiar Kouzekanani, B.S., M.S.

* * * * *

The Ohio State University
1983

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Kouzekanani, Kamiar (assistant editor). Lesson Plans on Energy Management in Agriculture for Teachers of Vocational Agriculture. Columbus, Ohio: Department of Agricultural Education, The Ohio State University, February 1983.

Kouzekanani, Kamiar. Research in Agricultural Education at The Ohio State University. Columbus, Ohio: Department of Agricultural Education, The Ohio State University, July, 1982. (Mimeoographed)

Kouzekanani, Kamiar (co-writer). Factors Contributing to the Enrollment of Males in Program Areas Not Traditional for Their Sex at the Secondary Vocational Education Level in Ohio. Columbus, Ohio: Department of Agricultural Education, The Ohio State University, July 1982. (Submitted to the Office of Sex Equity, Division of Vocational Education, The Ohio State Department of Education.)
Publications (continued)

Kouzekanani, Kamiar. The Seminar Method: A Technique for Meaningful Learning. Columbus, Ohio: Department of Agricultural Education, The Ohio State University, February 1981. (Mimeographed)

Kouzekanani, Kamiar (co-writer). Success Handbook II. Columbus, Ohio: Department of Agricultural Education, The Ohio State University, May, 1981.

Kouzekanani, Kamiar. Education and Extension for Rural Development. Davis, California: Department of Applied Behavioral Sciences, University of California, Davis, June 1980. (Unpublished Master's Project)

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FIELDS OF STUDY

Major Field: Extension Education

Minors: Adult Education
         Rural Sociology
         Research
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Great spirits have always encountered violent opposition from mediocre minds

- Albert Einstein
Chapter I

INTRODUCTION

In 1979, the United Nations reported that approximately 75 percent of the Third World population lived in rural areas. The same report classified 80 percent of the rural Third World as being poor and living under conditions of absolute poverty. Several unique manifestations have been associated with rural poverty. In its 1979 report, the Food and Agricultural Organization estimated that 25-30 percent of the population of Southern Asia and Africa had been suffering from malnutrition. The United Nations claimed that only 10 percent of rural communities in low income countries had access to clean drinking water and adequate sanitation; that access to health and educational facilities was much worse in rural than in urban areas as were infant mortality, life expectancy at birth, and the incidence of most diseases. Opportunities in Third World countries have been more scarce in the countryside than in the cities, a fact which has fueled the exodus into the hopelessly crowded urban centers (UN, 1979).

These data produced a realistic notion: that world poverty has been overwhelming in the rural Third World. Therefore, understanding world poverty was found to be dependent upon understanding the problems and constraints faced by small farmers and landless rural laborers who comprise the bulk of the poor of the world.

A crucial question evolved as what should or could be done for rural poor to alleviate, if not eliminate, the onerous consequences of poverty?
A humanistic solution was suggested: rural development should be enhanced in order to provide the rural people with basic necessities of life such as food, clothing, shelter, functional literacy, health care, and the like. Coombs and Ahmed (1978) pointed out:

In most situations a forward thrust in agriculture is one of the essentials for initiating a broader rural development process. But a spurt in agriculture itself requires a combination of circumstances, one of which - but only one - being that farmers must learn and apply improved ways of farming (p. 14).

Based upon the premise made by Coombs and Ahmed, the contention developed that farming systems and practices utilized by small farmers should be perceived as a social adaptation for survival. Thus, in order to initiate rural development, the focus of activities should be on the improvement of farming systems and practices to increase productivity and employment opportunities.

The following were suggested in order to better the condition of life in the rural Third World: alleviation of rural poverty was decided to be the ultimate goal; rural development was proposed to be the desirable objective; and improvement of farming systems and practices was identified as the effective strategy. The success of this strategy in achieving the stated objective was understood to be dependent upon the preparation of the affected individuals to accept changes. "Peasant farmers are neither slow to change nor bound by custom or habit. They should be persuaded that change is possible and that they have sufficient knowledge and ability to make change happen" (Kouzekanani, 1980, p. 3). Therefore, rural people should be provided with community education for development. Compton and McClusky (1980) defined community education for development as a process 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" (p. 229).

The foregoing discussion was synthesized and logical questions were deduced: who was responsible and how to facilitate community education for development in order to create a learning society?

Three modes of education, forms of learning, have been identified by Coombs and Ahmed (1978) and Compton and McClusky (1980): formal education, informal education, and nonformal education. Formal education is in-school teaching and learning and its main objectives are to provide learners with general education such as literacy, basic sciences, literature, and history, to name a few. Informal education is related to the socio-learning theory of Bandura (1977) and results from daily experiences and exposure to the environment; this is a lifelong process. Nonformal education is carried on outside the formal schools and is aimed at satisfying the immediate and clearly identified learning needs of particular groups.

Due to the endemic poverty in the rural Third World, an assumption was made that there were not many rural communities that could afford formal educational services for their people. Informal education "while often rich in culture and tradition, lacks those influences and material resources, such as print and other media, that would add to the general fund of knowledge and skills to promote development" (Coombs and Ahmed, 1978, p. 21). Thus, nonformal education was found to be the best method to fulfill the educational needs of rural people. Extension education, as a nonformal type of education, could facilitate the formation of
community education for development so that the attitudes and practices of its clientele could be improved. Grag (1961) described extension as "an education for action -- action in group and in masses, within the democratic framework of society" (p. 2). Mezirow (1972) made the following comments in regard to the use of learning groups: "... learning in groups is generally the most effective means for bringing about changes in attitudes and behaviors. The reasons are fairly obvious. In a group, competition for respect mobilizes a member's energies, the social support stimulates thinking, and the sifting of ideas in social interaction serves as an error-correcting mechanism" (p. 1).

Therefore, highly qualified Extension Services were understood to be needed in the Third World to assist farmers and their families in solving their daily problems in order to enhance rural development. Also, the success of these Services in accomplishing their objectives was found to be dependent upon the quality and capability of their staff and specialists; therefore, their training should be given a high priority.

The number of foreign students in the United States has been growing. Open Doors (1981) reported that this number in 1980-81 was 311,822, an 811 percent increase over the 34,232 reported in 1954-55. The same report indicated that approximately 1.5 percent of all students enrolled in institutions of higher education during the last 20 years were foreign students. Most of Third World countries are located in Africa, Latin and South America, and Asia. The data of Open Doors (1981) were utilized to calculate that 85.8 percent of foreign students in the United States during 1980-81 were from the Third World. The breakdown was as follows: Africa (12.2 percent), Latin and South America
(16.0 percent), and Asia (57.6 percent).

These data were used to claim that Third World countries have been sending students to the United States to gain new knowledge, learn new skills, and adopt new practices. There is a number of foreign students enrolled in the field of agricultural extension and education (Thuemmel and Welton, 1979) who need to be provided with a proper type of learning experiences in order to master the different aspects of their profession. There should be a two-way communication between them and their teachers so that the need and expectations of the students could become clear to the teachers and vice versa. This dissertation research was directed toward extension education in the context of the Third World in order to gather and document the self-reported perceptions of a selected group of international students in extension education and a group of extension educators in regard to the international extension education.

**Research Questions**

The following major research question was adopted to provide the focus of the study:

> From university preparation to field practice, what is an effective extension education program as perceived by extension educators and selected international students of extension education?

Six subquestions were developed to guide the study. They were:

1. Was there a difference between the perceptions of extension educators and selected international students of extension education as to what constitutes an effective college preparation program for extension education?

2. Was there a difference between the perceptions of extension educators and selected international students of extension education as to what constitutes an effective extension program for the rural Third World?
3. What were some of the characteristics of extension educators?

4. What were some of the characteristics of selected international students of extension education?

5. Was there a relationship between the characteristics of extension educators and selected international students of extension and their perceptions about an effective extension education program, in the field and in the college, in the context of the Third World?

6. What could be a model college preparation program for graduate students in extension education from the Third World?

Definition of Terms

For the purpose of this study, the following definitions were adopted:

Perception: An immediate or intuitive cognition or judgment (Webster's International Dictionary, 1950, p. 1816). Operationally, perceptions of the respondents were their responses to the questionnaire.

Effective: Efficient, equipped, fit, and ready to start (Webster's International Dictionary, 1950, p. 819). Effectiveness was operationally defined as responses given by the respondents to the items in the questionnaire.

Third World Countries: This study selected the term "Third World" to refer to countries in Africa (except South Africa), South and Latin America, Asia (except Japan), Oceania (except Australia and New Zealand), and the country of Turkey in Europe. Terms such as "developing", "less-developed", and "underdeveloped" were not employed because of their tendency to create false images in the minds of people.

Developed implies that Western countries have reached an ultimate state of being, and ignores rampant problems within these countries; "rich" overlooks the pockets of poverty that exist. For the other general grouping, "developing" inaccurately implies that these countries are in fact progressing,
and "poor" overlooks the wealth of resources and wealthy families that can be found. In addition, "less-developed" assumes that these countries are generally behind, whereas in a humanistic sense they may in fact be ahead of the West (Kindervatter, 1979, pp. 13-14).

**Selected International Students:** Graduate students from Third World countries.

**Extension Organization:** In this study, the term "Extension Organization" was used in a generic term to apply to any Government funded agency responsible to provide the public, especially the rural ones, with information regarding social, economic, cultural, and human needs of people and then assisting them to utilize the information in order to better the level of living in their community.

**Assumption**

In order to identify the target population of the study, the chairpersons of the departments offering graduate programs in extension education in 27 Land-Grant universities were contacted (see Chapter III). They reported to the researcher, as of Fall of 1982, the persons who were the extension educators and graduate international students of extension education in their respective schools. An assumption was made that the chairpersons provided the researcher with the correct information, thus alleviating any possible frame error.

**Significance of the Study**

This was a descriptive survey research of a comparative nature. As such, the study was aimed to search for accurate information about the perceptions of particular subjects regarding the topic under study (Van Dalen, 1979). Specifically, the prime purpose of the study was to
describe extension education in the context of the Third World, as perceived by selected educators and students of extension education. The results of the study were utilized and a model college preparation program for graduate students of extension from the Third World was proposed. This model program could be used as a guideline by the students and their academic advisors. Furthermore, the study documented the self-reported perceptions of the respondents in relation to certain policies, characteristics, and responsibilities of the Extension Organization; they could be used in the design and implementation of projects aimed at enhancing rural development in the Third World.

Chapter Summary

The need for development was realized to be self-evident to the millions of people living in the Third World, especially to those in rural communities facing a variety of constraints related to health, nutrition, marketing, technology, and the like. A forward thrust in agriculture was determined to be fundamental in order to enhance rural development. The Extension Organization was chosen as the most feasible facilitating agency. If the Extension Organization is to fulfill its objectives, it should be equipped with the necessary collaborative and strategic resources. Therefore, highly qualified extension educators for the Third World should be trained; the Extension Organization should adopt and put into practice proper policies and be aware of its responsibilities.

This study was designed and implemented to generate information regarding an effective extension program, in the field and in the college, in the context of the Third World from a selected group of international
students of extension education and a group of extension educators. The results, recommendations, and implications of the study should enable extension educators and their clientele from the Third World to understand each other better and engage themselves in more productive and meaningful learning experiences.
Chapter II
REVIEW OF RELATED LITERATURE

The prime objective of this review of the literature was to obtain adequate informational inputs to develop a survey instrument for the research and adopt a theoretical framework for the study. A variety of books, journal articles, and dissertations in the fields of adult education, extension education, agricultural education, rural sociology, and community development were reviewed. The ERIC system was employed to identify some of the references.

Need for Development and Education

Food production, agriculture, and nutrition remain the principal concerns of most of the world's population....Agricultural development is an urgent and sometimes desperate need in these days (Raullerson, 1979, pp. 1-8).

Human hunger and malnutrition are two of the most important problems of the world today, perhaps the most important. They are problems of immense proportion and complexity; as such they are rarely well understood (Hoelscher, 1979, p. 9).

The low level of education and the lack of educational institutions have been a great deterrent to agricultural development...It is important to provide farmers, wherever they are in the world, with the necessary "know-how" and aid to enable them to cultivate to the best of their capabilities the lands they are responsible for, to earn a decent living, and to produce food for those who need it (Najjar, 1979, pp. 40-47).

Rogers (1971) defined a social system as a "collectivity of units which are functionally differentiated and engaged in joint problem solving with respect to a common goal" (p. 28). Axinn and Thorat (1972) included production, supply, marketing, governance, research, and
education/extension as the major functional components of any rural social system. Based upon the specifications of the open system theory presented by Schein (1970) and Katz and Kahn (1978), these components were perceived as the subsystems of the rural social system and in dynamic interaction with each other. Axinn and Thorat (1972, p. 9) presented the following figure to illustrate the linkages in a typical rural social system. Baldwin (n.d.) claimed that the effectiveness of these components and how they function as an integrated system determine the rate of agricultural development.

Figure 1. Functional Components and Linkages in a Typical Rural Social System
Ewert (1980) pointed out that, "the premise of many development planners appears to be, when in doubt, educate" (p. 4). He then indicated nonformal education to be pervasive in both the poorest and wealthiest nations in Africa. Kindervatter (1979) identified nonformal education as a Third World strategy and suggested it to be used as a means to better the lives of disadvantaged people. Singh and Yadava (1978) compared a village with educational facilities to one without any and concluded that education influenced the adoption of improved practices.

Thus, the need for development was concluded to be self-evident to the millions of people living in the Third World, especially to those rural inhabitants who daily face a variety of constraints related to health, nutrition, marketing, and the like. A common consensus among concerned individuals regarding the need to fulfill the educational needs of rural people of the Third World was identified; extension education was chosen as a strategy to achieve that end.

**Why Extension Education?**

For over 25 years agricultural extension has been an integral part of the agricultural ministries of more than 80% of Third World countries... Agricultural extension services are vital to the mechanism for agricultural development (Najjar, 1979, p. 50).

Grag (1961) described extension education as a type of nonformal education and presented the following as its appropriate functions and characteristics: 1) changing the attitude and practices of the clientele, 2) advocating learning by doing, 3) enhancing the development of the people, 4) filling the gap between research communities and the
farming population, and 5) advancing the economic well-being of the people as a whole.

Benor and Harrison (1977) identified the Extension Service as the prime initiator for establishing more know-how and intimated the service is responsible for filling the gap between "what is done and what can be done on farmers' fields" (p. 10). Presad (1977) had the following to say about agricultural extension:

Conceptually speaking, agricultural extension is an applied social science which deals with the designs and strategy of transfer of agricultural technologies and innovations among the farmers for raising the agricultural production and, thus, their income and standards of living (p. 6).

The Ohio Cooperative Extension Service (1979) described itself as an educational institution responsible for disseminating information regarding technical subject matter, including those related to economic development, social, cultural, and human needs of the people and then assisting them in utilizing the information to solve their problems and attain an improved level of living.

The Unesco (1964) and Coombs and Ahmed (1978) introduced all farmers and members of their families as the prime clientele of the Extension Service and emphasized that its main objective should be to achieve a rapid and widespread adoption of desirable innovations in farm practices and assisting people to think through their own problems and solve them. Coombs and Ahmed (1978, p. 17) also identified the following as learning needs of rural persons directly engaged in agriculture:

* Farm planning and management; rational decision-making; record keeping; cost and revenue computations; use of credit.

* Application of new inputs, varieties, improved farm practices.
*Storage, processing, food preservation.

*Supplementary skills for farm maintenance and improvement, and sideline jobs for extra income.

*Knowledge of government services, policies, programs, targets.

*Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).

Thus, the Extension System was found to be a feasible means for fulfilling the educational needs of rural people, for creating a learning society, and for making the people their own best resources.

Coombs and Ahmed (1978) suggested that in order for the Extension Service to perform its objectives, the following preconditions should be met: 1) achieving awareness, 2) provoking interest, 3) persuasion, 4) trial by interested farmers on their own fields, and 5) adoption by convinced farmers. The Unesco (1964) made similar recommendations for persuading the clientele to accept and put into practice a new idea. They were 1) becoming aware of the new idea, 2) becoming interested in the idea, 3) deciding whether or not the idea is good, 4) trying the idea out, and 5) adopting the new practice. Brower (1964) presented a model defining four basic types of educational approaches and advocated "type one" as being a sound approach which should be used by extension educators. Those approaches were:

<table>
<thead>
<tr>
<th>People (learners)</th>
<th>Involve</th>
<th>Not Involve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educator (change agent)</td>
<td>Involve</td>
<td>Not Involve</td>
</tr>
<tr>
<td>1. Education for reality</td>
<td>2. Academic</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2. Model Defining Four Basic Types of Educational Approaches to Planning and Conducting Educational Programs
Axinn and Thorat (1972, p. 189) made the following propositions about the Agricultural Extension Organization:

1. The willingness and ability of any group to accept change tends to be directly related to the volume of its communication with the outside world.

2. 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 agricultural extension organization.

3. The success of an agricultural extension program tends to be directly related to the extent to which:
   a. the benefit of recommendations to farmers is high;
   b. the cost of recommended practices to farmers is low;
   c. recommended practices are relatively simple;
   d. the benefit to farmers is immediate; and
   e. the recommended practices may be tested by individual farmers on a trial basis prior to complete commitments.

4. The effectiveness of individual change agents in agricultural extension program tends to vary inversely with the social distance between the change agent and the members of his (sic) target system. (Social distance includes differences in language, education, economic level, age, family, status, and physical distance.)

5. The success of an agricultural extension program tends to vary directly with the extent to which its "front line workers" are local persons who are selected by the group to be served.

6. The success of a "front line" agricultural extension worker tends to be directly related to the extent to which his (sic) clientele has confidence in him (sic).

7. The success of a front line agricultural extension worker tends to be directly related to the extent of multiple use of communication methods.

Thus, the success of the Extension Service, in regard to the fulfillment of its objectives, was understood to be dependent upon three main factors: 1) the development of effective programs, 2) the capability and readiness of those responsible for carrying out the programs, and 3) the
citizen participation.

Extension Program Development

Lawrence et al., (1973) defined extension program development as a series of interrelated processes directed towards accomplishing the educational mission and objectives of the organization. The processes included the following: 1) developing the institutional framework for program development, 2) developing an organizational base for program development, 3) documenting the extension program (program determination), 4) developing an annual plan of work (program strategy), 5) implementing the program (program action), and 6) evaluating the program (accomplishments). They then suggested certain knowledge and skills needed for the processes as shown in Table 1.

Lauffer (1978) recommended five phases or stages in the process of program development. They were: 1) identifying the problem, 2) building a structure or network of relationships, 3) formulating objectives and intervention strategies, 4) implementing the program, and 5) monitoring and evaluating the program.

The process of program development as described by Knowls (1980) should include: 1) establishing an organizational climate and structure, 2) assessing needs and interests in program planning, 3) defining purposes and objectives, 4) designing a comprehensive program, 5) operating the program, and 6) evaluating the program.

Singh (1978) illustrated his paradigm for the Extension Service in Third World countries by the following diagram:
Table 1
Six Basic Concepts for Extension Program Development

<table>
<thead>
<tr>
<th>Concept</th>
<th>Related Knowledge</th>
<th>Related Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Institutional Framework</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Those involved in program development* should have a conceptualization of the framework in which they are expected to operate.</td>
<td>Those involved in program development* should possess knowledge appropriate to the concepts as follows:</td>
<td>Those involved in program development* should be able to perform appropriate skills as follows:</td>
</tr>
<tr>
<td>A. Philosophy: basic tenets upon which Cooperative Extension operates.</td>
<td>A. Basic beliefs and value systems of Cooperative Extension and land-grant college systems.</td>
<td>A. Identify beliefs and values systems.</td>
</tr>
<tr>
<td>B. Scope and responsibilities: the parameters within which Cooperative Extension operates.</td>
<td>B. Societal issues and concerns; areas of emphases in Extension work.</td>
<td>B. Delineate issues and concerns.</td>
</tr>
<tr>
<td>C. Roles and relationships: the pattern of interlocking relationships and reciprocal roles with institutions and systems.</td>
<td>C. Organizational objectives and relationships; target audiences Extension proposes to teach.</td>
<td>C. Discern organizational objectives, define audiences.</td>
</tr>
<tr>
<td><strong>II. Program Development; Organizational Base</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Those involved in program development should possess the capacity to analyze the general situational and organizational aspects that relate to Extension program development.</td>
<td>Those involved in program development should possess knowledge appropriate to the concepts as follows:</td>
<td>Those involved in program development should be able to perform appropriate skills as follows:</td>
</tr>
</tbody>
</table>

*Including Extension workers, program planning committees; advisory and support groups. It is recognized that the depth of knowledge, skill, and understanding of each group will vary.
<table>
<thead>
<tr>
<th>Concept</th>
<th>Related Knowledge</th>
<th>Related Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Environment context — the full spectrum of the situation within contemporary society that impinges on Extension programs.</td>
<td>A. The general economic, institutional, political, social, and technological situation.</td>
<td>A. Finding, locating, and analyzing data.</td>
</tr>
<tr>
<td>B. Audiences — the expected recipients of Extension educational programs.</td>
<td>B. Needs and interests, role functions and capabilities, and adoption behavior of potential audiences.</td>
<td>B. Identifying potential audiences; defining roles and needs.</td>
</tr>
<tr>
<td>C. Organizational structure — the structural and process arrangements of organizations — those within the Extension system as well as other organizations.</td>
<td>C. Structure, role functions, decision making, and hierarchy within and between appropriate organizations.</td>
<td>C. Analysis, building maintenance of organizational structures.</td>
</tr>
</tbody>
</table>

### III. Program Determination

Those involved in program development should be able to plan realistic and meaningful educational programs based on specific analysis of situations, concerns, interests, and needs.

<table>
<thead>
<tr>
<th>A. Planning process — the process by which decisions are systematically made about program objectives.</th>
<th>A. Planning process, sources for educational objectives.</th>
<th>A. Collect and interpret data; infer appropriate educational objectives.</th>
</tr>
</thead>
</table>
### Table 1 (continued)
Six Basic Concepts for Extension Program Development

<table>
<thead>
<tr>
<th>Concept</th>
<th>Related Knowledge</th>
<th>Related Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Advisory groups — audience</td>
<td>B. Relevant social systems among the potential audiences; leadership structure</td>
<td>B. Identify social systems and their leadership structure; involvement in planning process through meaningful interaction.</td>
</tr>
<tr>
<td>representatives who are involved in the planning processes for counseling, legitimation, and/or decision making purposes.</td>
<td>among the systems; organization and involvement of people.</td>
<td></td>
</tr>
<tr>
<td>C. Knowledge — the concepts and principles that are necessary as the basis of content in Extension programs.</td>
<td>C. Concepts and practices from relevant disciplines.</td>
<td>C. Select and interpret appropriate concepts and current research results.</td>
</tr>
<tr>
<td>D. Program — the product of the planning process.</td>
<td>D. The precise situations, priority needs and interests, program objectives, and program balance.</td>
<td>D. Describe local situations; establish needs, priorities, and program objectives with the assistance of planning groups.</td>
</tr>
</tbody>
</table>

### IV. Program Strategy

Those involved in program development should be able to design and implement appropriate educational programs and plan of work components.

A. Program component — a primary part of a program which sets forth a situational statement of a concern or problem and the statement of objective.

A. The precise nature of the clientele who are concerned with the problem.

A. Perceiving behavioral change needed to achieve the objective.
Table 1 (continued)
Six Basic Concepts for Extension Program Development

<table>
<thead>
<tr>
<th>Concept</th>
<th>Related Knowledge</th>
<th>Related Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Plan of work — the outline of educational actions to be taken with people to enable them to reach their program objectives.</td>
<td>B. The teaching-learning process, appropriate subject matter, nature of the audience, the social change process.</td>
<td>B. Constructing an appropriate plan of work.</td>
</tr>
<tr>
<td>C. Plan of work component - constituent part of a plan of work based on a problem or concern and containing the six elements of a plan of work.</td>
<td>C. Specific objectives, learning experiences, activities, and/or events, methods and techniques, resources allocated, coordination, and evaluation.</td>
<td>C. Strategies for individual and social change.</td>
</tr>
</tbody>
</table>

V. Program Action

Those involved in program development should be able to carry out the educational program as planned.

A. Teaching organizational, and/or operational plans — detailed outlines including specific level objectives and job analysis. | Those involved in program development should possess knowledge appropriate to the concepts as follows: | Those involved in program development should be able to perform appropriate skills as follows: |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. The process of detailed planning to achieve specific objectives.</td>
<td>A. Construct and conduct teaching, organizational, and operational level plans.</td>
<td></td>
</tr>
<tr>
<td>B. Volunteer leadership — the assistance of lay people with the conduct of the Extension program.</td>
<td>B. Dynamics of volunteerism; leader identification and development.</td>
<td>B. Identifying, finding, recruiting, training, and counseling volunteers.</td>
</tr>
</tbody>
</table>
### Table 1 (continued)
**Six Basic Concepts for Extension Program Development**

<table>
<thead>
<tr>
<th>Concept</th>
<th>Related Knowledge</th>
<th>Related Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Coordination — within Extension and with relevant organizations.</td>
<td>C. Group and organizational dynamics including process and task roles.</td>
<td>C. Human relations and organization skills.</td>
</tr>
</tbody>
</table>

**VI. Program Evaluation**

Those involved in program development should be able to assess the effects of Extension programs and adjust programs to conform with the results of evaluation efforts.

A. Impact determination — the assessment of the degree to which objectives are achieved.

B. Strategy assessment — the determination of the effectiveness of specific inputs for achieving change.

C. Replanning — using results of evaluations in redirecting program efforts and adjusting strategy.

Those involved in program development should possess knowledge appropriate to the concepts as follows:

A. Evidence of change, sampling, data gathering, analyses, and interpretation.

B. Methods and techniques of education.

C. Current situation and potential for further change in the program objectives.

Those involved in program development should be able to perform appropriate skills as follows:

A. Identification of data needed; collection, analyses, and interpretation of data.

B. Identification of data needed; collection, analyses, and interpretation of data.

C. Ability to analyze the updated situation and to project objectives.
To educate and help farmers increase agricultural production and to raise their standard of living.

What
- Useful Technology
  1. Applicable locality
  2. Package of works
  3. Scale-free

Where
- Approaches
  1. Collective
  2. Start from below
  3. Whole family

Ways
- Communication and Training
  1. Personal contact
  2. On the spot

Desired social change - Prosperity for the farmers resulting in rural development.

Figure 3. Extension Program Development in the Third World: A Paradigm

The foregoing review of literature was analyzed and certain policies, characteristics and responsibilities of the Extension Organization in the context of the Third World were selected. The selected policies, characteristics, and responsibilities were included in the survey instruments of the study in order to determine the perceptions of the respondents about extension education (Parts III and IV of the instruments).

Extension Personnel

The small farmer needs credit and water, but he (sic) needs technical information as well. As he (sic) is not getting nearly enough of it. The projected number of trained personnel who will graduate annually from existing agricultural education institutions can at best satisfy less than half the total needs of the developing world. In the developed countries, the ratio of government agricultural agents to farm families is about 1 to 400. In developing countries, it is on average 1 to 800. And only a small fraction of these limited services is available to small farmers....(T)here is no developing country which produces enough agricultural agents (McNamara, 1973, pp. 21-22).

...emerging developing countries do not need the professional level and research development that is presently the program of most of our land-grant colleges....What is needed is a system of education that provides basic know-how about production (Hannah, 1979, p. 12).
...is the need for the education of agricultural planning technicians to focus on specific, decisionable, real agricultural sector problems... The fact is, however, that sector planners are expected to deal with problems and it is incumbent on them to have a clear and thorough understanding of the nature of these problems (Riorden, 1979, p. 92).

College Preparation Program for Extension Education

As mentioned in Chapter I, the number of foreign students in the United States has been growing. Open Doors (1981) reported that in 1980-81, 2.8 percent of foreign students had agriculture as their field of study. According to the data gathered by Thuemmel and Welton (1979), at least 245 students from 44 other nations were enrolled in agricultural education programs during 1978-79. Thuemmel and Welton (1979) also reported that 79 percent of all the foreign students enrolled in agricultural education in the United States were from countries in Africa and Asia. (In many institutions of higher education in the United States, extension education is part of agricultural education programs.)

Wortman and Cummings (1978) noted that:

Many colleges and universities in the developed countries have high-quality undergraduate and graduate programs. However, while they may be strong in providing methodological skills, they are often weak in relating to the problems of the country to which the student will return (p. 397).

Smith (1977) suggested that:

Practical experience and observations for foreign students should be increased since a majority of them have not had practical experience in agricultural production and in agricultural business (p. 305).

Thuemmel et al., (1982) recommended that four factors should be considered in the development of programs in international agricultural education. According to them, all programs should:
1. Include more in-country (home less developed country) training for foreign students.

2. Focus on preparing participants to train their less developed country counterparts.

3. Be practical in content and be relevant to the needs of less developed countries.

4. Provide participants with knowledge, skills, and attitudes needed to accomplish their task of facilitating agricultural progress in their own countries.

Thuemmel et al., (1982, p. 270) also identified some internationally oriented courses in agriculture aimed at fulfilling the educational needs of foreign students in agricultural extension education. They were:

* Agriculture in Developing Countries
* Education for Rural Development
* Educational Programs in Agriculture for Developing Countries
* Extension Methods for Developing Countries
* Graduate Study in International Agriculture
* International Agriculture
* International Agriculture and World Food Problems
* International Agricultural Technology
* Seminar in International Agriculture
* Undergraduate Research in International Agriculture
* World Food and Population Problems
* World Food Economics

The Department of Agricultural Education at the Utah State University (n.d.) offers a Master's program in International Agricultural Extension. To earn a Master's degree, students must complete 45 hours of credit that is approved by a graduate committee. The core curriculum includes the following:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Course Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agric. Education 512</td>
<td>Program Planning and Evaluation in Agricultural Education</td>
<td>4 hours</td>
</tr>
<tr>
<td>Agric. Education 551</td>
<td>Extension Principles and Practices</td>
<td>3 hours</td>
</tr>
<tr>
<td>Agric. Education 610</td>
<td>Personnel Supervision in Agricultural Extension</td>
<td>3 hours</td>
</tr>
<tr>
<td>Agric. Education 612</td>
<td>International Agricultural Extension Administration</td>
<td>3 hours</td>
</tr>
<tr>
<td>Agric. Education 697</td>
<td>Research and Thesis</td>
<td>3 hours</td>
</tr>
<tr>
<td>Anthropology 550</td>
<td>Applied Anthropology and Cultural Change</td>
<td>3 hours</td>
</tr>
<tr>
<td>Communications 610</td>
<td>Agricultural Communication for International Agricultural Extension</td>
<td>3 hours</td>
</tr>
<tr>
<td>Economics 580</td>
<td>Economics in Less Developed Countries</td>
<td>3 hours</td>
</tr>
<tr>
<td>Political Science 562</td>
<td>Public Personnel Administration</td>
<td>3 hours</td>
</tr>
<tr>
<td>Political Science 563</td>
<td>Public Finance Administration</td>
<td>3 hours</td>
</tr>
<tr>
<td>Psychology 380</td>
<td>Introduction to Educational Psychological Statistics</td>
<td>3 hours</td>
</tr>
<tr>
<td>Psychology 606</td>
<td>Human Development - Adult</td>
<td>3 hours</td>
</tr>
<tr>
<td>Psychology 622</td>
<td>Group Processes</td>
<td>3 hours</td>
</tr>
<tr>
<td>Psychology 667</td>
<td>Introduction to Educational and Psychological Research</td>
<td>3 hours</td>
</tr>
<tr>
<td>Sociology 572</td>
<td>Community Organization and Leadership</td>
<td>3 hours</td>
</tr>
</tbody>
</table>
The University of Tennessee, Knoxville (1981-82) offers a Master's program in Agricultural Extension Education. Some of the graduate courses related to extension education at this university are:

1. Special Problems in Agricultural Education
2. Long-Range Extension Program Planning
3. Evaluation in Programs of Agricultural Extension
4. History, Philosophy, and Objectives of Agricultural Extension
5. Volunteer Leadership in Agricultural Extension Programs
6. Supervision of Agricultural Extension Program and Personnel

The Department of Agricultural Education at the Oklahoma State University (1982-83) offers Master's and Doctor of Education degrees in agricultural education. The Master's degree may be earned by one of three plans (p. 82):

I. With thesis, 30 credit hours, including six hours for thesis.
II. With report, 32 credit hours, including two hours for the report.
III. With no thesis or report, 32 credit hours of course work.

"The minimum time required for the doctorate is six semesters of full-time graduate study (a minimum of 90 semester credit hours) beyond the bachelor's degree, or four semesters of full time graduate study (a minimum of 60 semester credit hours) beyond the master's degree" (p. 100). Some of the graduate courses related to extension education at Oklahoma State University are as follows:

1. Organizing Agricultural Programs for Rural Groups
2. Introduction to the Cooperative Extension Service
3. Methods of Teaching and Management in Vocational Agriculture
4. International Programs in Agricultural Education and Extension
5. Adult Education: Organization and Method
6. Extension Teaching Methods
7. History, Functions, and Objectives of the Extension Service
8. Developments in Agricultural and Extension Education
9. County Extension Program Development
10. Assessment and Evaluation of Educational Programs in Agriculture

The Department of Agricultural Education at The Ohio State University (n.d.) offers the Master of Science and Doctor of Philosophy degrees in agricultural education. A minimum of 45 credit hours must be completed in order to earn a Master's degree. Candidates, if they have not had previous professional experience in agricultural education, must have a planned and supervised internship as a part of the Master's degree. An understanding of 1) the teaching and learning process, 2) the design and operation of instructional programs, 3) research and evaluation process, and 4) the purpose of agricultural education in the Cooperative Extension Service and in the public schools is the prime objective of the Master's program in Agricultural Education at The Ohio State University. A total of 135 quarter hours beyond the Bachelor's degree is required for the Ph.D. degree. Graduate courses, as related to extension education, at The Ohio State University are as follows:

1. Curriculum Development
2. Continuing Education in Agriculture
3. Methods in Teaching Agriculture
4. Instructional Media in Teaching Agriculture
5. Youth Organizations
6. Youth Program Management in a Non-School Setting

7. Camp Program Development

8. Evaluation

9. Administration and Supervision

10. Program Planning and Development

Graduate students, especially those in the Doctoral program, are highly recommended to take course(s) in statistics and complete the following courses in research:

1. Research Methods
2. Research Design
3. Analysis and Interpretation of Data
4. Instrumentation
5. Seminar in Research

The analysis of this portion of review of literature revealed that certain learning activities could be utilized (e.g., specialized courses, practical training) to train competent extension educators. In order to propose a model preparation program, respondents were provided with a selection of educational experiences and asked to react to them (Parts I and II of the instruments).

**Characteristics of Educators and International Students of Extension Education**

One of the objectives of any descriptive survey research should be to describe the participants of the study. Also, demographic characteristics could be useful while interpreting the results of a study.

Rohs (1982) identified the following social background factors to be associated with volunteerism. They are: 1) age, 2) marital status,
3) number of children, 4) age of children, 5) income, 6) education, 7) length of residence in community, 8) sex, 9) occupation, and 10) interpersonal roles within the family.

Clark (1981) investigated the relationships between the job satisfaction of extension agents and their age, position, tenure, and agent program responsibilities.

Sabihi (1978) attempted to collect and document the perceived professional education training needs of the extension specialists and agents in selected provinces of Iran and reported that: 1) there was a significant difference between the length of tenure of the respondents and the amount of training needed in the area of program planning; 2) there was a significant difference between different lengths of tenure and the amount of training needed in the area of teaching-learning process; and 3) there was a significant difference between the levels of formal education of the respondents and the amount of training needed in the area of evaluation.

Although this review of literature could not substantiate why certain characteristics were selected for this study, because no such reference was identified, the decision was made to gather data in regard to selected characteristics of those participated in the study to assess any possible relationships between the selected characteristics and their perceptions about extension education and also to provide the reader with a brief profile of the participants of the study.

Chapter Summary

This review of the literature was limited due to the scarcity of relevant references. This paucity of existing resources could indicate
the need for further research in the field of international agricultural extension.

A common consensus among extension educators, community development planners, and other concerned individuals regarding the need for development, especially rural development, in the Third World; effectiveness of extension programs in bringing social changes and enhancing rural development in the Third World; and providing foreign students in extension education with a proper and forward-looking type of learning experiences was observed. Upon allocation of adequate collaborative as well as strategic resources, the Extension Organization was found to be quite capable of fulfilling the educational needs of the rural Third World.

My thesis is that agricultural development and the meeting of basic food-nutrition needs optimally rest everywhere on a firm foundation which has as cornerstones: (a) somewhere, the necessary base of natural resources; (b) a literate citizenry, i.e. an effective base of human resources; (c) an effectively organized institutional infrastructure; and (d) an adequate base of trained personnel to sustain and make effective that infrastructure (Robins, 1979, p. 120).

The following items were extracted from the literature to be incorporated in the survey instruments of the study.

I. Processes Related to Extension Program Development:

1. Extension program planners should have an understanding of the administrative framework in which they are expected to operate.

2. Extension program planners should be able to plan realistic and meaningful educational programs based upon the specific analysis of situations, concerns, interests, and needs of clients.

3. Extension program planners should be able to design and implement appropriate educational programs and plans of work.

4. Extension program planners should be able to carry out planned educational programs.
5. Extension program planners should be able to assess the effects of extension programs and adjust them to conform with the results of evaluation efforts.

II. Course Topics in Extension Education

1. Research Methods and Design
2. General Statistics; Analysis and Interpretation of Data
3. Evaluation of Extension Programs
4. Administration and Supervision of Extension Programs
5. Staff Development
6. Program Planning and Development
7. Youth Program Management
8. Teaching Methods and Techniques
9. Adult Learning Theories
10. Diffusion of Information on Agricultural Technology
11. Rural Community Development
12. Concepts and Theories in Rural Sociology
13. Agriculture in Third World Countries
14. Education for Rural Development
15. Extension Methods for Third World Countries
16. Educational Programs in Agriculture for Third World Countries
17. World Food and Population Problems
18. World Food Economics
19. Use of Visual Materials in Communication of Agricultural Concepts
20. Internship in Cooperative Extension Service

III. Selected Policies and Characteristics of the Extension Organization in the Context of the Third World
1. The Agricultural Extension Organization is responsible for providing technical information for producers, marketers, or suppliers of the rural social system.

2. The Agricultural Extension Organization is responsible for assisting the entire rural social system (production, supply, marketing, governance, research, and education/extension) to develop.

3. The sponsor (e.g., ministry of agriculture) should establish the policies for agricultural extension programs.

4. The clientele (e.g., small farmers) should establish the policies for agricultural extension programs.

5. A combination of the sponsor and the clientele should establish the policies for agricultural extension programs.

6. "Top-down" (i.e., someone at the top of the administrative hierarchy proposes the major ideas) kinds of program development should be used in the Extension Organization.

7. "Bottom-up" (i.e., someone at the lowest level of organization comes up with an idea and passes it up through the organization as a means of program determination) kinds of program development should be used in the Extension Organization.

8. A combination of "top-down" and "bottom-up" program development should be used in the Extension Organization.

9. Highly successful extension 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 recommendation to farmers is high.
e. Local people select "front line agents".

10. 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 Organization.

IV. Educational Needs of Rural People Directly Engaged in Agriculture

1. General or basic education (e.g., reading, writing, and arithmetic).
2. Application of new inputs: varieties, improved farm practices, etc.
3. Food storage, processing, and preservation.
4. Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).
5. Civic skills (e.g., knowledge of how cooperatives, local government, and national government function).
6. Supplementary skills for farm maintenance and improvement.
7. Farm business management.

V. Characteristics of Participants

A. Extension Educators

1. Academic rank
2. Area of specialty in extension education
3. Years of work experience in extension education
4. Years of teaching extension education courses.
5. Whether or not having student advisees from the Third World
6. Area of specialization in different degree programs (i.e., B.S., M.S., Ph.D.)
7. Overseas experience
8. Overseas experience in extension education
9. Proficiency in a foreign language
10. Age
11. Sex

B. Graduate International Students of Extension Education
1. Home country
2. Type of program (i.e., masters, doctorate)
3. Years of studying in the United States
4. Place got the previous degrees
5. Area of specialty in extension education
6. Work experience in extension education at the home country
7. Work experience in extension education in the United States
8. Satisfaction with the academic program
9. Age
10. Sex
Chapter III

METHODOLOGY

This was a descriptive survey research of a comparative nature. As pointed out by Van Dalen (1979), this kind of research searches "for accurate information about the characteristics of particular subjects (Ss), groups, institutions, or situations or about the frequency with which something occurs" (p. 285). The nature of the variables of this study was psychological and included opinions and attitudes. Several demographic characteristics were also gathered. According to Kerlinger (1973), data for this kind of research can be obtained by the following methods: "personal interview, mail questionnaire, panel, telephone, and controlled observation" (p. 412).

Subject Selection

Frame of the Study

The frame of the study was comprised of all the institutions of higher education in the United States offering graduate programs in extension education. Through mail correspondence, directors of the Cooperative Extension Services of the 50 states were contacted and requested to provide the researcher with the names and addresses of universities, if any, in their respective states offering graduate programs in extension education (Appendix A). Forty-eight of the directors responded, the other two were telephoned, and a list of 27 universities
was compiled. The frame identification process was completed in Winter of 1982. The 27 schools served as the frame of the study and are listed in Table 2.

Table 2
Frame of the Study

| 1. University of Arizona, Tuscon, Arizona |
| 2. University of Florida, Gainesville, Florida |
| 3. University of Georgia, Athens, Georgia |
| 4. University of Idaho, Moscow, Idaho |
| 5. University of Illinois, Urbana, Illinois |
| 6. Purdue University, West Lafayette, Indiana |
| 7. Iowa State University, Ames, Iowa |
| 8. Kansas State University, Manhattan, Kansas |
| 9. Louisiana State University, Baton Rouge, Louisiana |
| 10. University of Maryland, College Park, Maryland |
| 11. Mississippi State University, Mississippi State, Mississippi |
| 12. University of Missouri, Columbia, Missouri |
| 13. New Mexico State University, Las Cruces, New Mexico |
| 15. North Carolina State University, Raleigh, North Carolina |
| 16. The Ohio State University, Columbus, Ohio |
| 17. Oklahoma State University, Stillwater, Oklahoma |
| 18. Oregon State University, Corvallis, Oregon |
| 19. The Pennsylvania State University, University Park, Pennsylvania |
| 20. University of Rhode Island, Kingston, Rhode Island |
| 21. University of Tennessee, Knoxville, Tennessee |
| 22. Texas A&M University, College Station, Texas |
| 23. Utah State University, Logan, Utah |
| 24. University of Vermont, Burlington, Vermont |
| 25. Washington State University, Pullman, Washington |
| 26. University of Wisconsin, Madison, Wisconsin |
| 27. University of Wyoming, Laramie, Wyoming |

Population of the Study

The target population of the study was comprised of two groups: 1) graduate students from Third World countries specializing in extension education, and 2) extension educators, as of Fall of 1982, in the 27 schools. On September 29, 1982, the chairpersons of the departments offering graduate programs in extension education in the 27 schools were
contacted and requested to provide the researcher with the names, addresses, and phone numbers of their extension educators and graduate international students of extension education. In regard to the students, the chairpersons were also asked to report the nationality of the students in order to select those from the Third World (Appendix B). After conducting a series of follow-up procedures, 26 of the chairpersons provided the researcher with the information. Cornell University was the one which did not comply, therefore, it was excluded from the study. The 26 schools reported to have, as of Fall of 1982, 120 extension educators and 123 graduate students in extension education from the Third World, as shown in Table 3.

Table 3
Population of the Study

<table>
<thead>
<tr>
<th>University</th>
<th>Extension Educators</th>
<th>Graduate Students in Extension Education From the Third World</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Arizona</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>University of Florida</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>University of Georgia</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>University of Idaho</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>University of Illinois</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Purdue University</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Iowa State University</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Kansas State University</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Louisiana State University</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>University of Maryland</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Mississippi State University</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td>University of Missouri</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>New Mexico State University</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>North Carolina State University</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>The Ohio State University</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>Oklahoma State University</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Oregon State University</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>The Pennsylvania State University</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>University of Rhode Island</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>University of Tennessee</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Due to the following reasons, the target population of the study was reduced to 108 extension educators and 115 graduate students of extension education. Eight of the extension educators participated in pilot testing of the instruments of the study, two were on the panel of experts who validated the instruments, and two were out of the country at the time of conducting the study; the 12 individuals were excluded from the target population. Eight of the students were also excluded from the study. Two were out of the country, five could not be contacted, and the other one was the researcher himself.

This was a census study. All the 108 extension educators and 115 graduate international students of extension education were included in the study.

**Instrumentation**

Two five-part survey instruments, one for extension educators and one for graduate international students, were developed by the researcher (Appendix C). An extensive review of the related literature and discussion with experts were performed in order to determine the content of the instruments. Parts one through four were the same for both groups;

<table>
<thead>
<tr>
<th>University</th>
<th>Extension Educators</th>
<th>Graduate Students in Extension Education From the Third World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas A&amp;M University</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Utah State University</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>University of Vermont</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Washington State University</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>University of Wisconsin</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>University of Wyoming</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>123</td>
</tr>
</tbody>
</table>
the last part was different. A four-point Likert scale, four being the highest and one being the lowest, was adopted for this study.

Part one of the instruments was comprised of five processes related to extension program development. The respondents were asked to indicate how important each one is by circling the appropriate category of: (4) very important, (3) somewhat important, (2) slightly important, and (1) not important.

Part two of the instruments contained 20 course topics. The respondents were asked to indicate how necessary it is for graduate international students of extension education to take courses about the topics by circling the appropriate category of: (4) essential, (3) desirable, (2) optional, and (1) not needed.

Part three of the instruments measured the level of agreement or disagreement among the respondents about selected policies and characteristics of the Extension Organization in the context of the Third World. They were asked to indicate their level of agreement or disagreement by circling the appropriate category of: (4) strongly agree, (3) agree, (2) disagree, and (1) strongly disagree.

Part four of the instruments included seven educational needs of rural people directly engaged in agriculture which could be fulfilled by the Extension Organization. The respondents were asked to indicate their level of agreement or disagreement regarding the ability of the Extension Organization to fulfill these selected educational needs by circling the appropriate category of: (4) strongly agree, (3) agree, (2) disagree, and (1) strongly disagree.
Part five of the instruments was designed to collect selected demographic information about the respondents.

In order to alleviate the possible measurement errors, the instruments were tested for their validity, reliability, and utility at The Ohio State University.

Validity

A panel of experts was formed. Each member of the panel was provided with a copy of the instruments and objectives of the study and requested to assess the content validity of the instruments. Specifically, they were asked to indicate whether or not the instruments were capable of gathering adequate informational inputs to fulfill the objectives of the study. The panel studied and approved the content validity of the instruments. The following served on that panel:

- Dr. Clarence Cunningham, The Ohio State University
- Dr. Jim Grieshop, University of California, Davis
- Dr. Howard Ladewig, Texas A&M University
- Dr. Fred Rohs, University of Georgia
- Dr. William Thuemmel, University of Massachusetts
- Dr. J. Robert Warmbrod, The Ohio State University

Reliability

The instruments were pilot tested at The Ohio State University. Eight faculty members and seven graduate students, all with interest in extension education, in the Department of Agricultural Education were asked to respond to the items in the first four parts of the instruments. Their responses were analyzed through the use of Cronbach's Alpha procedure. This value was calculated to be .93 for parts one through four, attesting to the internal consistency of the instruments. Therefore, the instruments were found to be reliable.
Utility

The final version of the instruments was in a form of a questionnaire. The suggestions made by Dillman (1978) were utilized in the design of the questionnaire. Three graduate students in the Department of Agricultural Education field tested the instruments by assessing the utility and clarity of the instruments and locating any typographical and layout problems.

Data Collection

The data for this study were collected through the use of a mail questionnaire. The mailing procedures were in accordance with recommendations made by Dillman (1978). All the questionnaires were coded in order to contact the nonrespondents. A copy of the instrument along with a cover letter describing the purpose of the study and a return self-addressed, stamped envelope were sent to each of the participants on November 10, 1982. Postcard reminder was mailed to the entire population on November 17, 1982. A new cover letter, replacement questionnaire, and a return, self-addressed, stamped envelope were mailed to the nonrespondents on December 10, 1982. December 24, 1982 was established as the deadline, questionnaires received after that date were considered as late and were not included in the analysis of data (Appendix D).

One hundred and one of the extension educators (93.5 percent) and 98 of the graduate international students of extension education (85.2 percent) completed and returned the questionnaire to the researcher before the deadline.

In order to assess any possible differences between the respondents and nonrespondents, a 10 percent random sample of the nonrespondents
was drawn. This sample included one extension educator and two students. The three individuals completed the questionnaire through a telephone interview. No significant difference between the respondents and non-respondents was observed. Therefore, findings and results of the study were generalizable to the entire population.

Data Analysis

The data were coded, keypunched onto cards, and analyzed by means of Statistical Package for the Social Sciences (Nie et al., 1975) available at the Instruction and Research Computer Center at The Ohio State University. Since this was a census study and descriptive in nature, only descriptive statistics were utilized to analyze and summarize the data. The following statistics were employed: frequencies, percentages, measures of central tendency, and measures of variability. The Chi Square procedure was used to compare the two groups who participated in the study (Alpha = .05). The degree or magnitude of relationship between the selected characteristics of respondents and their responses to the first four parts of the instrument was described by a correlation coefficient. The scales of measurement of the two variables for which the degree of relationship was being described were used to determine the appropriate correlation coefficient. Scatter plots were constructed to indicate the linearity and homoscedasticity of the relationships. Since relationships were linear and homoscedastic, the following correlation coefficients were found to be appropriate for this study: Pearson product-moment correlation coefficient and Kendall Tau coefficient (Warnbrod, 1981).
Chapter Summary

This was a descriptive survey research of a comparative nature; it was a census study. The frame of the study was comprised of 27 Land-Grant universities offering graduate programs in extension education; 26 of the schools participated in the study. There were two groups in the study: 1) extension educators, and 2) graduate international students of extension education in the 26 schools.

The population of the study included 108 extension educators and 115 graduate students from Third World countries specializing in extension education. The data for the study were collected from 101 extension educators and 98 graduate students through the use of a mail questionnaire. Since there was no difference between the respondents and nonrespondents, the findings and results were generalizable to the entire population.

According to Kerlinger (1973) and Van Dalen (1979), frame error, sampling error, nonresponse error, and measurement error could affect the internal and external validity of the findings and results of descriptive survey research. Sampling error did not apply to this research because it was a census study. The procedures used to identify the frame of the study should have included all the schools offering graduate programs in extension education in the 50 states of the United States. The instruments were tested for their validity, reliability, and utility in order to minimize, as much as possible, any measurement error. The follow-up procedures collected the necessary data from the nonrespondents; no significant difference between the respondents and nonrespondents was observed; therefore, nonresponse error was controlled.
Descriptive statistics were used to summarize, organize, simplify, and interpret the data.
CHAPTER IV

FINDINGS

This was a descriptive survey research of a comparative nature; it was a census study. The major purpose of the study was to describe extension education as perceived by educators and international students of extension education. The target population of the study was comprised of 108 extension educators and 115 graduate international students of extension education at 26 Land-Grant universities. The data were collected from 101 of the educators and 98 of the students through the use of a mail questionnaire. Descriptive statistics were employed to analyze the data.

Each instrument of the study was comprised of five parts. The first four parts were the same for both groups. Cronbach's Alpha was computed for each of the first four parts. Table 4 shows the results of the computation.

<table>
<thead>
<tr>
<th>Part</th>
<th>Educators (N=101)</th>
<th>Students (N=98)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part I - Program Development Processes</td>
<td>.50</td>
<td>.40</td>
</tr>
<tr>
<td>Part II - Course Topics</td>
<td>.80</td>
<td>.80</td>
</tr>
<tr>
<td>Part III - Policies and Characteristics</td>
<td>.66</td>
<td>.63</td>
</tr>
<tr>
<td>Part IV - Educational Needs of Rural People</td>
<td>.68</td>
<td>.73</td>
</tr>
</tbody>
</table>
Although all the correlations for the parts were not of a high magnitude, given the number of items on each part, they were considered sufficient for this study. According to Nunnally (1967), "What a satisfactory level of reliability is depends on how a measure is being used. In the early stages of research on predictor tests or hypothesized measures of a construct, one saves time and energy by working with instruments that have only modest reliability, for which purposes reliabilities of .60 or .50 will suffice" (p. 226).

The findings of this study are presented in six parts and followed by a summary section.

PART I

PROGRAM DEVELOPMENT PROCESSES

The first part of the instrument contained five items and had the following instructions:

Part I - The following are processes related to extension program development. Please indicate how important each one is by circling the appropriate category of:

4 = very important  2 = slightly important
3 = somewhat important  1 = not important

Results from the Extension Educators Group

The total number of 101 extension educators reported the level of importances of each of the processes. Their responses were tabulated and are shown in Table 5.

Results from the Graduate International Student Group

The total number of 98 graduate international students of Extension education reported how important they perceived each of the extension program development processes. Table 6 shows the frequency
Table 5  
Frequency and Percentage Distribution of Responses to  
Extension Program Development Processes as Reported by Extension Educators

<table>
<thead>
<tr>
<th>Process</th>
<th>Educators (N=101)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Important</td>
</tr>
<tr>
<td></td>
<td>(f) (%)</td>
</tr>
<tr>
<td>1. Extension program planners should have an understanding of the administrative framework in which they are expected to operate.</td>
<td>87 86.1</td>
</tr>
<tr>
<td>2. Extension program planners should be able to plan realistic and meaningful educational programs based upon the specific analysis of situations, concerns, interests, and needs of clients.</td>
<td>97 96.0</td>
</tr>
<tr>
<td>3. Extension program planners should be able to design and implement appropriate educational programs and plans of work.</td>
<td>93 92.1</td>
</tr>
<tr>
<td>4. Extension program planners should be able to carry out planned educational programs.</td>
<td>79 78.2</td>
</tr>
<tr>
<td>5. Extension program planners should be able to assess the effects of extension programs and adjust them to conform with the results of evaluation efforts.</td>
<td>85 84.2</td>
</tr>
</tbody>
</table>
Table 6  
Frequency and Percentage Distribution of Responses to  
Extension Program Development Processes as Reported  
by Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Process</th>
<th>Students (N=98)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Important (f) (%)</td>
</tr>
<tr>
<td></td>
<td>Somewhat Important (f) (%)</td>
</tr>
<tr>
<td></td>
<td>Slightly Important (f) (%)</td>
</tr>
<tr>
<td>1. Extension program planners should have an understanding of the</td>
<td>87 88.3 11 11.2 0 0.0</td>
</tr>
<tr>
<td>administrative framework in which they are expected to work.</td>
<td></td>
</tr>
<tr>
<td>2. Extension program planners should be able to plan realistic</td>
<td>94 95.9 4 4.1 0 0.0</td>
</tr>
<tr>
<td>and meaningful educational programs based upon the specific</td>
<td></td>
</tr>
<tr>
<td>analysis of situations, concerns, interests, and needs of clients.</td>
<td></td>
</tr>
<tr>
<td>3. Extension program planners should be able to design and implement</td>
<td>76 77.6 20 20.4 2 2.0</td>
</tr>
<tr>
<td>appropriate educational programs and plans of work.</td>
<td></td>
</tr>
<tr>
<td>4. Extension program planners should be able to carry out planned</td>
<td>53 54.1 40 40.8 5 5.1</td>
</tr>
<tr>
<td>educational programs.</td>
<td></td>
</tr>
<tr>
<td>5. Extension program planners should be able to assess the effects</td>
<td>79 80.6 18 18.4 1 1.0</td>
</tr>
<tr>
<td>of extension programs and adjust them to conform with the results of</td>
<td></td>
</tr>
<tr>
<td>evaluation efforts.</td>
<td></td>
</tr>
</tbody>
</table>
and percentage distribution of their responses.

Groups Comparison

The importance level was examined as a continuum, with "very important" at one end of the spectrum and "not important" at the other end. For the ease of discussion, the following scale (based upon the mean importance level) was adopted.

<table>
<thead>
<tr>
<th>Not Important</th>
<th>Slightly Important</th>
<th>Somewhat Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.5</td>
<td>2.5</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Data were treated as interval. The mean and standard deviation were calculated for each of the processes and the Chi Square procedure was employed to compare the two groups. Table 7 shows the results.

The mean scores were used to rank the processes, as shown in Table 8.

Responses from both groups were analyzed together. A mean score for each of the processes was computed. The mean scores were used to rank the processes related to extension program development. Table 9 shows the results.
Table 7
Means and Standard Deviations for Each of the
Extension Program Development Processes As Reported by Extension Educators
and Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Process</th>
<th>Educators (N=101)</th>
<th>Students (N=98)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>1. Extension program planners should have an understanding of the</td>
<td>3.86</td>
<td>.35</td>
</tr>
<tr>
<td>administrative framework in which they are expected to operate.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Extension program planners should be able to plan realistic and</td>
<td>3.96</td>
<td>.20</td>
</tr>
<tr>
<td>meaningful educational programs based upon the specific analysis of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>situations, concerns, interests, and needs of clients.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*3. Extension program planners should be able to design and implement</td>
<td>3.92</td>
<td>.27</td>
</tr>
<tr>
<td>appropriate educational programs and plans of work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*4. Extension program planners should be able to carry out planned</td>
<td>3.78</td>
<td>.41</td>
</tr>
<tr>
<td>educational programs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Extension program planners should be able to assess the effects</td>
<td>3.82</td>
<td>.40</td>
</tr>
<tr>
<td>of extension programs and adjust them to conform with the results of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>evaluation efforts.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* P<.05 $\chi^2$
<table>
<thead>
<tr>
<th>Process</th>
<th>Educators (N=101)</th>
<th>Students (N=98)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension program planners should have an understanding of the administrative framework in which they are expected to operate.</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Extension program planners should be able to plan realistic and meaningful educational programs based upon the specific analysis of situations, concerns, interests, and needs of clients.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Extension program planners should be able to design and implement appropriate educational programs and plans of work.</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Extension program planners should be able to carry out planned educational programs.</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Extension program planners should be able to assess the effects of extension programs and adjust them to conform with the results of evaluation efforts.</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>
Table 9
Rank Order of the Level of Importance of the
Extension Program Development Processes as Reported by
Extension Educators and Graduate International Students
of Extension Education

<table>
<thead>
<tr>
<th>Rank</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Extension program planners should be able to plan realistic and meaningful educational programs based upon the specific analysis of situations, concerns, interests, and needs of client (Mean = 3.96).</td>
</tr>
<tr>
<td>2</td>
<td>Extension program planners should have an understanding of the administrative framework in which they are expected to operate (Mean = 3.87).</td>
</tr>
<tr>
<td>3</td>
<td>Extension program planners should be able to design and implement appropriate educational programs and plans of work (Mean = 3.83).</td>
</tr>
<tr>
<td>4</td>
<td>Extension program planners should be able to assess the effects of extension programs and adjust them to conform with the results of evaluation efforts (Mean = 3.81).</td>
</tr>
<tr>
<td>5</td>
<td>Extension program planners should be able to carry out planned educational programs (Mean = 3.63).</td>
</tr>
</tbody>
</table>

PART II
Course Topics

The second part of the instrument was comprised of twenty course topics with the following instructions:

Part II - In order to master the processes indicated in Part I, international graduate students in extension education should possess certain knowledge and be able to perform specific skills. We want to determine if taking courses regarding the following topics could assist the students to reach that end. Please indicate how necessary each topic is by circling the appropriate category of:

4 = essential          2 = optional
3 = desirable          1 = not needed
Results from the Extension Educator Group

Data were obtained and tabulated from 101 extension educators and are shown in Table 10.

Results from the Graduate International Student Group

Ninety-eight graduate international students provided data for this part of the study. Table 11 presents the results in terms of frequency and percentage distribution of responses.

Groups Comparison

The importance level was examined as a continuum, beginning with being "not needed" and ending in being "essential". In order to interpret the data, the following scale was devised.

<table>
<thead>
<tr>
<th>Not Needed</th>
<th>Optional</th>
<th>Desirable</th>
<th>Essential</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.5</td>
<td>2.5</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Data were interval in nature. The mean and standard deviation were calculated for each of the course topics. In order to compare the two groups, the Chi Square procedure was utilized. The results are shown in Table 12.

The mean scores were used to rank the course topics, as shown in Table 13.

The above scale was used to determine which of the course topics were essential, desirable, optional, or not needed. All the course topics fell in essential and desirable categories. The results are presented in Tables 14 and 15.
Table 10
Frequency and Percentage Distribution of Responses to Course Topics in Extension Education as Reported by Extension Educators

<table>
<thead>
<tr>
<th>Course Topic</th>
<th>Essential</th>
<th>Desirable</th>
<th>Optional</th>
<th>Not Needed</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Research Methods and Design</td>
<td>36</td>
<td>35.6</td>
<td>48</td>
<td>47.5</td>
<td>15 14.9</td>
</tr>
<tr>
<td>2. General Statistics; Analysis and Interpretation of Data</td>
<td>31</td>
<td>30.7</td>
<td>52</td>
<td>51.5</td>
<td>17 16.8</td>
</tr>
<tr>
<td>3. Evaluation of Extension Programs</td>
<td>85</td>
<td>84.2</td>
<td>16</td>
<td>15.8</td>
<td>0 0.0</td>
</tr>
<tr>
<td>4. Administration and Supervision of Extension Programs</td>
<td>64</td>
<td>63.4</td>
<td>29</td>
<td>28.7</td>
<td>8 7.9</td>
</tr>
<tr>
<td>5. Staff Development</td>
<td>38</td>
<td>37.6</td>
<td>48</td>
<td>47.5</td>
<td>12 11.9</td>
</tr>
<tr>
<td>6. Program Planning and Development</td>
<td>94</td>
<td>93.1</td>
<td>7</td>
<td>6.9</td>
<td>0 0.0</td>
</tr>
<tr>
<td>7. Youth Program Management</td>
<td>15</td>
<td>14.9</td>
<td>55</td>
<td>54.5</td>
<td>28 27.7</td>
</tr>
<tr>
<td>8. Teaching Methods and Techniques</td>
<td>69</td>
<td>68.3</td>
<td>25</td>
<td>24.8</td>
<td>7 6.9</td>
</tr>
<tr>
<td>9. Adult Learning Theories</td>
<td>54</td>
<td>53.5</td>
<td>36</td>
<td>35.6</td>
<td>9 8.9</td>
</tr>
<tr>
<td>10. Diffusion of Information on Agricultural Technology</td>
<td>54</td>
<td>53.5</td>
<td>34</td>
<td>33.7</td>
<td>9 8.9</td>
</tr>
<tr>
<td>11. Rural Community Development</td>
<td>24</td>
<td>23.8</td>
<td>55</td>
<td>54.5</td>
<td>21 20.8</td>
</tr>
<tr>
<td>12. Concepts and Theories in Rural Sociology</td>
<td>18</td>
<td>17.8</td>
<td>51</td>
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<td>28 27.7</td>
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<tr>
<td>13. Agriculture in Third World Countries</td>
<td>21</td>
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<td>54</td>
<td>53.5</td>
<td>22 21.8</td>
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<tr>
<td>14. Education for Rural Development</td>
<td>23</td>
<td>22.8</td>
<td>53</td>
<td>52.5</td>
<td>22 21.8</td>
</tr>
<tr>
<td>15. Extension Methods for Third World Countries</td>
<td>56</td>
<td>55.4</td>
<td>38</td>
<td>37.6</td>
<td>7 6.9</td>
</tr>
<tr>
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<td>38.6</td>
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<td>49.5</td>
<td>11 10.9</td>
</tr>
<tr>
<td>17. World Food and Population Problems</td>
<td>22</td>
<td>21.8</td>
<td>44</td>
<td>43.6</td>
<td>32 31.7</td>
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<tr>
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<td>15.8</td>
<td>38</td>
<td>37.6</td>
<td>41 40.6</td>
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<tr>
<td>19. Use of Visual Materials in Communication of Agricultural Concepts</td>
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<td>40</td>
<td>39.6</td>
<td>14 13.9</td>
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<td>20. Internship in Cooperative Extension Service</td>
<td>42</td>
<td>41.6</td>
<td>39</td>
<td>38.6</td>
<td>18 17.8</td>
</tr>
</tbody>
</table>
Table 11
Frequency and Percentage Distribution of Responses to Course Topics in Extension Education as Reported by Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Course Topics</th>
<th>Essential (f)</th>
<th>Desirable (f)</th>
<th>Optional (f)</th>
<th>Not Needed (f)</th>
<th>Response (%)</th>
</tr>
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<tbody>
<tr>
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<td>61</td>
<td>62.2</td>
<td>27</td>
<td>27.6</td>
<td>10.2</td>
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<td>52.0</td>
<td>36</td>
<td>36.7</td>
<td>11.2</td>
</tr>
<tr>
<td>3. Evaluation of Extension Programs</td>
<td>87</td>
<td>88.8</td>
<td>9</td>
<td>9.2</td>
<td>2.0</td>
</tr>
<tr>
<td>4. Administration and Supervision of Extension Programs</td>
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<td>75.5</td>
<td>22</td>
<td>22.4</td>
<td>2.0</td>
</tr>
<tr>
<td>5. Staff Development</td>
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<td>51.0</td>
<td>41</td>
<td>41.8</td>
<td>7.1</td>
</tr>
<tr>
<td>6. Program Planning and Development</td>
<td>87</td>
<td>88.8</td>
<td>10</td>
<td>10.2</td>
<td>1.0</td>
</tr>
<tr>
<td>7. Youth Program Management</td>
<td>23</td>
<td>23.5</td>
<td>57</td>
<td>58.2</td>
<td>18.4</td>
</tr>
<tr>
<td>8. Teaching Methods and Techniques</td>
<td>66</td>
<td>67.3</td>
<td>26</td>
<td>26.5</td>
<td>6.1</td>
</tr>
<tr>
<td>9. Adult Learning Theories</td>
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<td>57.1</td>
<td>31</td>
<td>31.6</td>
<td>11.2</td>
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<td>63.3</td>
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<td>3.1</td>
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<td>11. Rural Community Development</td>
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<td>43.9</td>
<td>4.1</td>
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<tr>
<td>12. Concepts and Theories in Rural Sociology</td>
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<td>29.6</td>
<td>50</td>
<td>51.0</td>
<td>19.4</td>
</tr>
<tr>
<td>13. Agriculture in Third World Countries</td>
<td>36</td>
<td>36.7</td>
<td>39</td>
<td>39.8</td>
<td>18.4</td>
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<tr>
<td>14. Education for Rural Development</td>
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<td>36</td>
<td>36.7</td>
<td>12.2</td>
</tr>
<tr>
<td>15. Extension Methods for Third World Countries</td>
<td>58</td>
<td>59.2</td>
<td>24</td>
<td>24.5</td>
<td>13.3</td>
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<td>16. Educational Programs in Agriculture for Third World Countries</td>
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<td>44.9</td>
<td>36</td>
<td>36.7</td>
<td>16.3</td>
</tr>
<tr>
<td>17. World Food and Population Problems</td>
<td>25</td>
<td>25.5</td>
<td>33</td>
<td>33.7</td>
<td>36.7</td>
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<tr>
<td>18. World Food Economics</td>
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<td>18.4</td>
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<td>37.8</td>
<td>36.7</td>
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<tr>
<td>19. Use of Visual Materials in Communication of Agricultural Concepts</td>
<td>56</td>
<td>57.1</td>
<td>35</td>
<td>35.7</td>
<td>7.1</td>
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<tr>
<td>20. Internship in Cooperative Extension Service</td>
<td>43</td>
<td>43.9</td>
<td>37</td>
<td>37.5</td>
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</table>
Table 12
Means and Standard Deviations for Each of the Course Topics
as Reported by Extension Educators and
Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Course Topic</th>
<th>Educators (N=101)</th>
<th>Students (N=98)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
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<tr>
<td>1. Research Methods and Design</td>
<td>3.17 .75</td>
<td>3.52 .67</td>
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<tr>
<td>*2. General Statistics: Analysis and Interpretation of Data</td>
<td>3.12 .70</td>
<td>3.41 .69</td>
</tr>
<tr>
<td>3. Evaluation of Extension Programs</td>
<td>3.84 .37</td>
<td>3.87 .40</td>
</tr>
<tr>
<td>4. Administration and Supervision of Extension Programs</td>
<td>3.55 .64</td>
<td>3.73 .49</td>
</tr>
<tr>
<td>5. Staff Development</td>
<td>3.20 .76</td>
<td>3.44 .63</td>
</tr>
<tr>
<td>6. Program Planning and Development</td>
<td>3.93 .25</td>
<td>3.88 .36</td>
</tr>
<tr>
<td>7. Youth Program Management</td>
<td>2.81 .72</td>
<td>3.05 .65</td>
</tr>
<tr>
<td>8. Teaching Methods and Techniques</td>
<td>3.61 .62</td>
<td>3.60 .55</td>
</tr>
<tr>
<td>9. Adult Learning Theories</td>
<td>3.41 .74</td>
<td>3.46 .69</td>
</tr>
<tr>
<td>10. Diffusion of Information on Agricultural Technology</td>
<td>3.37 .81</td>
<td>3.60 .55</td>
</tr>
<tr>
<td>*11. Rural Community Development</td>
<td>3.00 .70</td>
<td>3.48 .58</td>
</tr>
<tr>
<td>*12. Concepts and Theories in Rural Sociology</td>
<td>2.82 .77</td>
<td>3.10 .69</td>
</tr>
<tr>
<td>13. Agriculture in Third World Countries</td>
<td>2.93 .74</td>
<td>3.10 .69</td>
</tr>
<tr>
<td>*14. Education for Rural Development</td>
<td>2.97 .73</td>
<td>3.39 .70</td>
</tr>
<tr>
<td>15. Extension Methods for Third World Countries</td>
<td>3.49 .63</td>
<td>3.42 .80</td>
</tr>
<tr>
<td>16. Educational Programs in Agriculture for Third World Countries</td>
<td>3.26 .69</td>
<td>3.27 .77</td>
</tr>
<tr>
<td>17. World Food and Population Problems</td>
<td>2.84 .80</td>
<td>2.81 .87</td>
</tr>
<tr>
<td>18. World Food Economics</td>
<td>2.63 .82</td>
<td>2.68 .86</td>
</tr>
<tr>
<td>20. Internship in Cooperative Extension Service</td>
<td>3.20 .80</td>
<td>3.23 .80</td>
</tr>
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</table>

*p < .05, Chi Square
Table 13

Rank Order of the Level of Importance of the Course Topics in Extension Education as Reported by Extension Educators and Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Rank</th>
<th>Educators (N=101)</th>
<th>Students (N=98)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Program Planning and Development</td>
<td>Program Planning and Development</td>
</tr>
<tr>
<td>2</td>
<td>Evaluation of Extension Programs</td>
<td>Evaluation of Extension Programs</td>
</tr>
<tr>
<td>3</td>
<td>Teaching Methods and Techniques</td>
<td>Administration and Supervision of Extension Programs</td>
</tr>
<tr>
<td>4</td>
<td>Administration and Supervision of Extension Programs</td>
<td>Teaching Methods and Techniques</td>
</tr>
<tr>
<td>5</td>
<td>Extension Methods for Third World Countries</td>
<td>Diffusion of Information on Agricultural Technology</td>
</tr>
<tr>
<td>6</td>
<td>Adult Learning Theories</td>
<td>Research Methods and Design</td>
</tr>
<tr>
<td>7</td>
<td>Diffusion of Information on Agricultural Technology</td>
<td>Use of Visual Materials in Communication of Agricultural Concepts</td>
</tr>
<tr>
<td>8</td>
<td>Use of Visual Materials in Communication of Agricultural Concepts</td>
<td>Rural Community Development</td>
</tr>
<tr>
<td>9</td>
<td>Educational Programs in Agriculture for Third World Countries</td>
<td>Adult Learning Theories</td>
</tr>
<tr>
<td>10</td>
<td>Staff Development</td>
<td>Internship in Cooperative Extension Service</td>
</tr>
<tr>
<td>11</td>
<td>Internship in Cooperative Extension Service</td>
<td>Extension Methods for Third World Countries</td>
</tr>
<tr>
<td>12</td>
<td>Research Methods and Design</td>
<td>General Statistics; Analysis and Interpretation of Data</td>
</tr>
<tr>
<td>13</td>
<td>General Statistics; Analysis and Interpretation of Data</td>
<td>Education for Rural Development</td>
</tr>
<tr>
<td>14</td>
<td>Rural Community Development</td>
<td>Educational Programs in Agriculture for Third World Countries</td>
</tr>
<tr>
<td>15</td>
<td>Education for Rural Development</td>
<td>Internship in Cooperative Extension Service</td>
</tr>
<tr>
<td>16</td>
<td>Agriculture in Third World Countries</td>
<td>Concepts and Theories in Rural Sociology</td>
</tr>
<tr>
<td>17</td>
<td>World Food and Population Problems</td>
<td>Agriculture in Third World Countries</td>
</tr>
<tr>
<td>18</td>
<td>Concepts and Theories in Rural Sociology</td>
<td>Youth Program Management</td>
</tr>
<tr>
<td>19</td>
<td>Youth Program Management</td>
<td>World Food and Population Problems</td>
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<td>Extension Methods for Third World Countries</td>
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<tr>
<td>Evaluation of Extension Programs</td>
<td>Adult Learning Theories</td>
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</tr>
<tr>
<td>Teaching Methods and Techniques</td>
<td>Diffusion of Information on Agricultural Technology</td>
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<tr>
<td>Administration and Supervision of Extension Programs</td>
<td>Use of Visual Materials in Communication of Agricultural Concepts</td>
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<td></td>
<td>Educational Programs in Agriculture for Third World Countries</td>
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<td></td>
<td>Staff Development</td>
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<td></td>
<td>Internship in Cooperative Extension Service</td>
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<td></td>
<td>Research Methods and Design</td>
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<td></td>
<td>General Statistics; Analysis and Interpretation of Data</td>
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<td>Rural Community Development</td>
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<td>Education for Rural Development</td>
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<td></td>
<td>Agriculture in Third World Countries</td>
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<tr>
<td></td>
<td>World Food and Population Problems</td>
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<tr>
<td></td>
<td>Concepts and Theories in Rural Sociology</td>
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<tr>
<td></td>
<td>Youth Program Management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>World Food Economics</td>
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</tr>
</tbody>
</table>
Table 15
Rank Order of Essential and Desirable Course Topics in Extension Education as Reported by Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Essential</th>
<th>Desirable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Planning and Development</td>
<td>Rural Community Development</td>
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<tr>
<td>Evaluation of Extension Programs</td>
<td>Adult Learning Theories</td>
</tr>
<tr>
<td>Administration and Supervision of Extension Programs</td>
<td>Staff Development</td>
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<tr>
<td>Teaching Methods and Techniques</td>
<td>Extension Methods for Third World Countries</td>
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<tr>
<td>Diffusion of Information on Agricultural Technology</td>
<td>General Statistics; Analysis and Interpretation of Data</td>
</tr>
<tr>
<td>Research Methods and Design</td>
<td>Education for Rural Development</td>
</tr>
<tr>
<td>Use of Visual Materials in Communication of Agricultural Concepts</td>
<td>Educational Programs in Agriculture for Third World Countries</td>
</tr>
<tr>
<td></td>
<td>Internship in Cooperative Extension Service</td>
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<tr>
<td></td>
<td>Concepts and Theories in Rural Sociology</td>
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<td></td>
<td>Agriculture in Third World Countries</td>
</tr>
<tr>
<td></td>
<td>Youth Program Management</td>
</tr>
<tr>
<td></td>
<td>World Food and Population Problems</td>
</tr>
<tr>
<td></td>
<td>World Food Economics</td>
</tr>
</tbody>
</table>
In order to reach a consensus between the extension educators and graduate international students of extension education, a mean score for each course topic was calculated using the responses from both groups. The mean scores were used to rank the course topics. Table 16 presents the results.

<table>
<thead>
<tr>
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<th>Topic</th>
<th>Mean</th>
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<td>Evaluation of Extension Programs</td>
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<td>Teaching Methods and Techniques</td>
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<tr>
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<td>Diffusion of Information on Agricultural Technology</td>
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<td>6</td>
<td>Extension Methods for Third World Countries</td>
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<td>Adult Learning Theories</td>
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<td>3.39</td>
</tr>
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<td>Research Methods and Design</td>
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<tr>
<td>10</td>
<td>Staff Development</td>
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</tr>
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<td>11</td>
<td>General Statistics; Analysis and Interpretation of Data</td>
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<td>11</td>
<td>Educational Programs in Agriculture for Third World Countries</td>
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<tr>
<td>13</td>
<td>Rural Community Development</td>
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<tr>
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<td>Concepts and Theories in Rural Sociology</td>
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<td>2.93</td>
</tr>
<tr>
<td>19</td>
<td>World Food and Population Problems</td>
<td>2.82</td>
</tr>
<tr>
<td>20</td>
<td>World Food Economics</td>
<td>2.65</td>
</tr>
</tbody>
</table>
PART III

Policies and Characteristics

The third part of the instrument was designed to measure the level of agreement or disagreement of the respondents in regard to selected policies and characteristics of the Extension Organization. This part had the following instructions:

Part III - A number of statements about selected policies and characteristics of the Extension Organization are listed. Please indicate your level of agreement/disagreement with each by circling the appropriate category of:

4 = strongly agree 2 = disagree
3 = agree 1 = strongly disagree

Results from the Extension Educator Group

The total number of 101 extension educators reported their level of agreement or disagreement with each of the selected policies and characteristics of the Extension Organization. Their responses were tabulated and are shown in Table 17.

Results from the Graduate International Student Group

Data for this section were obtained from 98 graduate international students of extension education. Table 18 shows the frequency and percentage distribution of their responses to each of the selected policies and characteristics of the Extension Organization.

Groups Comparison

The level of agreement or disagreement was also examined as a continuum, with "strongly disagree" at one end and "strongly agree" at the other end. The following scale, based upon the mean agreement
Table 17
Frequency and Percentage Distribution of Responses to Selected Policies and Characteristics of the Extension Organization as Reported by Extension Educators

<table>
<thead>
<tr>
<th>Policy and Characteristic</th>
<th>Strongly Agree (f)</th>
<th>Strongly Agree (%)</th>
<th>Strongly Disagree (f)</th>
<th>Strongly Disagree (%)</th>
<th>No Response (f)</th>
<th>No Response (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Agricultural Extension Organization is responsible for providing technical</td>
<td>51</td>
<td>50.5</td>
<td>42</td>
<td>41.6</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>information for producers, marketers, or suppliers of the rural social system.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. The Agricultural Extension Organization is responsible for assisting the entire</td>
<td>40</td>
<td>39.6</td>
<td>48</td>
<td>47.5</td>
<td>11</td>
<td>10.9</td>
</tr>
<tr>
<td>rural social system (production, supply, marketing, governance, research, and</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>education/extension) to develop.</td>
<td></td>
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<tr>
<td>3. The sponsor (e.g., ministry of agriculture) should establish the policies for</td>
<td>11</td>
<td>10.9</td>
<td>34</td>
<td>33.7</td>
<td>43</td>
<td>42.6</td>
</tr>
<tr>
<td>agricultural extension programs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The clientele (e.g., small farmers) should establish the policies for agricultural</td>
<td>11</td>
<td>10.9</td>
<td>27</td>
<td>26.7</td>
<td>50</td>
<td>49.5</td>
</tr>
<tr>
<td>extension programs.</td>
<td></td>
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</tr>
<tr>
<td>5. A combination of the sponsor and the clientele should establish the policies for</td>
<td>69</td>
<td>68.3</td>
<td>27</td>
<td>26.7</td>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td>agricultural extension programs.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6. &quot;Top-down&quot; (i.e., someone at the top of the administrative hierarchy proposes the</td>
<td>1</td>
<td>1.0</td>
<td>13</td>
<td>12.9</td>
<td>56</td>
<td>55.4</td>
</tr>
<tr>
<td>major ideas) kinds of program development should be used in the Extension</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization.</td>
<td>12</td>
<td>11.9</td>
<td>28</td>
<td>27.7</td>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td>7. &quot;Bottom-up&quot; (i.e., someone at the lowest level of organization come up with an</td>
<td>16</td>
<td>15.8</td>
<td>31</td>
<td>30.7</td>
<td>39</td>
<td>38.6</td>
</tr>
<tr>
<td>idea and passes it up through the organization as a means of program determination)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>kinds of program development should be used in the Extension Organization.</td>
<td>12</td>
<td>11.9</td>
<td>39</td>
<td>38.6</td>
<td>12</td>
<td>11.9</td>
</tr>
<tr>
<td>8. A combination of &quot;top-down&quot; and &quot;bottom-up&quot; program development should be used in</td>
<td>67</td>
<td>66.3</td>
<td>29</td>
<td>28.7</td>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td>the Extension Organization.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Table 17 (continued)

<table>
<thead>
<tr>
<th>Policy and Characteristic</th>
<th>Educators (N = 101)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Highly successful extension programs result when the cost of recommended practices to farmers is low.</td>
<td>Strongly Agree 18</td>
</tr>
<tr>
<td>10. Highly successful extension programs result when the recommended practices are relatively simple.</td>
<td>Strongly Agree 35</td>
</tr>
<tr>
<td>11. Highly successful extension programs result when the benefit to farmers is immediate.</td>
<td>Strongly Agree 43</td>
</tr>
<tr>
<td>12. Highly successful extension programs result when the benefit of recommendation to farmers is high.</td>
<td>Strongly Agree 58</td>
</tr>
<tr>
<td>13. Local people select &quot;front line agents&quot;.</td>
<td>Strongly Agree 15</td>
</tr>
<tr>
<td>14. 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 Organization.</td>
<td>Strongly Agree 55</td>
</tr>
</tbody>
</table>
Table 18
Frequency and Percentage Distribution of Responses to Selected Policies and Characteristics of The Extension Organization as Reported by Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Policy and Characteristic</th>
<th>Strongly Agree (f)</th>
<th>Strongly Agree (%)</th>
<th>Agree (f)</th>
<th>Agree (%)</th>
<th>Disagree (f)</th>
<th>Disagree (%)</th>
<th>Strongly Disagree (f)</th>
<th>Strongly Disagree (%)</th>
<th>No Response (f)</th>
<th>No Response (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Agricultural Extension Organization is responsible for providing technical information for producers, marketers, or suppliers of the rural social system.</td>
<td>47 48.0</td>
<td>42 42.9</td>
<td>5  5.1</td>
<td>3  3.1</td>
<td>1  1.0</td>
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<tr>
<td>2. The Agricultural Extension Organization is responsible for assisting the entire rural social system (production, supply, marketing, governance, research, and education/extension) to develop.</td>
<td>33 33.7</td>
<td>43 43.9</td>
<td>18 18.4</td>
<td>3  3.1</td>
<td>1  1.0</td>
<td></td>
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</tr>
<tr>
<td>3. The sponsor (e.g., ministry of agriculture) should establish the policies for agricultural extension programs.</td>
<td>27 27.6</td>
<td>27 27.6</td>
<td>34 34.7</td>
<td>10 10.2</td>
<td>0  0.0</td>
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<tr>
<td>4. The clientele (e.g., small farmers) should establish the policies for agricultural extension programs.</td>
<td>10 10.2</td>
<td>26 26.5</td>
<td>51 52.0</td>
<td>10 10.2</td>
<td>1  1.0</td>
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<tr>
<td>5. A combination of the sponsor and the clientele should establish the policies for agricultural extension programs.</td>
<td>68 69.4</td>
<td>22 22.4</td>
<td>6  6.1</td>
<td>2  2.0</td>
<td>0  0.0</td>
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<tr>
<td>6. &quot;Top-down&quot; (i.e., someone at the top of the administrative hierarchy proposes the major ideas) kinds of program development should be used in the Extension Organization.</td>
<td>4  4.1</td>
<td>12 12.2</td>
<td>50 51.0</td>
<td>32 32.7</td>
<td>0  0.0</td>
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<tr>
<td>7. &quot;Bottom-up&quot; (i.e., someone at the lowest level of organization comes up with an idea and passes it up through the organization as a means of program determination) kinds of program development should be used in the Extension Organization.</td>
<td>20 20.4</td>
<td>39 39.8</td>
<td>26 26.5</td>
<td>13 13.3</td>
<td>0  0.0</td>
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<tr>
<td>Policy and Characteristic</td>
<td>Students (N = 98)</td>
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<tr>
<td>8. A combination of &quot;top-down&quot; and &quot;bottom-up&quot; program development should be used</td>
<td>63 (64.3) 29 (29.6) 4 (4.1) 2 (2.0) 0 (0.0)</td>
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<td>in the Extension Organization.</td>
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<tr>
<td>9. Highly successful extension programs result when the cost of recommended practices</td>
<td>38 (38.8) 44 (44.9) 12 (12.2) 3 (3.1) 1 (1.0)</td>
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<td>to farmers is low.</td>
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<tr>
<td>10. Highly successful extension programs result when the recommended practices are</td>
<td>42 (42.9) 44 (44.9) 7 (7.1) 4 (4.1) 1 (1.0)</td>
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<td>relatively simple.</td>
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<tr>
<td>11. Highly successful extension programs result when the benefit to farmers is</td>
<td>47 (48.0) 37 (37.8) 10 (10.2) 3 (3.1) 1 (1.0)</td>
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<td>immediate.</td>
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<tr>
<td>12. Highly successful extension programs result when the benefit of recommendation to</td>
<td>52 (53.1) 34 (34.7) 4 (4.1) 7 (7.1) 1 (1.0)</td>
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<tr>
<td>farmers is high.</td>
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<td></td>
</tr>
<tr>
<td>13. Local people select &quot;front line agents&quot;.</td>
<td>18 (18.4) 51 (52.0) 18 (18.4) 8 (8.2) 3 (3.1)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>14. The success of an agricultural extension program in any particular locality</td>
<td>52 (53.1) 40 (40.8) 3 (3.1) 2 (2.0) 1 (1.0)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>tends to be directly related to the extent of personal contact between the people of</td>
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<tr>
<td>that locality and the staff of the Extension Organization.</td>
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<td></td>
</tr>
</tbody>
</table>
or disagreement level, was utilized for the purpose of data interpretation.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  1.5</td>
<td>2.5</td>
<td>3.5  4</td>
</tr>
</tbody>
</table>

Data were treated as interval. The mean and standard deviation were calculated for each of the selected characteristics and policies. The Chi Square procedure was used to test the possible differences between the two groups. Table 19 presents the results.

The mean scores were utilized to rank and categorize the selected policies and characteristics of the Extension Organization, as shown in Tables 20 and 21.

There was a significant difference between the two groups for the second and ninth items. The international graduate students of extension education were found to agree with the notion that "The sponsor (e.g., ministry of agriculture) should establish the policies for agricultural extension programs". The extension educators disagreed. Both groups agreed that "Highly successful extension programs result when the cost of recommended practices to farmers is low". However, the graduate international student group scored it higher than the extension educators.
Table 19
Means and Standard Deviations for Each of the Selected Policies and Characteristics of the Extension Organization as Reported by Extension Educators and Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Policy and Characteristic</th>
<th>Educators (N=101)</th>
<th>Students (N=98)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Agricultural Extension Organization is responsible for providing technical information for producers, marketers, or suppliers of the rural social system.</td>
<td>3.46 .63</td>
<td>3.37 .73</td>
</tr>
<tr>
<td>2. The Agricultural Extension Organization is responsible for assisting the entire rural social system (production, supply, marketing, governance, research, and education/extension) to develop.</td>
<td>3.30 .66</td>
<td>3.01 .80</td>
</tr>
<tr>
<td>*3. The sponsor (e.g., ministry of agriculture) should establish the policies for agricultural extension programs.</td>
<td>2.44 .84</td>
<td>2.72 .98</td>
</tr>
<tr>
<td>4. The clientele (e.g., small farmers) should establish the policies for agricultural extension programs.</td>
<td>2.37 .84</td>
<td>2.37 .81</td>
</tr>
<tr>
<td>5. A combination of the sponsor and the clientele should establish the policies for agricultural extension program.</td>
<td>3.61 .65</td>
<td>3.60 .70</td>
</tr>
<tr>
<td>6. &quot;Top-down&quot; (i.e., someone at the top of the administrative hierarchy proposes the major ideas) kinds of program development should be used in the Extension Organization.</td>
<td>1.87 .67</td>
<td>1.88 .77</td>
</tr>
<tr>
<td>7. &quot;Bottom-up&quot; (i.e., someone at the lowest level of organization comes up with an idea and passes it up through the organization as a means of program determination) kinds of program development should be used in the Extension Organization.</td>
<td>3.61 .60</td>
<td>3.56 .67</td>
</tr>
<tr>
<td>*9. Highly successful extension programs result when the cost of recommended practices to farmers is low.</td>
<td>2.89 .78</td>
<td>3.21 .77</td>
</tr>
<tr>
<td>10. Highly successful extension programs result when the recommended practices are relatively simple.</td>
<td>3.20 .76</td>
<td>3.28 .77</td>
</tr>
<tr>
<td>11. Highly successful extension programs result when the benefit to farmers is immediate.</td>
<td>3.35 .66</td>
<td>3.32 .78</td>
</tr>
</tbody>
</table>
Table 19 (continued)

<table>
<thead>
<tr>
<th>Policy and Characteristic</th>
<th>Educators (N=101)</th>
<th>Students (N=98)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>12. Highly successful extension programs result when the benefit of recommendation to farmers is high.</td>
<td>3.52</td>
<td>.63</td>
</tr>
<tr>
<td>13. Highly successful extension programs result when the local people select &quot;front line agents&quot;.</td>
<td>2.84</td>
<td>.73</td>
</tr>
<tr>
<td>14. 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 Organization.</td>
<td>3.50</td>
<td>.60</td>
</tr>
</tbody>
</table>

*p < .05 Chi Square
<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A combination of the sponsor and the clientele should establish the policies for agricultural extension programs.</td>
<td>The Agricultural Extension Organization is responsible for providing technical information for producers, marketers, or suppliers of the rural social system.</td>
<td>The sponsor (e.g., ministry of agriculture) should establish the policies for agricultural extension programs.</td>
</tr>
<tr>
<td>A combination of &quot;top-down&quot; and &quot;bottom-up&quot; program development should be used in the Extension Organization.</td>
<td>The Agricultural Extension Organization is responsible for assisting the entire rural social system (production, supply, marketing, governance, research, and education/extension) to develop.</td>
<td>The clientele (e.g., small farmers) should establish the policies for agricultural extension programs.</td>
</tr>
<tr>
<td>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 Organization.</td>
<td>&quot;Bottom-up&quot; (i.e., someone at the lowest level of organization comes up with an idea and passes it up through the organization as a means of program determination) kinds of program development should be used in the Extension Organization.</td>
<td>&quot;Top-down&quot; (i.e., someone at the top of the administrative hierarchy proposes the major ideas) kinds of program development should be used in the Extension Organization.</td>
</tr>
<tr>
<td>Highly successful extension programs result when the cost of recommended practices to farmers is low.</td>
<td>Highly successful extension programs result when the recommended practices are relatively simple.</td>
<td>Highly successful extension programs result when the benefit of recommendation to farmers is high.</td>
</tr>
<tr>
<td>Highly successful extension programs result when the local people select &quot;front line agents&quot;.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*No item was found to be in the "strongly disagree" category.*
<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree *</th>
</tr>
</thead>
<tbody>
<tr>
<td>A combination of the sponsor and the clientele should establish the policies for agricultural extension programs.</td>
<td>The Agricultural Extension Organization is responsible for providing technical information for producers, marketers, or suppliers of the rural social system. The Agricultural Extension Organization is responsible for assisting the entire rural social system (production, supply, marketing, governance, research, and education/extension to develop.</td>
<td>The clientele (e.g., small farmers) should establish the policies for agricultural extension programs. &quot;Top-down&quot; (i.e., someone at the top of the administrative hierarchy proposes the major ideas) kinds of program development should be used in the Extension Organization.</td>
</tr>
<tr>
<td>A combination of &quot;top-down&quot; and &quot;bottom-up&quot; program development should be used in the Extension Organization.</td>
<td>&quot;Bottom-up&quot; (i.e., someone at the lowest level of organization comes up with an idea and passes it up through the organization as a means of program determination) kinds of program development should be used in the Extension Organization.</td>
<td></td>
</tr>
<tr>
<td><strong>Highly successful extension programs result when the cost of recommended practices to farmers is low.</strong></td>
<td>Highly successful extension programs result when the recommended practices are relatively simple.</td>
<td></td>
</tr>
<tr>
<td><strong>Highly successful extension programs result when the recommended practices are relatively simple.</strong></td>
<td>Highly successful extension programs result when the benefit to farmers is immediate.</td>
<td></td>
</tr>
<tr>
<td><strong>Highly successful extension programs result when the benefit of recommendation to farmers is high.</strong></td>
<td>Highly successful extension programs result when the local people select &quot;front line agents&quot;.</td>
<td></td>
</tr>
<tr>
<td><strong>Highly successful extension programs result when the local people select &quot;front line agents&quot;.</strong></td>
<td>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 Organization.</td>
<td></td>
</tr>
</tbody>
</table>

*No item was found to be in the "strongly disagree" category.*
PART IV

Educational Needs of Rural People

The fourth part of the instrument was comprised of seven items. The respondents were provided with the following instructions:

Part IV - The following are some of the educational needs of rural people directly engaged in agriculture which could be fulfilled by the Extension Organization. Would you please indicate your level of agreement/disagreement regarding the ability of the Extension Organization to fulfill these educational needs by circling the appropriate category of:

4 = strongly agree 2 = disagree
3 = agree 1 = strongly disagree

Results from the Extension Educator Group

The total number of 101 extension educators participated in this part of the study. Table 22 shows how they responded to the items in this part of the instrument.

Results from the Graduate International Student Group

Data for this part were obtained from 98 graduate international students of extension education and are presented in Table 23.

Group Comparison

In order to examine the results, the following scale was devised.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.5</td>
<td>2.5</td>
<td>3.5</td>
</tr>
</tbody>
</table>

The level of agreement or disagreement was examined as a continuum; it started with "strongly disagree" and ended in "strongly agree". Data were treated as interval. The mean and standard deviation were calculated for each of the educational needs. In order to
Table 22
Frequency and Percentage Distribution of Responses to Educational Needs of Rural People as Reported by Extension Educators

<table>
<thead>
<tr>
<th>Educational Need</th>
<th>Strongly Agree (f)</th>
<th>Strongly Agree (%)</th>
<th>Agree (f)</th>
<th>Agree (%)</th>
<th>Disagree (f)</th>
<th>Disagree (%)</th>
<th>No Response (f)</th>
<th>No Response (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. General or basic education (e.g., reading, writing, and arithmetic.)</td>
<td>12</td>
<td>11.9</td>
<td>23</td>
<td>22.8</td>
<td>37</td>
<td>36.6</td>
<td>27</td>
<td>26.7</td>
</tr>
<tr>
<td>2. Application of new inputs: varieties, improved farm practices, etc.</td>
<td>74</td>
<td>73.3</td>
<td>25</td>
<td>24.8</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>3. Food storage, processing, and preservation.</td>
<td>59</td>
<td>58.4</td>
<td>36</td>
<td>35.6</td>
<td>4</td>
<td>4.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>4. Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).</td>
<td>60</td>
<td>59.4</td>
<td>36</td>
<td>35.6</td>
<td>3</td>
<td>3.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>5. Civic skills (e.g., knowledge of how cooperatives, local government, and national government function.)</td>
<td>25</td>
<td>24.8</td>
<td>56</td>
<td>55.4</td>
<td>15</td>
<td>14.9</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>6. Supplementary skills for farm maintenance and improvement.</td>
<td>42</td>
<td>41.6</td>
<td>54</td>
<td>53.5</td>
<td>3</td>
<td>3.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>7. Farm business management.</td>
<td>59</td>
<td>58.4</td>
<td>37</td>
<td>36.6</td>
<td>2</td>
<td>2.0</td>
<td>1</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Educators (N = 101)
### Table 23
Frequency and Percentage Distribution of Responses to Educational Needs of Rural People as Reported by Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Educational Need</th>
<th>Strongly Agree (f)</th>
<th>Strongly Agree (%)</th>
<th>Agree (f)</th>
<th>Agree (%)</th>
<th>Disagree (f)</th>
<th>Disagree (%)</th>
<th>Strongly Disagree (f)</th>
<th>Strongly Disagree (%)</th>
<th>No Response (f)</th>
<th>No Response (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. General or basic education (e.g., reading, writing, and arithmetic.</td>
<td>28</td>
<td>28.6</td>
<td>32</td>
<td>32.7</td>
<td>24</td>
<td>24.5</td>
<td>14</td>
<td>14.3</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>2. Application of new inputs: varieties, improved farm practices, etc.</td>
<td>78</td>
<td>79.6</td>
<td>19</td>
<td>19.4</td>
<td>1</td>
<td>1.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>3. Food storage, processing, and preservation.</td>
<td>47</td>
<td>48.0</td>
<td>44</td>
<td>44.9</td>
<td>5</td>
<td>5.1</td>
<td>2</td>
<td>2.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>4. Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).</td>
<td>53</td>
<td>54.1</td>
<td>34</td>
<td>34.7</td>
<td>10</td>
<td>10.2</td>
<td>1</td>
<td>1.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>5. Civic skills (e.g., knowledge of how cooperatives, local government, and national government function).</td>
<td>22</td>
<td>22.4</td>
<td>47</td>
<td>48.0</td>
<td>25</td>
<td>25.5</td>
<td>4</td>
<td>4.1</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>6. Supplementary skills for farm maintenance and improvement.</td>
<td>46</td>
<td>46.9</td>
<td>47</td>
<td>48.0</td>
<td>5</td>
<td>5.1</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>7. Farm business management.</td>
<td>43</td>
<td>43.9</td>
<td>48</td>
<td>49.0</td>
<td>6</td>
<td>6.1</td>
<td>1</td>
<td>1.0</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
compare the two groups with each other, the Chi Square procedure was chosen and implemented. The results are presented in Table 24.

Table 24
Means and Standard Deviations for Each of the Educational Needs of Rural People and Capability of the Extension Organization in Fulfilling Them as Reported by Extension Educators and Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Educational Need</th>
<th>Educators (N=101)</th>
<th>Students (N=98)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. General or basic education (e.g., reading, writing, and arithmetic).</td>
<td>2.20 .98</td>
<td>2.75 1.03</td>
</tr>
<tr>
<td>2. Application of new inputs: varieties, improved farm practices, etc.</td>
<td>3.74 .44</td>
<td>3.78 .49</td>
</tr>
<tr>
<td>3. Food storage, processing, and preservation.</td>
<td>3.56 .57</td>
<td>3.39 .68</td>
</tr>
<tr>
<td>4. Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).</td>
<td>3.57 .55</td>
<td>3.42 .72</td>
</tr>
<tr>
<td>5. Civic skills (e.g., knowledge of how cooperatives, local government, and national government function).</td>
<td>3.06 .70</td>
<td>2.89 .80</td>
</tr>
<tr>
<td>6. Supplementary skills for farm maintenance and improvement.</td>
<td>3.40 .55</td>
<td>3.42 .60</td>
</tr>
<tr>
<td>7. Farm business management.</td>
<td>3.55 .59</td>
<td>3.36 .65</td>
</tr>
</tbody>
</table>

*p < .05 Chi square

The mean scores were used to rank and categorize the seven educational needs. Tables 25 and 26 present the results.
Table 25
Rank Order of Agreeable or Disagreeable Educational Needs of Rural People and Capability of the Extension Organization in Fulfilling Them as Reported by the Extension Educators

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of new inputs: varieties, improved farm practices, etc.</td>
<td>Supplementary skills for farm maintenance and improvement.</td>
<td>General or basic education (e.g., reading, writing, and arithmetic).</td>
</tr>
<tr>
<td>Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).</td>
<td>Civic skills (e.g., knowledge of how cooperatives, local government, and national government functions).</td>
<td></td>
</tr>
<tr>
<td>Food storage, processing, and preservation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm business management.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*No item was found to be in the "strongly disagree" category.
Table 26
Rank Order of Agreeable or Disagreeable Educational Needs of Rural People and Capability of the Extension Organization in Fulfilling Them as Reported by Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of new inputs: varieties, improved farm practices, etc.</td>
<td>Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).</td>
</tr>
<tr>
<td></td>
<td>Supplementary skills for farm maintenance and improvement.</td>
</tr>
<tr>
<td></td>
<td>Farm business management</td>
</tr>
<tr>
<td></td>
<td>Food storage, processing, and preservation.</td>
</tr>
<tr>
<td></td>
<td>Civic skills (e.g., knowledge of how cooperatives, local government, and national government function).</td>
</tr>
<tr>
<td></td>
<td>General or basic education (e.g., reading, writing, and arithmetic).</td>
</tr>
</tbody>
</table>

*No item was found to be in either the "disagree" or "strongly disagree" category.

The only significant difference between the two groups was observed in relation to the first selected educational need of rural people. Graduate international students of extension education agreed that the Extension Organization could provide rural people with general or basic education; extension educators disagreed. Both groups strongly agreed that the Extension Organization could teach rural people how to use new varieties, farm practices, and the like.
PART V
Profile of the Respondents

The fifth part of the instrument was designed to collect demographic information from the respondents.

Extension Educators

One hundred and one extension educators at 26 Land-Grant universities completed and returned the questionnaire to the researcher before the deadline. The following tables present some of the characteristics of the extension educators.

<table>
<thead>
<tr>
<th>Age</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 and below</td>
<td>3</td>
<td>3.1</td>
</tr>
<tr>
<td>31-40</td>
<td>26</td>
<td>26.5</td>
</tr>
<tr>
<td>41-50</td>
<td>35</td>
<td>35.7</td>
</tr>
<tr>
<td>51-60</td>
<td>23</td>
<td>23.5</td>
</tr>
<tr>
<td>61 and above</td>
<td>11</td>
<td>11.2</td>
</tr>
<tr>
<td>Total</td>
<td>98*</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean = 47     S.D. = 9.5
*Three of the extension educators did not report their age.

<table>
<thead>
<tr>
<th>Sex</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>92</td>
<td>91.1</td>
</tr>
<tr>
<td>Female</td>
<td>9</td>
<td>8.9</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100.0</td>
</tr>
</tbody>
</table>
### Table 29
**Academic Rank of the Extension Educators**

<table>
<thead>
<tr>
<th>Rank</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>54</td>
<td>53.5</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>22</td>
<td>21.8</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>23</td>
<td>22.8</td>
</tr>
<tr>
<td>Instructor</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Lecturer</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>101</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Table 30
**Area of Specialty of the Extension Educators**

<table>
<thead>
<tr>
<th>Area of Specialty</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Development</td>
<td>18</td>
<td>17.8</td>
</tr>
<tr>
<td>Research and Evaluation</td>
<td>5</td>
<td>5.0</td>
</tr>
<tr>
<td>Administration and Supervision</td>
<td>27</td>
<td>26.7</td>
</tr>
<tr>
<td>Youth Programs</td>
<td>7</td>
<td>6.9</td>
</tr>
<tr>
<td>Technical (e.g., agronomy)</td>
<td>24</td>
<td>23.8</td>
</tr>
<tr>
<td>General</td>
<td>17</td>
<td>16.8</td>
</tr>
<tr>
<td>None</td>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>101</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 31
Years of Work Experience in Extension Education
Reported by the Extension Educators

<table>
<thead>
<tr>
<th>Year</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero</td>
<td>8</td>
<td>8.2</td>
</tr>
<tr>
<td>1-10</td>
<td>29</td>
<td>29.9</td>
</tr>
<tr>
<td>11-20</td>
<td>33</td>
<td>34.0</td>
</tr>
<tr>
<td>21-30</td>
<td>20</td>
<td>20.7</td>
</tr>
<tr>
<td>31-40</td>
<td>6</td>
<td>6.2</td>
</tr>
<tr>
<td>41 and above</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>97*</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean = 15; S.D. = 10.2
*Four of the extension educators did not report their years of work experience in Extension

Table 32
Years of Teaching Extension Education Courses
Reported by the Extension Educators

<table>
<thead>
<tr>
<th>Year</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero</td>
<td>13</td>
<td>13.0</td>
</tr>
<tr>
<td>1-10</td>
<td>61</td>
<td>61.0</td>
</tr>
<tr>
<td>11-20</td>
<td>20</td>
<td>20.0</td>
</tr>
<tr>
<td>21-30</td>
<td>6</td>
<td>6.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100*</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean = 7.7; S.D. = 6.9
*One of the extension educators did not report years teaching extension education courses

The majority of the respondents (67.3 percent) reported to have had student advisees from Third World countries.
More than half of the extension educators (53.5 percent) were found to have had some kind of experience gained outside the United States. However, only 29.7 percent reported to have had overseas work experience in extension education.

Less than half of the extension educators (41.6 percent) indicated they had some proficiency in a language other than English.

**Graduate International Students of Extension Education**

Ninety-eight graduate international students in extension education from 33 countries provided the researcher with the necessary data. A summary of some of their characteristics is presented in the following tables.

<table>
<thead>
<tr>
<th>Age</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-25</td>
<td>4</td>
<td>4.1</td>
</tr>
<tr>
<td>26-30</td>
<td>29</td>
<td>30.2</td>
</tr>
<tr>
<td>31-35</td>
<td>34</td>
<td>35.4</td>
</tr>
<tr>
<td>36-40</td>
<td>23</td>
<td>24.1</td>
</tr>
<tr>
<td>41-45</td>
<td>4</td>
<td>4.1</td>
</tr>
<tr>
<td>46 and above</td>
<td>2</td>
<td>2.1</td>
</tr>
<tr>
<td>Total</td>
<td>96*</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean = 33; S.D. = 4.9
*Two of the students did not report their age.
Table 34
Sex of the Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Sex</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>89</td>
<td>90.8</td>
</tr>
<tr>
<td>Female</td>
<td>9</td>
<td>9.2</td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 35
Origin of the Graduate International Students of Extension Education by the Continent

<table>
<thead>
<tr>
<th>Continent</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>50</td>
<td>51.0</td>
</tr>
<tr>
<td>Africa</td>
<td>35</td>
<td>35.7</td>
</tr>
<tr>
<td>America</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South</td>
<td>7</td>
<td>7.1</td>
</tr>
<tr>
<td>Latin</td>
<td>6</td>
<td>6.1</td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 36
National Origin of the Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Country</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Bolivia</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Cameroon</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>El Salvador</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Gambia</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Ghana</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Guinea</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Honduras</td>
<td>4</td>
<td>4.1</td>
</tr>
<tr>
<td>Country</td>
<td>( f )</td>
<td>( % )</td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>India</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Indonesia</td>
<td>4</td>
<td>4.1</td>
</tr>
<tr>
<td>Iran</td>
<td>6</td>
<td>6.1</td>
</tr>
<tr>
<td>Iraq</td>
<td>3</td>
<td>3.1</td>
</tr>
<tr>
<td>Kenya</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Lesotho</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Liberia</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Malaysia</td>
<td>11</td>
<td>11.2</td>
</tr>
<tr>
<td>Nepal</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Nigeria</td>
<td>15</td>
<td>15.3</td>
</tr>
<tr>
<td>Paraguay</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Philippines</td>
<td>4</td>
<td>4.1</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Senegal</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>3</td>
<td>3.1</td>
</tr>
<tr>
<td>Sudan</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Swaziland</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Tanzania</td>
<td>5</td>
<td>5.1</td>
</tr>
<tr>
<td>Thailand</td>
<td>7</td>
<td>7.1</td>
</tr>
<tr>
<td>Venezuela</td>
<td>4</td>
<td>4.1</td>
</tr>
<tr>
<td>Yemen Arab Republic</td>
<td>3</td>
<td>3.1</td>
</tr>
<tr>
<td>Zauri</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>98</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 37
Area of Specialty as Reported by the Graduate International Students of Extension Education

<table>
<thead>
<tr>
<th>Area</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Development</td>
<td>20</td>
<td>20.4</td>
</tr>
<tr>
<td>Research and Evaluation</td>
<td>6</td>
<td>6.1</td>
</tr>
<tr>
<td>Administration and Supervision</td>
<td>14</td>
<td>14.3</td>
</tr>
<tr>
<td>Youth Programs</td>
<td>3</td>
<td>3.1</td>
</tr>
<tr>
<td>General</td>
<td>21</td>
<td>21.4</td>
</tr>
<tr>
<td>Technical (e.g., communication)</td>
<td>5</td>
<td>5.1</td>
</tr>
<tr>
<td>Not Determined</td>
<td>29</td>
<td>29.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>98</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The majority of the graduate international students of extension education (61.2 percent) reported they were in the master's program.

More than half of the graduate international students of extension education (56.1 percent) received their Bachelor's degrees in their home countries; 36.7 percent earned this degree in the United States and the remaining 7.1 percent reported to have conducted their undergraduate study in a third country.

Thirty-eight of the international graduate students of extension education were found to be in the Doctoral program. The majority of them (76.3 percent) got their Master's degrees in the United States. Seven (18.4 percent) and two (5.3 percent) indicated to have completed their Master's study in the home country and in a third country, respectively.

The number of years studying in the United States, as reported by the graduate international students of extension education, ranged from
one to eight years, with 3.1 as the mean and 1.0 as the standard deviation.

The majority of the graduate international students of extension education (73.5 percent) reported to have acquired work experience in the Extension Service in their home countries. However, only 21.4 percent indicated they had some kind of practical experience with the Cooperative Extension Service in the United States. Out of those without the experience, 88.3 percent indicated to be willing to acquire work experience in the Cooperative Extension Service.

The majority of the graduate international students of extension education (89.8 percent) reported they were satisfied with their academic programs in the United States.

PART VI

Relationship Between the Characteristics of the Respondents and Their Responses to the Instrument

Results From the Extension Educator Group

For each of the first four parts of the instrument, a mean score was calculated for each respondent. Correlation coefficients were calculated for each respondent's four mean scores and each characteristic. The mean scores were treated as interval data. There were questions in regard to 11 characteristics in the instrument; 10 of them were included in the analysis. Table 38 shows the 10 characteristics, their scales of measurement, and the type of correlation coefficient used.
Table 38  
Characteristics of the Extension Educators  
Used in the Measurement of the Correlation Coefficients

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Scale of Measurement</th>
<th>Correlation Coefficient*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Rank</td>
<td>Ordinal</td>
<td>Kendall Tau B</td>
</tr>
<tr>
<td>Area of Specialty in Extension Education</td>
<td>Nominal</td>
<td>Pearson product-moment Correlation</td>
</tr>
<tr>
<td>Years of Work Experience in Extension Education</td>
<td>Interval</td>
<td>Pearson product-moment Correlation</td>
</tr>
<tr>
<td>Years Teaching Extension Education Courses</td>
<td>Interval</td>
<td>Pearson product-moment Correlation</td>
</tr>
<tr>
<td>Having Student Advisees from Third World</td>
<td>Ordinal</td>
<td>Kendall Tau B</td>
</tr>
<tr>
<td>Overseas Experience</td>
<td>Ordinal</td>
<td>Kendall Tau B</td>
</tr>
<tr>
<td>Overseas Experience in Extension Education</td>
<td>Ordinal</td>
<td>Kendall Tau B</td>
</tr>
<tr>
<td>Proficiency in a Foreign Language</td>
<td>Ordinal</td>
<td>Kendall Tau B</td>
</tr>
<tr>
<td>Age</td>
<td>Interval</td>
<td>Pearson product-moment Correlation</td>
</tr>
<tr>
<td>Sex</td>
<td>Nominal</td>
<td>Pearson product-moment Correlation</td>
</tr>
</tbody>
</table>

*Warmbrod, 1981
The following scale, suggested by Davis (1971), was used to describe the magnitude of relationship between variables.

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>.70 or higher</td>
<td>Very strong relationship (association)</td>
</tr>
<tr>
<td>.50 to .69</td>
<td>Substantial relationship</td>
</tr>
<tr>
<td>.30 to .49</td>
<td>Moderate relationship</td>
</tr>
<tr>
<td>.10 to .29</td>
<td>Low relationship</td>
</tr>
<tr>
<td>.01 to .09</td>
<td>Negligible relationship</td>
</tr>
</tbody>
</table>

Scatter diagrams were constructed in order to assess the linearity and homoscedasticity of the relationships; the relationships were found to be linear and homoscedastic. Therefore, the assumptions for the appropriate correlations were met.

As shown in Table 39, all the correlation coefficients fell in the negligible and low relationship categories.

Results From the Graduate International Student Group

The same procedure was utilized for the graduate international student group. Table 40 shows the selected characteristics, their scales of measurement, and the type of correlation coefficient used.

The same scale was adopted to describe the magnitude of association between variables. Scatter plots indicated the linearity and homoscedasticity of the relationships.

All the correlation coefficients were either negligible or low; they are shown in Table 41.
Table 39  
Correlation Matrix Between Characteristics of Respondents  
and Each Respondent's Four Mean Scores for the Extension Educators

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Rank</th>
<th>Area of Specialty</th>
<th>Years Working with Extension</th>
<th>Years Teaching Extension Education Courses</th>
<th>Having Student Advisees from the Third World</th>
<th>Overseas Experience</th>
<th>Overseas Experience in Extension</th>
<th>Foreign Language Proficiency</th>
<th>Age</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part I - Program Development Processes</td>
<td>-.009&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.030&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.05&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.11&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.13&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.09&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.14&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.13&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.16&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.21&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Part II - Course Topics</td>
<td>.002&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.028&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.20&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.27&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.10&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.04&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.020&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.08&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.26&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.21&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Part III - Policies and Characteristics</td>
<td>-.04&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.24&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.09&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.06&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.20&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.18&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.10&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.10&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.09&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.22&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Part IV - Educational Needs of Rural People</td>
<td>-.03&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.02&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.12&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.07&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.15&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.024&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.17&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.06&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.001&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.01&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup> = Pearson Product-Moment Correlation Coefficient  
<sup>b</sup> = Kendall Tau C  
<sup>c</sup> = Kendall Tau B
### Table 40
Characteristics of the Graduate International Students Used in the Measurement of the Correlation Coefficients

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Scale of Measurement</th>
<th>Correlation Coefficient*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Continent</td>
<td>Nominal</td>
<td>Pearson product-moment Correlation</td>
</tr>
<tr>
<td>Type of the Program</td>
<td>Ordinal</td>
<td>Kendall Tau C</td>
</tr>
<tr>
<td>Years Studying in the United States</td>
<td>Interval</td>
<td>Pearson product-moment Correlation</td>
</tr>
<tr>
<td>Place Received the B.S.</td>
<td>Nominal</td>
<td>Pearson product-moment Correlation</td>
</tr>
<tr>
<td>Place Received the M.S.</td>
<td>Nominal</td>
<td>Pearson product-moment Correlation</td>
</tr>
<tr>
<td>Area of Specialty in Extension Education</td>
<td>Nominal</td>
<td>Pearson product-moment Correlation</td>
</tr>
<tr>
<td>Work Experience in Extension Education at Home</td>
<td>Ordinal</td>
<td>Kendall Tau C</td>
</tr>
<tr>
<td>Work Experience in Extension Education in the United States</td>
<td>Ordinal</td>
<td>Kendall Tau C</td>
</tr>
<tr>
<td>Satisfaction with the Academic Program</td>
<td>Ordinal</td>
<td>Kendall Tau C</td>
</tr>
<tr>
<td>Age</td>
<td>Interval</td>
<td>Pearson product-moment Correlation</td>
</tr>
<tr>
<td>Sex</td>
<td>Nominal</td>
<td>Pearson product-moment Correlation</td>
</tr>
</tbody>
</table>

*Warmbrod, 1981*
Table 41
Correlation Matrix Between Characteristics of Respondents and Each Respondent's Four Mean Scores for the Graduate International Students

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Mean Scores</th>
<th>Home Continent</th>
<th>M.S. or Ph.D.</th>
<th>Years Studying in the United States</th>
<th>Place got the B.S.</th>
<th>Place got the M.S.</th>
<th>Area of Specialty</th>
<th>Experience in Extension at Home</th>
<th>Experience in Extension in the United States</th>
<th>Satisfaction with the Academic Program</th>
<th>Age</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part I - Program Development Processes</td>
<td>.03&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.09&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.03&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.06&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.02&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.07&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.03&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.06&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.04&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.06&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.18&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Part II - Course Topics</td>
<td>.09&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.15&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.23&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.07&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.22&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.12&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.18&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.10&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.004&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.02&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.01&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Part III - Policies and Characteristics</td>
<td>-.09&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.028&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.01&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.015&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.03&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.015&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.02&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.08&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.04&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.07&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.04&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Part IV - Educational Needs of Rural People</td>
<td>.01&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.14&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.16&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.04&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.15&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.007&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.06&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.09&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.03&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.07&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.06&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> = Pearson Product-Moment Correlation Coefficient  
<sup>b</sup> = Kendall Tau C
Chapter Summary

The population of the study was comprised of 108 extension educators and 115 graduate international students of extension education at 26 Land-Grant universities. Data were collected from 101 educators (93.5 percent) and 98 students (85.2 percent), keypunched onto cards, and analyzed by means of Statistical Package for the Social Sciences (Nie et al., 1975). Descriptive statistics were used to analyze the data.

Both groups agreed that the following processes related to extension program are "very important" and an extension program planner should be able to perform them.

1. Extension program planners should have an understanding of the administrative framework in which they are expected to operate.

2. Extension program planners should be able to plan realistic and meaningful educational programs based upon the specific analysis of situations, concerns, interests, and needs of clients.

3. Extension program planners should be able to design and implement appropriate educational programs and plans of work.

4. Extension program planners should be able to carry out planned educational programs.

5. Extension program planners should be able to assess the effects of extension programs and adjust them to conform with the results of evaluation efforts.

Both groups were asked to rank the order of importance of 20 course topics related to extension education.

The extension educator group reported the following to be "essential" and "desirable" course topics.
Essential

- Program Planning and Development
- Evaluation of Extension Programs
- Teaching Methods and Techniques
- Administration and Supervision of Extension Programs

Desirable

- Extension Methods for Third World Countries
- Adult Learning Theories
- Diffusion of Information on Agricultural Technology
- Use of Visual Materials in Communication of Agricultural Concepts
- Educational Programs in Agriculture for Third World Countries
- Staff Development
- Internship in Cooperative Extension Service
- Research Methods and Design
- General Statistics; Analysis and Interpretation of Data
- Rural Community Development
- Education for Rural Development
- Agriculture in Third World Countries
- World Food and Population Problems
- Concepts and Theories in Rural Sociology
- Youth Program Management
- World Food Economics

The "essential" and "desirable" course topics as reported by the graduate international student group were as follows:

Essential

- Program Planning and Development
- Evaluation of Extension Programs
- Administration and Supervision of Extension Programs
- Teaching Methods and Techniques
- Diffusion of Information on Agricultural Technology
- Research Methods and Design
- Use of Visual Materials in Communication of Agricultural Concepts

Desirable

- Rural Community Development
- Adult Learning Theories
- Staff Development
- Extension Methods for Third World Countries
- General Statistics; Analysis and Interpretation of Data
- Education for Rural Development
- Educational Programs in Agriculture for Third World Countries
- Internship in Cooperative Extension Service
- Concepts and Theories in Rural Sociology
- Agriculture in Third World Countries
- Youth Program Management
- World Food and Population Problems
- World Food Economics

Both groups were asked to indicate whether they agreed or disagreed with a selected policies and characteristics of the Extension Organization in the context of the Third World. Their responses were as follows.

**Educators**

**Strongly Agree**

- A combination of the sponsor and the clientele should establish the policies for agricultural extension programs.

- A combination of "top-down" and "bottom-up" program development should be used in the Extension Organization.

- 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 Organization.

**Agree**

- The Agricultural Extension Organization is responsible for providing technical information for producers, marketers, or suppliers of the rural social system.

- The Agricultural Extension Organization is responsible for assisting the entire rural social system (production, supply, marketing, governance, research, and education/extension to develop.

- "Bottom-up" (i.e., someone at the lowest level of organization comes up with an idea and passes it up through the organization as a means of program determination) kinds of program development should be used in the Extension Organization.

- Highly successful extension programs result when the cost of recommended practices to farmers is low.
- Highly successful extension programs result when the recommended practices are relatively simple.
- Highly successful extension programs result when the benefit to farmers is immediate.
- Highly successful extension programs result when the benefit of recommendation to farmers is high.
- Highly successful extension programs result when the local people select "front line agents".

Disagree

- The sponsor (e.g., ministry of agriculture) should establish the policies for agricultural extension programs.
- The clientele (e.g., small farmers) should establish the policies for agricultural extension programs.
- "Top-down" (i.e., someone at the top of the administrative hierarchy proposes the major ideas) kinds of program development should be used in the Extension Organization.

Students

Strongly Agree

- A combination of the sponsor and the clientele should establish the policies for agricultural extension programs.
- A combination of "top-down" and "bottom-up" program development should be used in the Extension Organization.

Agree

- The Agricultural Extension Organization is responsible for providing technical information for producers, marketers, or suppliers of the rural social system.
- The Agricultural Extension Organization is responsible for assisting the entire rural social system (production, supply, marketing, governance, research, and education/extension) to develop.
- The sponsor (e.g., ministry of agriculture) should establish the policies for agricultural extension programs.
- "Bottom-up" (i.e., someone at the lowest level of organization comes up with an idea and passes it up through the organization as a means of program determination) kinds of program development should be used in the Extension Organization.
- Highly successful extension programs result when the cost of recommended practices to farmers is low.
- Highly successful extension programs result when the recommended practices are relatively simple.
- Highly successful extension programs result when the benefit to farmers is immediate.
- Highly successful extension programs result when the benefit of recommendation to farmers is high.
- Highly successful extension programs result when the local people select "front line agents".
- 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 Organization.

Disagree

- The clientele (e.g., small farmers) should establish the policies for agricultural extension programs.
- "Top-down" (i.e., someone at the top of the administrative hierarchy proposes the major ideas) kinds of program development should be used in the Extension Organization.

Both groups were provided with seven educational needs of rural people and asked to indicate whether they agreed or disagreed with the notion that the Extension Organization could fulfill the educational needs. Their responses were as follows:

**Educators**

**Strongly Agree**

- Application of new inputs: varieties, improved farm practices, etc.
- Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).
- Food storage, processing, and preservation.
- Farm business management.
Agree
- Supplementary skills for farm maintenance and improvement.

- Civic skills (e.g., knowledge of how cooperatives, local government, and national government function).

Disagree
- General or basic education (e.g., reading, writing, and arithmetic).

Students

Strongly Agree
- Application of new inputs: varieties, improved farm practices, etc.

Agree
- Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).

- Supplementary skills for farm maintenance and improvement.

- Farm business management.

- Food storage, processing, and preservation.

- Civic skills (e.g., knowledge of how cooperatives, local government, and national government function).

- General or basic education (e.g., reading, writing, and arithmetic).

A mean score for each of the first four parts of the instrument was calculated. The mean scores were compared through the use of Chi Square procedure. Table 42 shows the results.

Between the two groups, the only significant difference was observed in relation to the first part of the instrument. Although both groups identified the five processes related to extension program development as being very important, the graduate international students scored them higher than the extension educator group.
Table 42
Mean Score for the First Four Parts of the Instrument

<table>
<thead>
<tr>
<th>Part</th>
<th>Educators (N=101)</th>
<th>Students (N=98)</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Part I - Program Development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Processes</td>
<td>3.18</td>
<td>3.87</td>
</tr>
<tr>
<td>Part II - Course Topics</td>
<td>3.37</td>
<td>3.22</td>
</tr>
<tr>
<td>Part III - Policies and Characteristics</td>
<td>3.04</td>
<td>3.04</td>
</tr>
<tr>
<td>Part IV - Educational Needs of Rural People</td>
<td>3.28</td>
<td>3.29</td>
</tr>
</tbody>
</table>

*p < .05, Chi Square
CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS

The Purpose

This study was designed to describe extension education as perceived by educators and graduate international students of extension education. The following research question was adopted to provide the focus of the study:

From university preparation to field practice, what is an effective extension education program as perceived by extension educators and selected international students of extension education?

Six subquestions were developed to guide the study. They were:

1. Was there a difference between the perceptions of extension educators and selected international students of extension education as to what constitutes an effective college preparation program for extension education?

2. Was there a difference between the perceptions of extension educators and selected international students of extension education as to what constitutes an effective extension program for the rural Third World?

3. What were some of the characteristics of extension educators?

4. What were some of the characteristics of selected international students of extension education?

5. Was there a relationship between the characteristics of extension educators and selected international students of extension and their perceptions about an effective extension education program, in the field and in the college, in the context of the Third World?

6. What could be a model college preparation program for graduate students in extension education from the Third World?
Methodology

This was a descriptive survey research of a comparative nature; it was a census study.

Population. The target population included 108 extension educators and 115 graduate international students of extension education at 26 Land-Grant universities.

Instrumentation. Two five-part survey instruments were developed by the researcher. The content validity, reliability, and utility of the instruments were tested at The Ohio State University. Parts one and two were related to college preparation programs in extension education. Parts three and four contained selected policies and characteristics of the Extension Organization in the context of the Third World. Part five was designed to gather demographic information about the respondents.

Data Collection. The data for this study were collected through the use of a mail questionnaire in November and December of 1982. After conducting a series of follow-up procedures, 93.5 percent of the extension educators and 85.2 percent of the graduate international students of extension education completed and returned the questionnaire to the researcher before the deadline. A 10 percent random sample of the non-respondents (one educator and two students) were telephone surveyed in order to assess any possible differences between the respondents and nonrespondents. No significant difference was observed; therefore, findings and results of the study were generalizable to the entire population.

Data Analysis. Since this was a census study, only descriptive statistics were employed. The data were coded, keypunched onto cards,
and analyzed by means of Statistical Package for the Social Sciences (Nie et al., 1975) available at the Instruction and Research Computer Center at The Ohio State University. The following statistics were used: frequencies, percentages, measures of central tendency, and measures of variability. The Chi Square procedure was utilized to compare the extension educator group with the graduate international student of extension education group. Pearson product-moment correlation coefficient and Kendall Tau coefficient were found appropriate to describe the degree or magnitude of relationships between the selected characteristics of the respondents and their perceptions of extension education.

Summary of the Findings

Profile of the Extension Educator Group

There were 101 extension educators at 26 Land-Grant universities who responded to the questionnaire and returned it to the researcher before the deadline. The age of the educators ranged from 29 to 66 years; the average age was 47 years old. The majority (91.1 percent) of the educators were male. More than half of the educators (53.5 percent) had professorial rank. The average educator had 15 years of work experience in extension education, with a range from zero to 41 years. Years of teaching extension education courses as reported by the educators ranged from zero to 30, with 7.7 years as the mean and 6.9 as the standard deviation. The majority of the educators (53.5 percent) had some kind of overseas experience; however, only 29.7 percent had work experience in extension education outside the United States. Less than half of the educators (41.6 percent) had some proficiency in a foreign language.
Profile of the Graduate International Student Group

There were 98 graduate international students from 33 countries who provided necessary data. Fifty-one percent of the students were from Asia, 35.7 percent from Africa, and 13.2 percent from South and Latin America. The age of the students ranged from 24 to 46 years, with 33 as the average age and 4.9 as the standard deviation. The majority of the students (90.8 percent) were male. Sixty of the students (61.2 percent) were in the Master's program, while thirty-eight (38.8 percent) were in the Doctoral program. The number of years studying in the United States ranged from one to eight years, with 3.1 as the mean and 1.9 as the standard deviation. While 73.5 percent of the students had work experience in extension education in their home countries, only 21.4 percent were found to have had practical training in the United States; 88.3 percent of them indicated to be willing to acquire work experience while studying in the United States. The majority of the students (89.8 percent) reported to be satisfied with their academic programs in the United States.

Part I - Extension Program Development Processes

The Extension Educator Group. The educators perceived all the processes related to extension program development to be "very important". The mean scores were used to rank the processes according to their level of importance. The results were as follows.

1. Program Determination - Extension program planners should be able to plan realistic and meaningful educational programs based upon the specific analysis of situations, concerns, interests, and needs of clients.
2. **Program Strategy** - Extension program planners should be able to design and implement appropriate educational programs and plans of work.

3. **Institutional Framework** - Extension program planners should have an understanding of the administrative framework in which they are expected to operate.

4. **Program Evaluation** - Extension program planners should be able to assess the effects of extension programs and adjust them to conform with the results of evaluation efforts.

5. **Program Action** - Extension program planners should be able to carry out planned educational programs.

The relationships between the selected characteristics of the educators and their responses to this part of the instrument were found to be either negligible or low.

The **Graduate International Student Group**. The students also perceived the processes to be "very important". However, the mean scores revealed that the order of the importance level was different from the one reported by the educators. The order of the processes according to the students was as follows.

1. **Program Determination** - Extension program planners should be able to plan realistic and meaningful educational programs based upon the specific analysis of situations, concerns, interests, and needs of clients.

2. **Institutional Framework** - Extension program planners should have an understanding of the administrative framework in which they are expected to operate.

3. **Program Evaluation** - Extension program planners should be able
to assess the effects of extension programs and adjust them to conform with the results of evaluation efforts.

4. Program Strategy - Extension program planners should be able to design and implement appropriate educational programs and plans of work.

5. Program Action - Extension program planners should be able to carry out planned educational programs.

Relationships between the selected characteristics of students and their perceptions of the importance level of the processes were observed to be either negligible or low.

Part II - Course Topics in Extension Education

The Extension Educator Group. The extension educators determined taking courses about the following topics to be either essential or desirable for graduate students of extension education from Third World countries.

**Essential**

Program Planning and Development
Evaluation of Extension Programs
Teaching Methods and Techniques
Administration and Supervision of Extension Programs

**Desirable**

Extension Methods for Third World Countries
Adult Learning Theories
Diffusion of Information on Agricultural Technology
Use of Visual Materials in Communication of Agricultural Concepts
Educational Programs in Agriculture for Third World Countries
Staff Development
Internship in Cooperative Extension Service
Research Methods and Design
General Statistics; Analysis and Interpretation of Data
Rural Community Development
Education for Rural Development
Agriculture in Third World Countries
World Food and Population Problems
Concepts and Theories in Rural Sociology
Youth Program Management
World Food Economics

There was no moderate, substantial, or strong relationship between how important the educators perceived the course topics to be and their selected characteristics.

The Graduate International Student Group. The students identified the following to be essential and desirable course topics in extension education

Essential
Program Planning and Development
Evaluation of Extension Programs
Administration and Supervision of Extension Programs
Teaching Methods and Techniques
Diffusion of Information on Agricultural Technology
Research Methods and Design
Use of Visual Materials in Communication of Agricultural Concepts
Desirable
Rural Community Development
Adult Learning Theories
Staff Development
Extension Methods for Third World Countries
General Statistics; Analysis and Interpretation of Data
Education for Rural Development
Educational Programs in Agriculture for Third World Countries
Internship in Cooperative Extension Service
Concepts and Theories in Rural Sociology
Agriculture in Third World Countries
Youth Program Management
World Food and Population Problems
World Food Economics

No strong relationship was observed in regard to how important the course topics were perceived to be and the selected characteristics of the students; all the relationships were either negligible or low.

Part III - Policies and Characteristics of the Extension Organization

The Extension Educator Group. The educators reported their level of agreement or disagreement about 14 selected policies and characteristics of the Extension Organization in the context of the Third World. Their responses which were not strongly related to their selected characteristics were ranked based on the mean scores and were as follows:

Strongly Agree

A combination of the sponsor and the clientele should establish the policies for agricultural extension programs.
A combination of "top-down" and "bottom-up" program development should be used in the Extension Organization.

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 Organization.

Agree

The Agricultural Extension Organization is responsible for providing technical information for producers, marketers, or suppliers of the rural social system.

The Agricultural Extension Organization is responsible for assisting the entire rural social system (production, supply, marketing, governance, research, and education/extension) to develop.

"Bottom-up" (i.e., someone at the lowest level of organization comes up with an idea and passes it up through the organization as a means of program determination) kinds of program development should be used in the Extension Organization.

Highly successful extension programs result when the cost of recommended practices to farmers is low.

Highly successful extension programs result when the recommended practices are relatively simple.

Highly successful extension programs result when the benefit to farmers is immediate.

Highly successful extension programs result when the benefit of recommendation to farmers is high.

Highly successful extension programs result when the local people select "front line agents".

Disagree

The sponsor (e.g., ministry of agriculture) should establish the policies for agricultural extension programs.

The clientele (e.g., small farmers) should establish the policies for agricultural extension programs.

"Top-down" (i.e., someone at the top of the administrative hierarchy proposes the major ideas) kinds of program development should be used in the Extension Organization.
The Graduate International Student Group. The rank order of the level of agreement or disagreement about the selected policies and characteristics as reported by the students was as follows:

**Strongly Agree**

A combination of the sponsor and the clientele should establish the policies for agricultural extension programs.

A combination of "top-down" and "bottom-up" program development should be used in the Extension Organization.

**Agree**

The Agricultural Extension Organization is responsible for providing technical information for producers, marketers, or suppliers of the rural social system.

The Agricultural Extension Organization is responsible for assisting the entire rural social system (production, supply, marketing, governance, researcher, and education/extension) to develop.

The sponsor (e.g., ministry of agriculture) should establish the policies for agricultural extension programs.

"Bottom-up" (i.e., someone at the lowest level of organization comes up with an idea and passes it up through the organization as a means of program determination) kinds of program development should be used in the Extension Organization.

Highly successful extension programs result when the cost of recommended practices to farmers is low.

Highly successful extension programs result when the recommended practices are relatively simple.

Highly successful extension programs result when the benefit of recommendation to farmers is high.

Highly successful extension programs result when the local people select "front line agents".

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 Organization.
Disagree
The clientele (e.g., small farmers) should establish the policies for agricultural extension programs.

"Top-down" (i.e., someone at the top of the administrative hierarchy proposes the major ideas) kinds of program development should be used in the Extension Organization.

The relationships between the selected characteristics of the students and their level of agreement or disagreement were negligible.

Part IV - Educational Needs of Rural People

The Extension Educator Group. The educators were asked to indicate whether or not the Extension Organization could fulfill seven selected educational needs of rural people. Their level of agreement or disagreement was ranked based on the mean scores and was as follows:

Strongly Agree
Application of new inputs: varieties, improved farm practices, etc.
Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).
Food storage, processing, and preservation.
Farm business management.

Agree
Supplementary skills for farm maintenance and improvement.
Civic skills (e.g., knowledge of how cooperatives, local government, and national government function).

Disagree
General or basic education (e.g., reading, writing, and arithmetic).
No moderate, substantial, or strong relationship between the level of agreement or disagreement of educators and their selected characteristics was observed.

The Graduate International Student Group. The students were either "strongly agree" or "agree" that the Extension Organization could fulfill the seven selected educational needs of rural people. The mean scores were used to rank the responses; they were as follows:

**Strongly Agree**

Application of new inputs: varieties, improved farm practices, etc.

**Agree**

Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).

Supplementary skills for farm maintenance and improvement.

Farm business management.

Food storage, processing, and preservation.

Civic skills (e.g., knowledge of how cooperatives, local government, and national government function).

General or basic education (e.g., reading, writing, and arithmetic).

The responses of the students were not strongly related to their selected characteristics; they were either negligible or low.

**Conclusions**

1. The respondents were asked to indicate the level of importance of five processes related to extension program development. The processes were as follows: 1) Developing the institutional framework for program development. 2) Documenting the extension program --
program determination. 3) Developing an annual plan of work -- program strategy. 4) Implementing the program -- program action. 5) Evaluating the program -- accomplishment. Both the extension educators and graduate international students of extension education agreed that all the processes are "very important" and an extension program planner should be able to perform them. The mean scores revealed that "Program Determination Process" was the most important one and "Program Action Process" was the least important one.

2. The data indicated that taking courses about the following course topics are "essential" for graduate students of extension education from Third World countries: 1) Program Planning and Development, 2) Evaluation of Extension Programs, 3) Teaching Methods and Techniques, and 4) Administration and Supervision of Extension Programs. Both the extension educators and graduate international students of extension education agreed with these four course topics. However, and in addition to these four, students identified the following course topics to be essential also. They were: 1) Diffusion of Information on Agricultural Technology, 2) Research Methods and Design, and 3) Use of Visual Materials in Communication of Agricultural Concepts.

3. Both the extension educators and graduate international students of extension education agreed that the Agricultural Extension Organization is responsible for assisting the entire rural social system (production, supply, marketing, governance, research, and education/extension) to develop. However, the analysis of these data revealed that more attention should be given to the producers, marketers, and suppliers of the rural social system.
4. Both the extension educators and graduate international students of extension education strongly agreed that a combination of the sponsor and the clientele should establish the policies for agricultural extension programs. While the educators disagreed with the notion that the sponsor (e.g., ministry of agriculture) should establish the policies for agricultural extension programs, the students agreed with the notion. Both groups disagreed that the clientele (e.g., small farmers) should establish the policies for agricultural extension programs.

5. Both the extension educators and graduate international students of extension education strongly agreed that a combination of "top-down" and "bottom-up" program development should be used in the Extension Organization. Both groups disagreed with "top-down" (i.e., someone at the top of the administrative hierarchy proposes the major ideas) kinds of program development. However, both groups agreed with "bottom-up" (i.e., someone at the lowest level of organization comes up with an idea and passes it up through the organization as a means of program determination) kinds of program development.

6. Both the extension educators and graduate international students of extension education agreed that highly successful extension 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 3) local people select front line agents.
7. Both the extension educators and graduate international students of extension education 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 Organization.

8. Both the extension educators and graduate international students of extension education agreed that the Extension Organization could fulfill the following educational needs of rural people: 1) application of new inputs: varieties, improved farm practices, etc.; 2) food storage, processing, and preservation; 3) knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning); 4) civic skills (e.g., knowledge of how cooperatives, local government, and national government function); 5) supplementary skills for farm maintenance and improvement; 6) farm business management. Both groups ranked application of new inputs to be the most important educational need of the rural people directly engaged in agriculture which could be fulfilled by the Extension Organization. While educators disagreed that the Extension Organization is responsible to provide the rural people with general or basic education (e.g., reading, writing, and arithmetic), the students agreed with the notion.

9. Analysis of data revealed that there was no moderate, substantial, or high relationship between the perceptions of extension educators and their selected characteristics. The characteristics were: 1) academic rank, 2) area of specialty in extension education, 3) years
of work experience in extension education, 4) years teaching extension education courses, 5) whether or not having student advisees from the Third World, 6) overseas experience, 7) overseas experience in extension education, 8) proficiency in a foreign language, 9) age, and 10) sex. Therefore, these characteristics were not concluded to be the relevant antecedent variables.

Also, the relationships between the perceptions of graduate international students of extension education and their selected characteristics were either negligible or low. The characteristics were: 1) home continent, 2) type of the program, 3) years studying in the United States, 4) place received the Bachelor's degree, 5) place received the Master's degree, 6) area of specialty in extension education, 7) work experience in extension education at the home country, 8) work experience in extension education in the United States, 9) satisfaction with the academic program, 10) age, and 11) sex. Therefore, these characteristics were also concluded not to be strong and relevant antecedent variables.

10. The majority of the graduate international students of extension education indicated to be without any practical training while studying in the United States and reported to be willing to gain the experience.
Recommendations

A Model College Preparation Program for Graduate Students of Extension Education From Third World Countries

The primary purpose of the Extension Organization in the rural Third World should be to enhance rural community development. Students of extension education should be provided with proper learning activities in order to gain the required knowledge, experience the related skills, and adopt the relevant practices.

Based upon the results of this national study and review of the literature, the following is proposed as a model college preparation program for graduate students of extension education from the Third World.

Competencies Needed

The study concluded that it is very important for extension program planners to have an understanding of the administrative framework in which they are expected to operate. Therefore, the following competencies are recommended to be included in the college preparation program of the students so that students would be able to:

1. Identify basic philosophy and beliefs upon which the Extension Organization operates.
2. Identify potential clientele and their needs and interests.

The study concluded that it is very important for extension program planners to plan realistic and meaningful educational programs based upon the specific analysis of situations, concerns, interests, and needs of clients. Therefore, students of extension education should be provided with proper learning experiences in order to become competent to:
1. Collect, analyze, and interpret data in order to develop appropriate educational objectives.

2. Identify social systems and their leadership structure in order to involve clientele in the planning process for counseling, legitimation, and decision-making.

The study concluded that it is very important for extension program planners to design and implement appropriate educational programs and plans of work. Specifically, students of extension education should learn to:

   1. Perceive the behavioral change needed to achieve the objectives.
   2. Construct an appropriate plan of work (e.g., the teaching-learning process and appropriate subject matter).
   3. Design strategies for individual and social change (e.g., learning activities, experiences, and events).

The study concluded that it is very important for extension program planners to carry out planned educational programs. Therefore, students of extension education, upon completion of their college preparation program, should be able to:

   1. Construct and implement teaching, organizational, and operational plans.
   2. Identify, recruit, and train local volunteers.
   3. Coordinate the activities of the Extension Organization, both within the organization and with relevant organizations.

The study concluded that it is very important for extension program planners to assess the effects of extension programs and adjust them to
conform with the results of evaluation efforts. To do so, students of extension education should master the following competencies and become able to:

1. Collect, analyze, and interpret appropriate data to determine the evidence of change.
2. Collect, analyze, and interpret appropriate data to determine the effectiveness of methods and the techniques of education.
3. Utilize the results of evaluations to propose further changes in the program objectives, strategies, and activities.

**Proposed Course Topics**

**Master's Program.** For graduate students of extension education who are in the master's program, taking courses about the following topics are highly recommended:

1. Program Planning and Development
2. Evaluation of Extension Programs
3. Administration and Supervision of Extension Programs
4. Teaching Methods and Techniques

Taking courses about the following topics are also recommended. Students need to consult with their advisors, consider their own objectives and interests, and choose the proper ones. These courses are ranked, based upon their order of importance, as determined by the results of this study.

- Diffusion of Information on Agricultural Technology
- Extension Methods for Third World Countries
- Adult Learning Theories
Use of Visual Materials in Communication of Agricultural Concepts

Research Methods and Design

Staff Development

General Statistics; Analysis and Interpretation of Data

Educational Programs in Agriculture for Third World Countries

Rural Community Development

Internship in Cooperative Extension Service

Education for Rural Development

Agriculture in Third World Countries

Concepts and Theories in Rural Sociology

Youth Program Management

World Food and Population Problems

World Food Economics

**Doctoral Program.** Taking courses about the following topics are highly recommended to doctoral students of extension education.

1. Program Planning and Development
2. Evaluation of Extension Programs
3. Administration and Supervision of Extension Programs
4. Teaching Methods and Techniques
5. Diffusion of Information on Agricultural Technology
6. Research Methods and Design
7. Use of Visual Materials in Communication of Agricultural Concepts

Doctoral students in most universities are required to choose an area of specialty and two or three minor areas. After doing so and
consulting with their advisors, students could consider the following topics as part of their doctoral study. The topics are ranked based upon the results of this study.

Extension Methods for Third World Countries
Adult Learning Theories
Staff Development
General Statistics; Analysis and Interpretation of Data
Educational Programs in Agriculture for Third World Countries
Rural Community Development
Internship in Cooperative Extension Service
Education for Rural Development
Agriculture in Third World Countries
Concepts and Theories in Rural Sociology
Youth Program Management
World Food and Population Problems
World Food Economics

Other Recommendations

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. These subsystems 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. The Extension Organization is in constant interaction with its environment; therefore, it must be conceived of as an open system. According to Katz and Kahn (1978, p. 84), any organization which is organized upon the specifications of the open system theory, should contain the following subsystems:

a. Production: The production subsystem of an organization develops a dynamic of technical proficiency. Task accomplishment is its main function and the mechanism of accomplishing this is division of labor such as setting up of job specifications and standards.

b. Maintenance: The maintenance subsystem is motivated toward maintaining stability and predictability in the organization. This subsystem is responsible for mediating between task demands and human needs in order to keep structure in operation. The mechanism available to this subsystem to fulfill its responsibilities is the formalization of activities into standard, legitimized procedures, such as setting up of a system incentives and socialization of new members.

c. Production-Supportive: The functions of this subsystem are procurement of materials, manpower and product disposal. Mechanisms for achieving these goals are acquiring control of sources of supply and creating image.

d. Institutional: Obtaining social support and legitimation are the functions of this subsystem. Mechanisms for doing these are contributing to the community and influencing other social structures.
e. Adaptive: This subsystem is responsible for intelligence, research and development, and planning. The mechanism to be used here is making recommendations for change to management. The adaptive function, like the maintenance function, is directed toward the survival of the organization, except that the maintenance function faces inward and the adaptive function faces outward.

f. Managerial: This subsystem is the controlling or decision making component of the organization. The complexity of organizational structure implies that the functions of management are also complex. Three basic managerial functions can be distinguished: (1) the coordination of substructure, (2) the resolution of conflicts between hierarchical levels, and (3) the coordination of external requirements with organizational resources and needs. Some of the mechanisms available to this subsystem are: (1) use of sanctions of authority, (2) alternative concessions: setting up machinery for adjudication, and (3) adding functions: controlling the environment by absorbing it or changing it and restructuring the organization.

Thus, it is important to determine if these subsystems exist in the Extension Organization. If so, their performance should be evaluated periodically. If not, this is the responsibility of the managerial unit of the organization to decide whether or not the missing subsystem(s) should be added to the structure of the organization. Students of extension education who are interested in administration and supervision should study the whole concept of organizational psychology in depth.
3. This study concluded that a combination of the sponsor (e.g., ministry of agriculture) and the clientele (e.g., small farmers) should establish the policies for agricultural extension programs. This is extremely important to realize that community participation is a vital factor in the success of any rural community development project. If the key to rural problems is rural development, then the lock on this problem must be those rural people who are willing to change, who will accept and implement the proposed recommendations, and who will participate in different activities which will result in the development of their community. If the lock and key come together, the development strategies can be implemented and chances of achieving the desirable objectives will be high.

4. Community development projects should be directed toward groups. Organizing farmers into groups can greatly simplify many of the tasks in agricultural extension and development. Working with a group enables the extension agent to reach small farmers as well as progressive farmers, thereby reducing the inequity so common in the Third World. Through group approach, the extension worker alleviates the logistical problems of working individually with large numbers of small farmers. By working with groups, the innovations resulting from extension are more equally distributed so that less progressive as well as progressive farmers benefit. Group approach to community development has additional advantages. Group approach provides social interaction, a factor which is required for many innovations in agriculture. Social interaction permits a group to reap the free rider
problem, (i.e., this approach makes sure that everyone contributes his/her share, as in building or maintaining collective goods such as roads or irrigation canals). Another benefit is minimizing the external diseconomy, that is, the problem resulting when action of one person harms others (Stavis, 1979, p. 62).

5. This study investigated the relationships between certain characteristics of the respondents and their perceptions about international extension education and concluded that the selected characteristics were not relevant antecedent variables. Therefore, it would be recommended to identify other attribute variables and examine whether or not they could be strong antecedent variables.

**Implications**

The final words of the study answer the questions of "so what?" and "how does this study contribute to the knowledge of extension education?"

The study collected data about certain aspects of international extension education from nearly 200 educators and international students of extension education at 26 schools. The students were from 33 countries in Asia, Africa, and South and Latin America. Although the results of the study were found to be generalizable to the target population, it is safe to assume that those who participated in the study were typical educators and international students of extension education and their views could be shared by their other colleagues and peers. Therefore, anybody who is genuinely interested in international extension education could be a serious reader and benefit from the outputs of this study.
1. Based upon the findings of the study, a model college preparation program for graduate students of extension education from the Third World was proposed. The model includes specific course topics which were found to be either essential or desirable for the students to take during their course of study. Also, the model suggests specific competencies which the students should master if they are to be effective extension program planners. The Department of Agricultural Education at The Ohio State University should provide other institutions of higher education in the United States offering graduate programs in agricultural education and extension with a copy of the model program. The model could be used as a guideline in order to provide the students with meaningful and experiential learning activities.

2. The five causal explanations of poverty according to Thomas (1972) are: 1) The Genetic Explanation, 2) The Culture of Poverty Explanation, 3) The Opportunity Explanation, 4) The Maldistribution of Wealth Explanation, and 5) The Scarce Resources Explanation. The synthesis of these five theses could result in a new one, "The Maldistribution of Power Explanation of Poverty". Fair distribution of power may be defined as the more equal distribution of physical, economic, and cultural entities of the society among the member of that society. There is a system of norms, rules, and laws which has made people believe that poverty is an inevitable fact of life and they have to live with it. This system provides power for some and myths in the minds of the rest (Smith, 1978). Thus, in order to alleviate, if not eliminate, the maldistribution of power, people need to be persuaded to have more respect for themselves, to raise their level of consciousness, to
become critical, and to become active agents rather than passive recipients. Then these individuals can become the agents of their own development as defined by their own terms rather than being a mere beneficiary of development as defined by someone else (Goulet, 1975). Guitierrez (1973) defined development as liberation from oppressive forces and for the full development of human personality. People can become liberated and can enhance the development of their community if they share the power. This is a humanistic responsibility of any true educator to assist people to break away from being conformers and reformers and become transformers of their society. May people be able to say their words and may there be enough educators to facilitate the achievement of such an end.

3. Who is the client? What is development? Will the proposed task accomplish the stated objective? Is the stated objective really the one which should be pursued or does it need to be redefined? These are fundamental questions and it will be pointless to proceed any further until these questions are answered. Yet, whenever concerned individuals attempt to answer them, they will end up with many good, sometimes conflicting, statements and more often find themselves out on a tangent far removed from the original question. The following outline, provided by Joy (1980), could serve as an effective guideline:

I. State problem(s).

II. Identify/observe problem manifestation in smallest microcosm that concerns you.

III. Define this as a subsystem of the problem.

IV. Ask: What change in the behavior of this subsystem can promote the task of this subsystem (secure an improvement of the subsystem).
A. Ask: How might such a change in the behavior be secured? Who initiates?
B. Ask: What are the wider consequences of such a change?
C. Ask: Are these action proposals acceptable therefore?
D. Ask: What does this mean for me (us)?
E. Ask: What do I (we) do, therefore?
F. Do it!

4. Informational inputs are needed before attempting to design any rural community development project. The following questions could serve as a meaningful guideline:

Questions Related to Biology:

What crops are being grown and with what limiting factors?
What crops could be grown?
What tree crops could be introduced for cultivation?
How can evapotranspiration be reduced, controlled, or managed by irrigation?
What means are available to intensify production?
What animals can be raised in the area and what is the current stock and availability?
What soil management options are possible?
How much area is required by an average family to sustain subsistence and some reasonable market activity?

Questions Related to Technology:

What potential exists for technological innovations in:
  a. Local metallurgy
  b. Field preparation, e.g., with oxen
  c. Transportation
  d. Agricultural biology
  e. Irrigation
  f. Energy conservation
How can manuring be imported with regard to both health problems and nutrient cycling?

What technology relates to infrastructural needs such as roads, storage, etc.?

How can technology play a role with labor productivity as it relates to incentives for child raising?

Questions Related to Family Structure:

What are the economic role and household task of the family members including distinctions between successive offsprings and successive wives and among different age groups?

What non-monetary values are attributed to offsprings and additional wives?

What costs are attributed to raising children, including goods consumed, problems incurred, and constraints of all kind?

What are the relationships involved with old age security?

What significant aspects of inheritance and ownership patterns impact on family size?

Questions Related to Social Structure:

What is the existing age distribution and the associated mortality rates?

What social mechanisms, structure, and values affect child raising decisions?

a. What patterns of social interaction influence economic relationships and how does family size enter into this?

b. What social values exist that involve preference trade-offs between child raising and alternative activities?

c. What are the social attitudes toward birth control techniques and toward discussion and education in these areas?

All the information should be analyzed to assess what useful data could be extracted to be incorporated in the design of the developmental project.
5. Through time, one can see waves of repetition, or recurring controversies over education. Should the emphasis be on the individual or the society; should schools be localized or centralized and standardized; is subject matter or methodology the most significant factor? The current scene in education is confusing as a result of the many various positions in regard to the purpose of education: what is education; who should educate; who should be educated; what subjects, morals, facts, or thinkings should be taught? Changes and reforms in education are being made very rapidly. As a reflection of these ongoing changes, there can be seen a definite lack of continuity in today's education. This lack of continuity in education has been producing nations with divergent ideas, beliefs, values, and standards. Educators seem to be going in a million different directions seeking answers to a million different questions and more often finding themselves somewhere far from the original question. Therefore, today's educators are faced with this situation of disunity. Yet, as educators, bettering education for all is our common goal. In order to bring some order out of confusion and chaos, Black has proposed a "Four-Fold Classification of Educational Theories". At one end of the spectrum are traditionalists who hold the value of education to be primarily in transmission of social heritage. Education is from without and impartation of knowledge from the teacher to the student is stressed. Progressionists stand on the other end of the spectrum and believe in individual development as the goal of education. Here, self-discovery and experience are stressed, as education comes from within. In between are the learning-product and the learning-process theories. The learning-product theory is closely related to the traditional
theory and is supported by H. C. Morrison. This theory not only puts some emphasis on education as a means of cultural transmission, but also believes in the importance of individual experience and development. Morrison believes that personality is a product of education; from all that students learn, their personalities are formed. The learning-process theory is close to progressivism and is supported by John Dewey. Dewey believes in doing, communicating things in the present. The emphasis is on the experiences of the individual; however, the need for education as a transmitter of culture is also recognized. Both of these middle-of-the-road theories approach education as it should be approached; not from the standpoint of black or white, this or that, but from the standpoint of this and that, black and white (1966).

This is a responsibility of educators to adopt and practice a suitable educational philosophy. If an educator perceives "humanization" as the prime objective of education, then the choice is clear. The true education should lead the learner to gain attitudes, feelings, and perceptions in order to become an active agent, an agent of change, and a liberated individual. If the rural Third World is to become a better place in which to live, it needs active people who are ready and willing to transform their world.

6. There is a need for extension educators to form their own professional organization, publish a journal specifically aimed at research in extension education, and hold regional and national meetings. This study identified 120 extension educators and their names and addresses are available (Appendix E). They should be contacted in order to provide the necessary collaborative and strategic resources in order to
form such an organization. The Department of Agricultural Education at The Ohio State University could be the initiator.

7. This study looked at certain characteristics, policies, and responsibilities of the Extension Organization in the context of the Third World. A more extensive review of related literature should be conducted in order to identify other, more detailed and specific, criteria. How well these criteria are related to the Third World could be assessed through the use of another descriptive survey research. Also, this study gathered adequate informational inputs to propose a college preparation program for graduate students of extension education from the Third World. Similar studies could be designed and implemented for other disciplines in the fields of agricultural education and extension education with international as well as national students as the clientele. For example, studies could be conducted to propose model graduate programs for students specializing in teacher education, administration and supervision, and the like.
APPENDIX A

CORRESPONDENCE WITH THE COOPERATIVE EXTENSION SERVICES
Dear:

We need to identify the universities, colleges, or other educational institutions offering graduate programs in extension education in the U.S. for a research study which we are about to undertake at The Ohio State University. Dr. Clarence Cunningham has suggested that we contact you in order to obtain the needed names and addresses in your state. Specifically, we are asking you to complete and return the enclosed form by December 15, 1981. A self-addressed, stamped envelope has been included for your convenience. Your cooperation is highly appreciated.

Sincerely yours,

Larry E. Miller
Professor of Agricultural Education

Kambar Kouzekanani
Graduate Research Associate

KK/kk
State: ________________

There is no institution in this state offering graduate programs in extension education.

The following institutions offer graduate programs in extension education:

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
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Please add pages if needed.
APPENDIX B

CORRESPONDENCE WITH THE SCHOOLS IN THE FRAME OF THE STUDY
FIRST MAILING
Dear : 

Many of us encounter problems when advising our graduate international students in extension education. We are conducting a study entitled "Perceptions of Extension Educators and International Students of Extension Education: A National Study" at The Ohio State University. The results of this study should prove to be beneficial to advisors as well as students.

The frame of this study includes 28 schools offering graduate programs in extension education. The target population of the study is comprised of two groups: 1) graduate students from Third World countries majoring in extension education and 2) extension educators in these 28 schools.

Your school has been identified to be one of these institutions of higher education in the United States which offer graduate programs in extension education. Would you please provide us with the names, addresses, and phone numbers of your faculty members specializing in extension education and graduate international students whose area of emphasis is extension education (be sure to indicate the nationality of the students). Please complete the enclosed forms and return them to us by October 15, 1982. Your cooperation is highly appreciated.

Sincerely yours,

Kambar Kouzekanani
Graduate Research Associate

Larry E. Miller
Professor

Enclosures (2)
<table>
<thead>
<tr>
<th>EXTENSION EDUCATORS</th>
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<td>Nationality:</td>
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Please use additional page(s) if needed.
FOLLOW-UP MAILING
Dear:

On September 29, 1982, we sent a letter along with two forms, asking you to identify your faculty members specializing in extension education and graduate international students whose area of specialty is extension education. If you have already completed and mailed the forms to us, accept our appreciations and ignore this letter. If not, please provide us with the information at your earliest convenience. Thank you.

Sincerely yours,

Kambar Kouzeikanani
GRA

Larry E. Miller
Professor
APPENDIX C

THE INSTRUMENTS
THE INSTRUMENT FOR THE EXTENSION EDUCATORS
EXTENSION EDUCATION AS PERCEIVED BY EDUCATORS
AND INTERNATIONAL STUDENTS OF EXTENSION
EDUCATION: A NATIONAL STUDY

Department of Agricultural Education
The Ohio State University
Columbus, Ohio 43210
INSTRUCTIONS

A number of selected statements about international extension education are listed on the following pages. We are interested in your opinion about each statement.

This survey instrument is comprised of five parts. Each part has its own instructions. Please read each of the instructions carefully and respond to all the items in each of the parts.

These statements are in no way designed to be a test. There are no right or wrong answers to the statements. The answers which will be most helpful are the ones which best reflect your own opinion about each of the statements.

May we take this opportunity of thanking you in advance for your kind cooperation.
### Part I

The following are processes related to extension program development. Please indicate how important each one is by circling the appropriate category of:

- **4 = very important**
- **2 = slightly important**
- **3 = somewhat important**
- **1 = not important**

<table>
<thead>
<tr>
<th>Process</th>
<th>Level of Importance</th>
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<tbody>
<tr>
<td>1. Extension program planners should have an understanding of the administrative framework in which they are expected to operate.</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>2. Extension program planners should be able to plan realistic and meaningful educational programs based upon the specific analysis of situations, concerns, interests, and needs of clients.</td>
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<tr>
<td>3. Extension program planners should be able to design and implement appropriate educational programs and plans of work.</td>
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</tr>
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<td>4. Extension program planners should be able to carry out planned educational programs.</td>
<td>4 3 2 1</td>
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<tr>
<td>5. Extension program planners should be able to assess the effects of extension programs and adjust them to conform with the results of evaluation efforts.</td>
<td>4 3 2 1</td>
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</table>

### Part II

In order to master the processes indicated in Part I, international graduate students in extension education should possess certain knowledge and be able to perform specific skills. We want to determine if taking courses regarding the following topics could assist the students to reach that end. Please indicate how necessary each topic is by circling the appropriate category of:

- **4 = essential**
- **2 = optional**
- **3 = desirable**
- **1 = not needed**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Level of Importance</th>
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<tbody>
<tr>
<td>1. Research Methods &amp; Design</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>2. General Statistics; Analysis &amp; Interpretation of Data</td>
<td>4 3 2 1</td>
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<tr>
<td>3. Evaluation of Extension Programs</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>4. Administration &amp; Supervision of Extension Programs</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>5. Staff Development</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>6. Program Planning &amp; Development</td>
<td>4 3 2 1</td>
</tr>
</tbody>
</table>
7. Youth Program Management 4 3 2 1
8. Teaching Methods & Techniques 4 3 2 1
9. Adult Learning Theories 4 3 2 1
10. Diffusion of Information on Agricultural Technology 4 3 2 1
11. Rural Community Development 4 3 2 1
12. Concepts & Theories in Rural Sociology 4 3 2 1
13. Agriculture in Third World Countries 4 3 2 1
14. Education for Rural Development 4 3 2 1
15. Extension Methods for Third World Countries 4 3 2 1
16. Educational Programs in Agriculture for Third World Countries 4 3 2 1
17. World Food & Population Problems 4 3 2 1
18. World Food Economics 4 3 2 1
19. Use of Visual Materials in Communication of Agricultural Concepts 4 3 2 1
20. Internship in Cooperative Extension Service 4 3 2 1

Any other topics? Please specify: ____________________________

---

Part III - A number of statements about selected policies and characteristics of the Extension Organization are listed. Please indicate your level of agreement/disagreement with each one by circling the appropriate category of:

4 = strongly agree 2 = disagree
3 = agree 1 = strongly disagree

1. The Agricultural Extension Organization is responsible for providing technical information for producers, marketers, or suppliers of the rural social system. 4 3 2 1
2. The Agricultural Extension Organization is responsible for assisting the entire rural social system (production, supply, marketing, governance, research, & education/extension) to develop.

3. The sponsor (e.g., ministry of agriculture) should establish the policies for agricultural extension programs.

4. The clientele (e.g., small farmers) should establish the policies for agricultural extension programs.

5. A combination of the sponsor and the clientele should establish the policies for agricultural extension programs.

6. "Top-down" (i.e., someone at the top of the administrative hierarchy proposes the major ideas) kinds of program development should be used in the Extension Organization.

7. "Bottom-up" (i.e., someone at the lowest level of organization comes up with an idea and passes it up through the organization as a means of program determination) kinds of program development should be used in the Extension Organization.

8. A combination of "top-down" and "bottom-up" program development should be used in the Extension Organization.

9. Highly successful extension 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 recommendation to farmers is high.
   e. Local people select "front line agents."

10. 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 Organization.
The following are some of the educational needs of rural people directly engaged in agriculture which could be fulfilled by the Extension Organization. Would you please indicate your level of agreement/disagreement regarding the ability of the Extension Organization to fulfill these educational needs by circling the appropriate category of:

- **4** = strongly agree  
- **3** = agree  
- **2** = disagree  
- **1** = strongly disagree

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>1. General or basic education (e.g., reading, writing, and arithmetic).</th>
<th>2. Application of new inputs: varieties, improved farm practices, etc.</th>
<th>3. Food storage, processing, and preservation.</th>
<th>4. Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).</th>
<th>5. Civic Skills (e.g., knowledge of how cooperatives, local government, &amp; national government function).</th>
<th>6. Supplementary skills for farm maintenance and improvement.</th>
<th>7. Farm business management.</th>
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</table>
Part V - Please complete the following information.

1. Academic Rank: _______________________________

2. Area(s) of specialty in extension education? _______________________________

3. How many years of work experience do you have in extension education? ______

4. For how many years have you taught extension education courses? _____________

5. Do you have any student advisees from the Third World? Yes __ No __

6. What was your major area of specialization in each of the following degree programs?
   - Bachelors: _______________________________
   - Masters: _______________________________
   - Doctorate: _______________________________

7. Do you have any international experience which was acquired outside the United States? Yes ___ No __
   If yes, please describe:
   - When & for how long? _______________________________
   - Where? _______________________________
   - What kind of assignment? _______________________________

8. Do you have any international experience in extension education which was acquired outside the United States? Yes ___ No __
   If yes, please describe:
   - When & for how long? _______________________________
   - Where? _______________________________
   - What kind of assignment? _______________________________

9. Do you have some proficiency in a language other than English? Yes ___ No __
   If yes, please identify the language(s) and your degree of proficiency:
   - Language: _______________________________
   - Reading: _______________________________
   - Writing: _______________________________
   - Understanding: _______________________________

10. Age: ______  11. Sex: Male ___ Female ___
Do you have additional comments that would help us better understand your views on international extension education? If yes, please use the space below to share your thoughts with us.

THANK YOU VERY MUCH FOR COMPLETING THIS SURVEY INSTRUMENT. PLEASE USE THE ENCLOSED ENVELOPE TO RETURN THE QUESTIONNAIRE TO US.
THE INSTRUMENT FOR THE

GRADUATE INTERNATIONAL STUDENTS OF EXTENSION EDUCATION
INSTRUCTIONS

A number of selected statements about international extension education are listed on the following pages. We are interested in your opinion about each statement.

This survey instrument is comprised of five parts. Each part has its own instructions. Please read each of the instructions carefully and respond to all the items in each of the parts.

These statements are in no way designed to be a test. There are no right or wrong answers to the statements. The answers which will be most helpful are the ones which best reflect your own opinion about each of the statements.

May we take this opportunity of thanking you in advance for your kind cooperation.
Part I - The following are processes related to extension program development. Please indicate how important each one is by circling the appropriate category of:

4 = very important  2 = slightly important
3 = somewhat important  1 = not important

<table>
<thead>
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<tr>
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2. Extension program planners should be able to plan realistic and meaningful educational programs based upon the specific analysis of situations, concerns, interests, and needs of clients. 4 3 2 1
3. Extension program planners should be able to design and implement appropriate educational programs and plans of work. 4 3 2 1
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5. Extension program planners should be able to assess the effects of extension programs and adjust them to conform with the results of evaluation efforts. 4 3 2 1

Part II - In order to master the processes indicated in part I, international graduate students in extension education should possess certain knowledge and be able to perform specific skills. We want to determine if taking courses regarding the following topics could assist the students to reach that end. Please indicate how necessary each topic is by circling the appropriate category of:

4 = essential  2 = optional
3 = desirable  1 = not needed

<table>
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<tbody>
<tr>
<td>4 3 2 1</td>
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</table>

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5. Staff Development 4 3 2 1
6. Program Planning & Development 4 3 2 1
### Part II

<table>
<thead>
<tr>
<th>Topic</th>
<th>Essential</th>
<th>Optional</th>
<th>Desirable</th>
<th>Not Needed</th>
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<tbody>
<tr>
<td>7. Youth Program Management</td>
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<td>1</td>
</tr>
</tbody>
</table>

Any other topics? Please specify:_____________________________________

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### Part III

A number of statements about selected policies and characteristics of the Extension Organization are listed. Please indicate your level of agreement/disagreement with each one by circling the appropriate category of:

- **4 = strongly agree**
- **3 = agree**
- **2 = disagree**
- **1 = strongly disagree**

<table>
<thead>
<tr>
<th>Statement</th>
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<tbody>
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The Agricultural Extension Organization is responsible for assisting the entire rural social system (production, supply, marketing, governance, research, & education/extension) to develop.

The sponsor (e.g., ministry of agriculture) should establish the policies for agricultural extension programs.

The clientele (e.g., small farmers) should establish the policies for agricultural extension programs.

A combination of the sponsor and the clientele should establish the policies for agricultural extension programs.

"Top-down" (i.e., someone at the top of the administrative hierarchy proposes the major ideas) kinds of program development should be used in the Extension Organization.

"Bottom-up" (i.e., someone at the lowest level of organization comes up with an idea and passes it up through the organization as a means of program determination) kinds of program development should be used in the Extension Organization.

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Highly successful extension programs result when the:

- Cost of recommended practices to farmers is low.
- Recommended practices are relatively simple.
- Benefit to farmers is immediate.
- Benefit of recommendation to farmers is high.
- Local people select "front line agents."

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 Organization.
Part IV - The following are some of the educational needs of rural people directly engaged in agriculture which could be fulfilled by the Extension Organization. Would you please indicate your level of agreement/disagreement regarding the ability of the Extension Organization to fulfill these educational needs by circling the appropriate category of:

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3. Food storage, processing, and preservation.
4. Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).
5. Civic Skills (e.g., knowledge of how cooperatives, local government, & national government function).
6. Supplementary skills for farm maintenance and improvement.
7. Farm business management.
Part V - Please complete the following information.

1. What is your home country? __________________________

2. What program are you in? Masters ___ Doctorate ___

3. How many years have you been studying in the United States? __________

4. Where did you get your previous degree(s)? In what major(s)?
   Bachelors in __________________________ from __________________________
   Masters in __________________________ from __________________________

5. What is your area of specialty in extension education? ____________________

6. Have you had any work experience in extension education in your country?
   Yes ___ No ___

7. Have you had any work experience in extension education in the United States?
   Yes ___ No ___

8. Are you presently involved with any practical experience in extension education?
   Yes ___ No ___
   If no, would you like to acquire some? Yes ___ No ___

9. Do you believe that your present academic program will fulfill your educational objectives? Yes ___ NO ___

10. Age: ____________

11. Sex: Male ___ Female ___
Do you have additional comments that would help us better understand your views on international education? If yes, please use the space below to share your thoughts with us.

THANK YOU VERY MUCH FOR COMPLETING THIS SURVEY INSTRUMENT. PLEASE USE THE ENCLOSED ENVELOPE TO RETURN THE QUESTIONNAIRE TO US.
APPENDIX D

DATA COLLECTION CORRESPONDENCE
FIRST MAILING
November 10, 1982

Dear Fellow Extension Educator:

The number of foreign students in the United States has been growing; this number in 1980-81 was 311,882, an 311 percent increase over the 34,232 reported in 1954-55. Although bettering education for all is our common goal, many of us face a lack of mutual communication when advising and teaching our international students.

We are conducting a census study at The Ohio State University entitled "Extension Education as Perceived by Educators and International Students of Extension Education: A National Study." The results of this study could assist extension educators in developing a better understanding of the needs and expectations of their international students in order to provide them with more suitable and productive learning experiences and academic counseling. The findings, conclusions, and recommendations of the study could also assist international students in extension education to develop better plans of study in order to add to their competencies and reaching their educational objectives.

The frame of this study includes 27 schools offering graduate programs in extension education. The target population of the study is comprised of two groups: 1) graduate international students from Third World countries whose area of specialty is extension education and 2) extension educators in these 27 schools.

You have been identified as one of the subjects of this study. Please complete the enclosed questionnaire and return it to us by December 1, 1982. A self-addressed, stamped envelope is included for your convenience. All the responses will be kept confidential. The red number on the front page of the questionnaire will be used to contact the nonrespondents.

Please accept our sincere thanks and appreciations for your cooperation and the time you are going to spend to complete this survey instrument. We look forward to hearing from you.

Sincerely yours,

Larry E. Miller
Professor

Kamir Kouzeakanani
Graduate Research Associate

Enclosures: Questionnaire 5 Envelope
November 10, 1982

Dear Fellow Student of Extension Education:

The number of foreign students in the United States has been growing; this number in 1980-81 was 311,882, an 811 percent increase over the 34,232 reported in 1954-55. These students need to be provided with a proper type of education.

We are conducting a census study at The Ohio State University entitled "Extension Education as Perceived by Educators and International Students of Extension Education: A National Study." The results of this study could assist extension educators in developing a better understanding of the needs and expectations of their international students in order to provide them with more suitable and productive learning experiences and academic counseling. The findings, conclusions, and recommendations of the study could also assist international students in extension education to develop better plans of study in order to add to their competencies and reaching their educational objectives.

The frame of this study includes 27 schools offering graduate programs in extension education. The target population of the study is comprised of two groups: 1) graduate international students from Third World countries whose area of specialty is extension education and 2) extension educators in these 27 schools.

You have been identified as one of the subjects of this study. Please complete the enclosed questionnaire and return it to us by December 1, 1982. A self-addressed, stamped envelope is included for your convenience. All responses will be kept confidential. The red number on the front page of the questionnaire will be used to contact the nonrespondents.

Please accept our sincere thanks and appreciations for your cooperation and the time you are going to spend to complete this survey instrument. We look forward to hearing from you.

Sincerely yours,

Kambar Kouzekanani
Graduate Research Associate

Larry E. Miller
Professor

Enclosures: Questionnaire & Envelope
November 17, 1982

Last week, a questionnaire seeking your opinion about extension education was mailed to you. You are one of the subjects of a census study entitled "Extension Education as Perceived by Educators and International Students of Extension Education: A National Study" at The Ohio State University.

If you have already completed and returned it to us, please accept our sincere thanks. If not, please do so today. It is important for us to receive your opinion about this topic.

If by some chance you did not receive the questionnaire, or it got misplaced, please call tonight, collect (614-794-3915) and we will get another one in the mail immediately. We look forward to hearing from you.

Sincerely yours,

Kamier Kouzekanani
GRA

Larry E. Miller
Professor
LAST MAILING
December 10, 1982

We are writing to you about our national study at The Ohio State University entitled "Extension Education as Perceived by Educators and International Students of Extension Education: A National Study." We have not yet received your completed questionnaire.

The large number of questionnaires returned is very encouraging. But, whether we will be able to describe accurately how educators and international students feel about extension education depends upon you and others who have not yet responded. This is the first nationwide study of this type that has ever been done. The results of this study could be of great use to the many extension educators and international students of extension education.

Because of these reasons, we are sending another questionnaire and urging you to complete and return it as quickly as possible. A self-addressed, stamped envelope is included for your convenience.

Your cooperation is highly appreciated.

Sincerely yours,

Larry E. Miller
Professor

Kamdar Kouzekanani
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Enclosures: Questionnaire & Envelope
APPENDIX E

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Joy, L. J. *International Agricultural Development (class presentation)*. The University of California, Davis, Spring Quarter, 1980.


The Oklahoma State University. Graduate Catalog. Stillwater, OK: Oklahoma State University Press, 1982-83.


The Ohio State University. Graduate Study in Agricultural Education. Columbus, OH: The Ohio State University Press, n.d.


Thuemmel, W. L., and R. F. Welton. AATEA Survey of Teacher Education Activity in International Agriculture. Paper presented at The American Association of Teacher Educators in Agriculture, Atlanta, Georgia; December, 1981.


