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AN APPRAISAL OF THE EXTENSION SERVICE IN IRAN
AS PERCEIVED BY EXTENSION SPECIALISTS AND
extension agents.

THE OHIO STATE UNIVERSITY, PH.D., 1979
AN APPRAISAL OF THE EXTENSION SERVICE IN IRAN AS PERCEIVED BY EXTENSION SPECIALISTS AND EXTENSION AGENTS

DISSERTATION

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

By

Ezatollah Karami, B.Sc. M. Ed.

* * * * *

The Ohio State University

1979

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ACKNOWLEDGMENTS

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RELATED DISCIPLINE

Studies in Community Development. Professor William L. Flinn
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CHAPTER I
INTRODUCTION

Carey and Carey\(^1\) published a paper on "Iranian Agriculture and Its Development: 1952-1973." They stated that in the two decades between 1953 and 1973, the rapidly growing industrialization of Iran has shifted to industry much of the former emphasis on agriculture. During the last five years of the period, the share of agriculture in the Gross National Product (GNP) declined from somewhat under 25 percent to 16 percent. Despite its decrease, agriculture in 1972-73 was still responsible for the largest portion of consumer expenditure, and agricultural products, notably such traditional items as carpets, dried fruit and nuts continued to rank next below oil as Iran's largest exports and were the second largest provider of the country's foreign exchange.

Although the proportion of rural inhabitants in the total population has fallen, their actual number has increased because of the high birth rate (3.1 percent per

annum). Out of total population of 26.8 million in 1967-68, 16.6 million, or 62 percent, lived in such areas. In the same five years, the active agricultural population has changed from 49 to 40 percent, and despite a government forecast for a considerable increase in farm employment, a decline actually took place.

The chief reason for these changes was found in the ever-swelling migration from the rural areas to the cities, more marked in Iran than in many other countries. Various other reasons for the shift existed. In a large part of Iran, farmers have to struggle with an environment far from friendly to agriculture. Geography and topography, winds suddenly strong, and bitter cold in winter, blistering heat in summer, frequent hailstorms and earthquakes, have all operated singly and collectively to make farming difficult. Both crops and livestock are strongly affected by these physical characteristics, by the water supply available for farming, the land in relation to population, methods of soil cultivation, and although it has changed dramatically and markedly, the system of land ownership.

Many of the difficulties for agriculture are found in the character of much of the land. Despite its watered

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2Ibid., pp. 359-60.
northern areas, Iran consists primarily of desert which together with other wasteland constitutes almost three-fourths of the estimated 164 million hectares in the country. Of this desert and wasteland, about half is occupied by a vast central space, consisting in part of dasht or dry desert and in part of mud or slime and salt-encrusted Khavir. In the southwest, the vast and fertile Khuzestan plain was long used for subsistence farming until the completion of several dams brought water to it. The aridity of the country increases to the southeast. In the whole southeast, only a limited amount of land with agricultural possibilities can be found, such as the small Khash plain of Baluchestan, Jiroft, the Oasis of Bam in Kerman, and the small watered area around Minab near the Sea of Oman.

In 1953 the present foundation and philosophy of the extension service was established and introduced to Iran through the U.S. "point 4 program." Before that time there was no connecting channels between the few existing experiment stations and the farmers. The program areas or extension objectives can be defined as follows:

1. Efficiency in agricultural production
2. Conservation, wise use and development of natural resources

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3 Ibid., p. 361.
3. Marketing, distribution and utilization of farm products
4. Management on the farm and in the home
5. Family living
6. Leadership development
7. Youth development
8. Community improvement and resource development

Extension specialists are those professional staff of the extension service who lead, administer, and supervise the activity of extension agents and they are subject matter specialists in one of the agricultural fields.

Extension agents are those professional staff of the extension service who are responsible for teaching, diffusing technology, and developing youth potentials.

This study is designed to identify those areas of extension educational programs that are effective and those that are ineffective as viewed by extension specialists and extension agents. An appraisal by the extension specialist

---


and the extension agent of educational programs in selected provinces provides a means of reflecting the status and development of extension educational programs.

Statement of the Problem

The general problem addressed in this study is: How do extension specialists and extension agents appraise the education efforts of extension service in the area of agricultural production and village youth clubs in terms of the accomplishment of objectives of extension service in the provinces of Fars and Semnan?

Research Questions

The following research questions guided the conduct of the investigation:

1. What are the background, status, and characteristics of the extension specialists and the extension agents in the Fars and Semnan provinces?

2. How do extension specialists and extension agents evaluate the educational efforts of the extension service in fulfilling the educational goals of farmers?

3. How do extension specialists and extension agents evaluate the educational efforts of the
extension services in fulfilling the educational goals of village youth club members?

4. How do extension specialists and extension agents evaluate the educational efforts of the extension service in fulfilling the functions of conducting educational programs for farmers?

5. How do extension specialists and extension agents evaluate the educational efforts of the extension service in fulfilling the functions of conducting educational programs for village youth club members?

6. How do extension specialists and extension agents perceive the priorities of program areas of the extension service in Fars and Semnan provinces in Iran?

7. How do extension specialists and extension agents appraise the effectiveness of extension education techniques?

8. What is the relationship between "how extension specialists and extension agents evaluate the educational efforts of extension service" and the following characteristics of extension specialists and extension agents:
a. Organizational position
b. Years of job experience in extension service
c. Level of formal education
d. Length of pre-service and in service extension education

**Significance of the Problem**

This study should provide findings that are useful and needed by the Extension Service to improve the effectiveness of its educational results.

Mathews\(^6\) outlined five benefits of evaluation. They are as follows:

1. It gives extension workers better information on which to base the many decisions they have to make from day-to-day
2. It is essential that one take time to make periodic checks on the effectiveness of educational programs
3. It provides a worker with a feeling of security when he is doing a good job
4. It provides a basis for good public relations

---

5. The process itself helps the worker better prepare his design and methodology for the educational activity he is conducting.

An appraisal of the Extension Service should be very helpful for the Extension Service because it determines how successfully the program has accomplished its objectives. How are the extension specialists reacting? What real changes are being produced? Evaluation is in many ways the most educationally valuable part of the program planning and provides a basis for improving future programs. This study should provide information related to position of the Extension Service in Iran and also should provide information as to where the Extension Service should go in the future. The findings of this study can be used as a basis for future extension evaluation studies in Iran.

It seemed logical in the establishment of the design of an appraisal of educational efforts of the Extension Service in Iran to involve the extension specialists and the extension agents because they are the ones who know more about educational efforts of the Extension Service than anyone else. They know about resources which are available, and the limitations. They can suggest ways to improve the program. Involvement of internal sources (e.g., the extension worker) is indeed an important consider-
ation in planning an evaluation while internal evaluators perspective gives them a greater appreciation for the constraints under which the unit must function. This same perspective allows them to gauge what the unit could accomplish if it were maximally effective.

Research Design and Methodology

Population and Sample

Tuckman defines the population (or target group) used in a questionnaire or interview study as the group about which researcher is interested in gaining information and drawing conclusions. He also states that the term defining the population refers to establishment of boundary conditions which specify who shall be included in or excluded from the population.

The population of this study consisted of all the extension specialists and extension agents in Fars and Semnan provinces in Iran.

Extension specialists are those professional staff of the Extension Service that lead, administer and supervise the activity of extension agents. Extension specialists in Iran have subject matter specialist responsibility in addition to administrative and supervisory responsibility.

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Extension agents are those professional staff of the Extension Service who are responsible for teaching, diffusing new technology and developing youth potentials.

Table 1 shows the distribution of the respondents in Fars and Semnan provinces.

<table>
<thead>
<tr>
<th>Selected Provinces</th>
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<th>Specialists Respondents</th>
<th>Agents</th>
<th>Agents Respondents</th>
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<tr>
<td>Fars</td>
<td>18</td>
<td>14</td>
<td>56</td>
<td>32</td>
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<tr>
<td>Semnan</td>
<td>7</td>
<td>7</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>21</td>
<td>75</td>
<td>48</td>
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Design of the Study

Kerlinger states that survey research studies large and small populations (or universes) by selecting and studying samples chosen from the population and interrelations of sociological and psychological variables. He also says that some survey research may study the whole population.

The design of this study is one of survey research design as defined by Kerlinger. According to Kerlinger

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surveys can be conveniently classified by the following methods of obtaining information:

- Personal interview
- Mail questionnaire
- Panel
- Telephone
- Controlled observation

For this study, mail questionnaires were thought to be appropriate because

1. The research questions of the study can be fitted to a mail questionnaire
2. The questions can be stated in a clear and understandable fashion without further explanation
3. It is an easy, quick, and relatively inexpensive method of obtaining the data
4. It allows the contacting of wide geographic distribution of people
5. It is free of any interviewer bias

To overcome the problem that respondents may rank themselves high, the researcher took the following approach:

1. It was explained in the cover letter that the data would be analyzed as a group data and no information

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9Ibid., p. 412.
will be provided to any government organization concerning how an individual respondent appraised the educational efforts of the Extension Service.

2. Q Sort Methodology was used in asking the respondents to answer the questionnaire. Kerlinger states that Q Technique is mainly a sophisticated way of rank-ordering objects (items, stimuli, etc.) and then assigning numerals to subsets of the objects for statistical purposes. Sorting instructions were given by asking the respondents to choose certain numbers of answers in the category of "excellent" and "poor." For details about Q Sort Technique, see the questionnaire in Appendix A of this study. However, many respondents did not follow the Q Sort instructions.

Data and Instrumentation

The questionnaire which was used for this study consisted of the following parts:

I. Questions 1-6 -- provided information on characteristics of respondents (Research Question 1).

II. Question 7 -- provided information evaluation of effectiveness of Extension education Techniques (Research Question 7).

\(^{10}\text{Ibid.}, \text{ pp. 582-99.}\)
III. Questions 8-21--provided information on how the respondents evaluate the educational efforts of the Extension Service in fulfilling the educational goals of farmers (Research Question 2). 

IV. Questions 22-37--provided information on how respondents evaluated the educational efforts of Extension Service in fulfilling the functions of conducting educational programs for farmers (Research Question 4). 

V. Questions 38-45--provided information on how respondents perceive the priorities of program areas of the Extension Service (Research Question 6). 

VI. Questions 46-54--provided information on how respondents evaluate the educational efforts of the Extension Service in fulfilling the educational goals of village youth club members (Research Question 3). 

VII. Questions 55-64--provided information on how respondents evaluate the educational efforts of the Extension Service in fulfilling the functions of conducting educational programs for village youth club members (Research Question 5). 

In order to provide answers to Research Question 8, Questions 7-38 and 46-64 were used as a measure of how the
respondents evaluated the educational efforts of the Extension Service, and Part I of the questionnaire provided information on characteristics of respondents. A copy of the questionnaire appears in Appendix A of this study.

The instrument was reviewed by the faculty members of the researcher's doctoral program at The Ohio State University and the translated version of the instrument was evaluated by the administrators of The Ministry of Agriculture and Natural Resources of Iran.

The data for this study were collected during the winter of 1978-79 (December, 1978) by personal contact. The questionnaires were taken to each office where the respondents completed the questionnaire and gave it to the researcher. The non-respondents in this study were those individuals who could not be contacted. The results of the study, therefore, were generalized to those who completed the questionnaire.

Pilot Test

The questionnaire was pre-tested with a group of 24 extension workers who were not included in the population of this study.

The first objective of the pilot test was to look for statements and/or words which were not clear to the respondents. One item was modified as a result of the pre-test and the revised statement was included in the final questionnaire.
The second objective of the pilot test was to do an item analysis of the questionnaire and determine the reliability coefficient of the instrument. The reliability coefficient is of interest because it gives, by the simple assumption that a test score has two components, viz., true score and variable error; an (indirect) estimate of the random error variance present is an obtained test score variance. No matter how computed, the reliability coefficient is only an estimate of percentage of total variance that may be described as true variance (not due to error).

The results, from pretesting of the instrument, were subjected to an Item Analysis Program which was designed to perform an internal consistency analysis of a questionnaire (scored on the Lickert Scale) according to Kuder-Richardson's Equation Eight for scale reliability. The computer facilities of The Instructional and Research Computer Center (IRCC) of The Ohio State University were used. As a result, the reliability coefficient of the instrument for items 7-36 and 46-63 was .74. In addition, the reliability coefficient for items 38-45 was .62. Separate calculation of reliability coefficients of items 38-45 was required since these eight items had a different scale.

The reliability coefficient was determined for the data collected from the respondents included in the study
using the same procedures which were used in the pilot test. As a result, the reliability coefficient of the instrument for items 7-36 and 46-63 was .95, and the reliability coefficient for items 38-45 was .87.

Analysis of Data

Descriptive statistics which involved the tabulating, depicting and describing of collections of data were used for analysis of the data of this study.

The questionnaire measured the effectiveness of educational efforts of the Extension Service on an ordinal scale. Characteristics of an ordinal scale are described by Glass and Stanley\textsuperscript{11} as follows: The relative size of the numbers assigned to the objectives reflect the amount of the attribute the objects possess. Equal differences between numbers do not imply equal differences in the amounts of the attributes."

The median of the respondents' appraisal was used as a measure of effectiveness of educational efforts of the Extension Service. The range between the 10th and 90th percentiles of scores was used as a measure of variability. It is defined as \[ D = P_{90} - P_{10}. \]

Ranks were used to indicate the relative magnitude of attainment of objectives or performance of critical tasks by the Extension Service. A rank correlation coefficient provides a measure of the degree of linearity between the variables ranked is frequently referred to as a coefficient of agreement for preference data. The Spearman Rank Order Correlation Coefficient was used in the analysis of the data to measure agreement in ranking between different groups of respondents.

Kerlinger\textsuperscript{12} states that an assumption of parametric statistics is that the measures to be analyzed are continuous measures with equal intervals. Parametric tests such as F and t tests, of course, depend on this assumption, but nonparametric tests do not. The dependent variable of the study (the effectiveness of extension education programs) was measured on an ordinal scale. Therefore the following nonparametric tests were used to test for significant differences between the levels of independent variables:

a. The Kruskal-Wallis test was used for test of significant independent variables with more than two levels;

b. The Mann-Whitney U Test was used for test of significance of independent variables which had only two levels.

\textsuperscript{12}Fred N. Kerlinger, op. cit.
The SPSS program was used for all of the above data analysis.

Kuder-Richardson's Equation Eight was used for determining the reliability coefficient of the instrument.
CHAPTER II
RELATED SCIENCE AND PRACTICE

This chapter is presented in three separate sections and a summary for simplification. The three sections are:
1. Review of literature on evaluation
2. Extension's evaluation studies
3. Extension's evaluation studies in Iran

Evaluation

Ideas about evaluation are changing. Beliefs about program evaluation plateaued for a few years during the 1950's and 1960's, when evaluation was equated with research methodology to such an extent that sometimes the terms measurement and evaluation were treated interchangeably. During that period, too, evaluation was often limited to determining whether content-specific objectives had been achieved.

Steel\textsuperscript{13} continues with stating that the late 1960's brought an influx of new programs and new demands for evaluation. Established concepts did not deliver. As a result,

new ideas about evaluation emerged and new frameworks appeared. There is considerable divergence in those ideas. Most of them are still in trial and testing stages. Many paths are being pursued from the plateau of the earlier period, but few of those paths are widely accepted. None can be considered the main route. Some explore evaluation from the view of organization and system, and some from the interactive elements involved.

According to Alkin, evaluation is the process of ascertaining the decision areas of concern, selecting appropriate information, and collecting and analyzing information in order to report summary data useful to decision makers in selecting among alternatives.

Harris defines evaluation as "the systematic process of judging the worth, desirability, effectiveness or adequacy of something according to definite criteria and purposes. The judgment is based upon a careful comparison of observation data with criteria standards. Precise definitions of


what is to be appraised, clearly stated purposes, specific
standards for the criteria traits, accurate observations
and measurements, and logical conclusions are the hall-
marks of valid evaluation."

According to Gottman and Clasen,16 "evaluation is
quality control of the process and outcomes of an educa-
tional program."

Suchman17 states, "Evaluation is the determination
(whether based on opinions, records, subjective or objec-
tive data) of the results (whether desirable or undesirable);
transient or permanent; immediate or delayed, attained by
some activity (whether a program or part of a program...,
an ongoing or on-shot approach) designed to accomplish some
valued goal or objective (whether ultimate, intermediate,
or immediate, effort or performance, long or short range).
This definition contains four key dimensions: (1) process--
the 'determinations'; (2) criteria--the 'results'; (3)
stimulus--the 'activity,' and (4) value--the 'objective.'
The scientific method with its accompanying research tech-
iques then provides the most promising means for 'deter-
mining' the relationship of the 'stimulus' to the 'objective'

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16John M. Gottman and Robert E. Clasen, Evaluation
in Education: A Practitioner's Guide. Itasca, Illinois:

17Edward A. Suchman, Evaluative Research, New York:
in terms of measurable 'criteria.'"

Tripodi et al.\textsuperscript{18} state "social program evaluation is the systematic accumulation of facts for providing information about the achievements of program requisites and goals relative to efforts, effectiveness, and efficiency within any stage of program development. The factors of evaluation may be obtained through a variety of relatively systematic techniques, and they are incorporated into some designated system of values for making decisions about social programs.

Steel\textsuperscript{19} indicates the following are the most valuable new ideas about evaluation:

1. Program evaluation is a process rather than a procedure. It is generic rather than specific.
2. Program evaluation is more than examining the attainment of objectives.
3. Program evaluation is more than just evaluating the results of a program.
4. Program evaluation is more than instructional evaluation.
5. Program evaluation is different from evaluative research and program research.


\textsuperscript{19}Sara M. Steel, \textit{op. cit.}
6. Program evaluation is a management task.
7. Program evaluation is people-centered.

Sutherland\textsuperscript{20} views effective evaluation as encompassing the following eight generalizable principles:

1. Evaluation of educational programs should be made in terms of the objectives of these programs
2. Evaluation should include assessments and appraisals of both product and process
3. Evaluation should be a continuous process, not just a "point-in-time" judgment
4. Evaluation should be made by both professionals and lay people
5. Evaluations of publicly supported programs should include economic factors and be concerned with input-output relationships
6. Evaluation and appraisals should be made not only on the basis of what has been done, but also on what has not been done
7. The major purposes of evaluation should be to provide quality control and a basis for intelligent change.

8. Evaluation should be concerned primarily if not exclusively, with the key indicators of success or failure.

Steel states that there are two important concepts in evaluation:

1. Evaluation must be purposeful and not done just for its own sake.

2. Evaluation should contribute to the present program, or to future programs. Its most important role is that of contributing to decisions about the program while it is in process and decisions about programming changes or future programs. Evaluation should be a part of answering questions about the appropriateness of methods, content, and program approach so that extension programs can continually be improved.

Evaluation has three essential elements. They are criteria, evidence and judgment.

Steel continues that we need to:

1. Develop criteria related to different evaluations and understand what characteristics of the program we are actually using as a basis for judgment when

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we use particular kinds of criteria.

2. Identify which criteria are most important in which situations.

3. Increase our experience in making judgments of various characteristics and the quality of those judgments.

Matthews\(^{22}\) outlines five benefits of evaluation. They are as follows:

1. It gives Extension workers better information on which to base the many decisions they have to make from day-to-day.

2. It is essential that one take time to make periodic checks on effectiveness of educational programs.

3. It gives a worker a feeling of security when he is doing a good job.

4. It gives a basis for good public relations.

5. The process itself helps the worker better prepare his design and methodology for the educational activity he is conducting.

Matthews also states that we evaluate so that we can have some measure of desirable or undesirable outcomes of educational action; that we take to move persons or groups of persons toward desired Extension goals or objectives.

Steel\textsuperscript{23} gives the following nine reasons for evaluation:

1. Increasing effectiveness
2. Choosing among program alternatives
3. Changing programs
4. Providing satisfaction
5. Increasing understanding of programming
6. Mission monitoring
7. Program defense and justification
8. Personal appraisal
9. Evaluating organizational structures and administrative climate.

Corey\textsuperscript{24} says that an important psychological consideration in evaluation is the fact that the people who stand the best chance of benefiting professionally from the experience of the evaluation are the ones who do the evaluation. They can see at first hand the effects of the methods and


procedures and can get speedy answers as to how good new and promising ways of doing the job really are. For this reason, persons responsible for the program should make efforts to do the evaluation or be a part of the evaluation team.

Sabrosky\(^{25}\) discusses the importance of evaluating organizational objectives. She states, "Success or failure of educational efforts may sometimes be related to organizational successes. In order to trace some of the reasons for success or failure of educational work, it is often necessary to evaluate organizational objectives."

In relation to the establishment of performance criteria for educational programs, Moss\(^{26}\) suggests five guidelines:

1. Educational programs should be evaluated by the product outcomes
2. The matrix of evaluative criteria should include the potential outcomes relevant to each of the different philosophies or value systems
3. Expected outcomes of educational programs can


\(^{26}\)Jerome Moss, Jr., The Evaluation of Occupational Education Programs, Technical Report No. 3, Research Coor-
be stated at several levels of specificity.

4. Indices of program outcomes should not only be consistent with philosophical positions, but they should also be sensitive to variation in program characteristics.

5. It would greatly facilitate weighting the relative merits of programs if it were possible to assign monetary values to program outcomes.

Hull and Hopkins support the need for more and better evaluation of educational programs. They feel that summative evaluation is the responsibility of each educational program director, but appraisal of program development must start the moment an educational program is conceived. They also feel that evaluation at the formative stage seeks to provide information to the planner before constraints become rigid and solidified.

Kempfer warns that any attempt to appraise a program by comparing it with another or with several others, perverts the basic purpose of evaluation and usually leads to

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Hull and Hopkins, Evaluating Area Vocational Technical Schools, Columbus, Ohio, The Ohio State University, 1969.

unsound conclusions. Programs differ in definitions, objectives, conditions accepted as desirable and in comparable features, but comparisons between them tend to impose the objectives of one program upon another.

Adams and Walker\(^2\) feel that once a program gets under way, there will still be countless problems and ways that it could be improved. Even the best laid plans need to be reshaped and refocused when they are put into practice. There are many evaluation techniques that can be helpful to provide information for improving a program. This type of information should help to provide to make decisions about what aspects of the program need to be modified.

They feel that even the most elaborate evaluation for improvement is usually based upon five fairly simple questions:

1. Are we still on target towards the program goals?
2. What are the strengths of the program? What are the best features? What is working well?
3. What are the weaknesses of the program? What are the most problem-ridden areas? What is not working?

4. What suggestions, recommendations, and ideas do various participants in the program have for building on the strengths and reducing the problems?

5. What related opportunities or activities are occurring that the program should incorporate, take advantage of, or learn from? Is the program up-to-date within the "state-of-the-art" in career education?

Patton et al.\textsuperscript{30} conducted a study of 20 federal health evaluations in order to identify factors that increase the use of evaluation results. The study revealed that the single most important factor was the "personal factor." The personal factor is made up of "leadership, interest, enthusiasm, commitment, aggressiveness and caring about the evaluation (or program)." In other words, when decision makers and other relevant audiences were involved in thinking through and designing the study and were interested in and committed to the study, evaluations had an impact. When these personal factors were absent, there was a marked decrease in impact. Individuals who care about seeing evaluation results utilized should take seriously their

responsibility for identifying relevant decision makers.

Wentling and Lawson\(^{31}\) state that self-evaluation may be the most accurate of any if the proper atmosphere has been set. While direct observation often inhibits the real classroom behavior of students and teachers, instructional personnel are aware of the everyday problems they face in the classroom. To facilitate accurate and honest self-evaluation, evaluation goals must be carefully defined.

Sheets et al.\(^{32}\) feel that self-appraisal is better than appraisal by outsiders.... Evaluative surveys by "outside experts" which do not adequately involve local people notoriously result in little improvement. Prescriptions in survey reports may be read by a few but often are not acted upon. A small percentage of the recommendations may be adopted but many of them are ignored.

While self-appraisal induces growth, a combination of self- and outside-appraisal often is still better. Outsiders can see us as we cannot. The interactions of outsiders and local folks results in maximum stimulation and growth.

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Raudabaugh states that effective educational programs provide for these steps, Awareness, Interest, Evaluation and Decision, and Testing and Adoption in the learning or diffusion process and contribute to the production of behavioral changes. To evaluate a program, evidence must be collected about these kinds of behavior and behavioral changes in the people concerned. Educational evaluation then is the process of determining the degree to which desired behavioral changes have taken place or are currently taking place as a result of educational effort. Similarly, extension education evaluation is the process of determining how well desired behavioral changes have taken place or are taking place as a result of extension education effort.

In order to answer the question of "how productive are extension programs?" Bennett suggests seven categories of criteria for evaluating extension programs and offers guidance in choosing evidence in these categories. He says hierarchy of evidence for program evaluation has seven steps:

1. Inputs
2. Activities

3. People involvement
4. Reactions
5. KASA change
6. Practice change
7. End results

Then he suggests to ask these questions when you want to select evidence for evaluating extension programs:

1. Which levels of the hierarchy contain the kind of evidence we need to make decisions?
2. How "hard" does the evidence need to be?
3. Are resources available to obtain the level and hardness of evidence needed?

Farmer\textsuperscript{35} feels in assigning priorities to the identified evaluative questions can be helped by determining the extent to which the likely answers to each evaluative questionnaire:

1. Considered of relative great importance to the program's administrator/and or significant others
2. Likely to indicate how the program has affected the participants and, in a more general sense, affected the quality of their lives and those around them.

3. Thought to be helpful in determining to what extent the program has achieved its explicit and implicit intents, as well as the nature and extent of unintended consequences of the program.

4. Necessary to avoid distortion in understanding the system and in making judgments about the program's worth.

Oren conducted a study in relation to program effectiveness as evaluated by five clientele groups. They included agricultural producers, home economists, 4-H youth, producers, resource development, and off-farm agriculture clientele. He found that 4-H clientele perceived the overall effectiveness of the Ohio Cooperation Extension Services efforts higher than other clientele groups while agricultural producers perceived the effectiveness lower than any other group. He used organizational goal attainment as the basis for evaluating program effectiveness. However, he found that clientele as a whole were satisfied with the performance of the Ohio Cooperative Extension Service in obtaining its goals and meeting their needs.

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Warner in his study investigated the relationship of staffing pattern on the program effectiveness, organizational complexity, job satisfaction as seen by professional extension staff in seven states.

Findings of his study show that there is significant different in effectiveness among the seven states studied. The two states with the highest mean effectiveness score were from one area staffing pattern and the county pattern. Therefore, it was concluded that differences that reflected by the states find their source in factors other than the staffing pattern. He also found that there were no significant differences in perceived organizational effectiveness with respect to program area of the respondent.

During the early 1970's, the University of Missouri launched a thorough reappraisal of academic programs of the four-campus institutions, including extension programs. A self-evaluation of extension programs, coupled with reviews by teams of educators from across the nation was performed.

Campbell in his paper about evaluation at the University of Missouri, states that evaluation at the

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institutional level led to recommendations of a general nature and the impact of adjustments tried as a result are difficult to assess immediately. Despite acknowledged weaknesses and/or oversights, extension evaluation at the University of Missouri has been very helpful. Not only has it helped strengthen judgments that have been made, but a precedent has been established on which additional evaluation efforts will be based in the future.

Mulford et al.\textsuperscript{39} state, "The focus of evaluation constitutes the data source in the evaluation. That is, whether the evaluation will be based on information from individuals who are members of the unit (e.g., the Extension Service), or by individuals external to the unit (e.g., clientele groups, community leaders, legislatures). Roughly, then, we can identify two foci in evaluation. There is the perspective or focus held by those internal to the unit and the perspective or focus held by those external to the unit. This is indeed an important consideration in planning and evaluation....In looking at kinds of evaluation evidence related to goals, internal evaluators stress issues involved in organizational productivity. While internal evaluators' perspective gives them a greater

\textsuperscript{39}Charles L. Mulford et al., Organizational Effectiveness and Impact: A Planning Guide, Department of Sociology and Anthropology, Iowa State University, Ames, Iowa, August 1977.
appreciation for the constraints under which the unit must function, this same perspective allows them to gauge what the unit could accomplish if it were maximally effective."

Harriman and McKenna state that evaluations of extension programs can't rely on the traditional classroom evaluation technique of comparing scores. Asking right questions to uncover discrepancies between what is happening versus desired program outcomes is an important first step towards improving the educational effectiveness of extension programs. This way, evaluation becomes an integral part of program development.

Extension's Evaluation Studies in Iran

Most of the evaluation activities of Iran Extension Service are progress or fiscal in nature. For example, the Iran Extension Service in one of its publications provides information on number of meetings, number of participants, number of educational movies shown, number


of demonstration plots, number of radio programs, etc., which were held in a year.

Rassi in the paper he presented at CENTA Conference on Agricultural Extension states that "the extension service during its thirteen years has demonstrated the important role it played in increasing farm production and raising of the rural standard of living and immeasurable educational values which are primary needs in every progressing country...prior to 1953 (the beginning of the present foundation and philosophy of extension service), farmers had rarely used any chemical fertilizers or had their soil tested. In 1965, 20,000 tons of fertilizer were used throughout the country and the applications of soil tests are increasing every year. The use of sugar beet pulp and molasses as animal feed was similarly introduced to livestock owners by the extension agents." Of course, he does not provide any information in his paper on why he thinks extension service causes farmers to use more fertilizer or have their soil tested.

Shabbazi conducts a study to compare the extension planning process followed in Hamedan Sub-province with

42Jafar, Rossi, op. cit.

43Ismail, Shabbazi, "The Extension Program Planning and Its Effectiveness in Hamedan Sub-province, Iran." American University of Beirut, selected chapters, Hamedan Agricultural College publication, number 30.
with Boyle's model of planning. Ninety extension professional members of different age groups with various administrative positions and different levels of education and lengths of tenure in office were interviewed. Another sample of 65 farmers, known by the extension agents as local lay leaders, were randomly selected and interviewed. The findings of his study revealed that respondents had an unsatisfactory understanding of the philosophy, objectives, policies and procedures which were the necessary conditions for formulating the basis for the extension programs.

With regard to organizing for the planning phase, the rural people were not formally and actively involved in the process of program development. In the actual planning phase, some conditions, such as participation of local people in analysis and interpretation of the collected data, defining the objectives, and to some extent, the considerations to tackle the problems were satisfactorily performed. Other conditions in general, and the involvement of people's representatives in the final stage of making decisions in particular, were poorly fulfilled. Conditions pertaining to the documentation of the written program were found to be performed more satisfactorily than those of the other stages.
Broad scope evaluations were frequently practiced by the professional staff. The evaluation activities were of a more progress-funding-type than a problem-oriented-nature. The farmer-respondents reflected a favorable attitude towards participating in the extension planning activities. With respect to the mechanism of the current planning activities, the results obtained through the farmer-respondents confirmed those expressed by the professional-respondents.

Shabbazi highly recommends the establishment of an Agricultural Extension Training and Research Institute to study and evaluate regularly, continuously and objectively, the extension field activities, as well as the needs and the problems in an attempt to provide the organization with constructive suggestions and recommendations.

**Summary**

Extension evaluation means the use of the scientific approach in providing facts as basis for making decisions and drawing conclusions for forming judgments about organization and conduct of extension work. Evaluation is important in administrative and program decision making. Without evaluation, it is impossible to determine progress toward organization and personal goals.
The related theory and practice associated with appraising educational programs, points up the importance of using internal sources (extension personnel) in the evaluation of Extension Service and also the fact that internal source may tend to rank himself high. It also points up that a very acceptable method of evaluation is to measure the degree to which organizational goals are being attained.
CHAPTER III
THE FINDINGS

This chapter will be presented in the following components:

1. Characteristics of the respondents
2. Appraisal by respondents of Extension Education Techniques
3. Appraisal of the attainment of Agricultural Education objectives
4. Appraisal of the performance of critical tasks in Agricultural Education
5. Overall appraisal of Education efforts of the Extension Service
6. Appraisal of the attainment of village youth club educational objectives
7. Appraisal of the performance of critical tasks in village youth clubs
8. Overall appraisal of educational efforts of village youth clubs
9. Respondents' perceptions of program priorities
10. Differential comparison of appraisal of Extension Service by level of education, years of experience and length of pre- and in-service education
11. Differential comparison of appraisal of Extension Service by organizational position province and place of residency

Characteristics of Respondents

This part describes the respondents by the following selected background characteristics:

1. Organizational position
2. Level of education
3. Years of job experience
4. Months of pre- and in-service education
5. Place of residence

Organizational Position

The respondents in this study consisted of extension specialists and extension agents in Fars and Semnan provinces of Iran. Table 2 indicates that 30.4 percent of the

<table>
<thead>
<tr>
<th>Organizational Position</th>
<th>Number of Respondents</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialists</td>
<td>21</td>
<td>30.4</td>
</tr>
<tr>
<td>Agents</td>
<td>48</td>
<td>69.6</td>
</tr>
<tr>
<td>Total</td>
<td>69</td>
<td>100.0</td>
</tr>
</tbody>
</table>
respondents were extension specialists and 69.6 percent of the respondents were extension agents.

Educational Level

Respondents were asked to indicate the highest level of formal education they had completed. Table 3 reveals that more than half of the respondents in each province were high school graduates. This table also indicates that seventeen, or 24.6 percent, of the respondents were college graduates and four, or 5.8 percent, of the respondents had more than a Bachelor's degree.

Table 3

Number and Percent of Respondents by Highest Level of Formal Education Completed and Province

<table>
<thead>
<tr>
<th>Highest Level of Formal Education</th>
<th>Province</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fars</td>
<td>Semnan</td>
</tr>
<tr>
<td></td>
<td>Number</td>
<td>Number</td>
</tr>
<tr>
<td>High school graduate</td>
<td>26</td>
<td>62</td>
</tr>
<tr>
<td>Some college</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>College graduate</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>More than B.Sc.</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>23</td>
</tr>
</tbody>
</table>

Table 4 classifies the respondents according to highest level of formal education and organizational position. This
Table 4
Respondents Classified According to Highest Level of Formal Education Completed and Organizational Position

<table>
<thead>
<tr>
<th>Highest Level of Formal Education</th>
<th>Specialists</th>
<th>Agents</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>High school graduate</td>
<td>38</td>
<td>79.2</td>
<td>38</td>
</tr>
<tr>
<td>Some college</td>
<td>-</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>College graduate</td>
<td>17</td>
<td>81.0</td>
<td>10</td>
</tr>
<tr>
<td>More than B.Sc.</td>
<td>4</td>
<td>19.0</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>100.0</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>69</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The table shows that seventeen, or 81.0 percent, of the specialists were college graduates and four, or 19.0 percent, of the specialists had completed college work beyond the Bachelor's degree level. This table also shows that there was no college graduate agent and thirty-eight, or 79.2 percent, of the agents were high school graduates. More than 20.0 percent of the agents indicated they had received some college education.

Years of Job Experience in Extension

Table 5 illustrated the number of years the respondents have worked in the extension service.

As shown in Table 5, ten, or 47.6 percent, of the specialists had between four to six years of job experience. Four, or 19.0 percent, of the specialists had between one to
### Table 5

Respondents Classified According to Years of Job Experience and Organizational Position

<table>
<thead>
<tr>
<th>Years of Job Experience</th>
<th>Specialists</th>
<th>Agents</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Number</td>
<td>Number</td>
</tr>
<tr>
<td></td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
</tr>
<tr>
<td>1- 3</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>19.0</td>
<td>4.2</td>
<td>8.7</td>
</tr>
<tr>
<td>4- 6</td>
<td>10</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>47.0</td>
<td>12.5</td>
<td>23.2</td>
</tr>
<tr>
<td>7- 9</td>
<td>3</td>
<td>19</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>14.4</td>
<td>39.6</td>
<td>31.9</td>
</tr>
<tr>
<td>10-12</td>
<td>2</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>9.5</td>
<td>20.8</td>
<td>17.4</td>
</tr>
<tr>
<td>13 or more</td>
<td>2</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>9.4</td>
<td>22.9</td>
<td>18.8</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>48</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean years of job experience = 8.82; Std = 4.42.

Three years of job experience. Three, or 14.4 percent, of the specialists had between seven to nine years of job experience. Two, or 9.0 percent, of the specialists had between 10 to 12 years of job experience in the Extension Service and the same number of the specialists had 13 or more years of job experience. This table also indicates that nineteen, or 39.6 percent of the agents, had between seven to nine years of job experience. Eleven, or 22.9 percent, of the agents indicated that they had 13 or more years of job experience in Extension Service. Only two, or 4.2 percent, of the agents had between one to three years of job experience.

The mean years of job experience for all the respondents was 8.82 and the standard deviation was 4.42.
Months of Pre- and In-service Education

The respondents were asked to indicate the number of months of pre-service and in-service education they had completed. Table 6 classifies the respondents according to number of months of pre-service and in-service education they had completed and their organizational position.

Table 6
Respondents Classified According to Months of Pre- and In-service Education Completed and Organizational Position

<table>
<thead>
<tr>
<th>Months of Pre- and In-service Education</th>
<th>Specialists Number</th>
<th>Specialists Percent</th>
<th>Agents Number</th>
<th>Agents Percent</th>
<th>Total Number</th>
<th>Total Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>12</td>
<td>57.1</td>
<td>14</td>
<td>29.2</td>
<td>26</td>
<td>37.7</td>
</tr>
<tr>
<td>3-4</td>
<td>5</td>
<td>23.8</td>
<td>10</td>
<td>20.8</td>
<td>15</td>
<td>21.7</td>
</tr>
<tr>
<td>5-6</td>
<td>2</td>
<td>9.5</td>
<td>10</td>
<td>20.8</td>
<td>12</td>
<td>17.4</td>
</tr>
<tr>
<td>7 or more</td>
<td>2</td>
<td>9.5</td>
<td>14</td>
<td>29.2</td>
<td>16</td>
<td>23.2</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>100.0</td>
<td>48</td>
<td>100.0</td>
<td>69</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean months of pre- and in-service education = 6.53; Std = 7.45.

The table indicates that 57.1 of the specialists had completed between one or two months of in-service and pre-service education. It also shows that only 9.5 percent of the specialists had completed seven or more months of pre- and in-service education. Nearly 30 percent of the agents had completed one or two months of pre-service and in-service
education. The percent of agents who completed seven or more months of pre-service and in-service education was almost 30 percent.

The respondents had a mean of 6.53 months of pre-service and in-service education completed and a standard deviation of 7.45

Place of Residence

Respondents were asked to indicate whether the province in which they work was their home province or not. Table 7 reveals that 97.8 percent of respondents of Fars province were originally from the same province and only 2.2 percent of the respondents were from other provinces. In Semnan province 60.9 percent of the respondents were from the same province and 39.1 percent of that province's respondents were originally from other provinces.

Table 7

Respondents Classified According to Whether They Work in Their Home Province or Not

<table>
<thead>
<tr>
<th>Do You Work in Your Fars</th>
<th>Semnan</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Province</td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Yes</td>
<td>45</td>
<td>97.8</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Appraisal by Respondents of Extension Education Techniques

One dimension of this study was to analyze the appraisal by respondents of the effectiveness of educational techniques that were used by the Extension Service. The techniques were appraised using the following scale:

5 = Excellent
4 = Very good
3 = Good
2 = Fair
1 = Poor
N. U. = Never Used

Table 8 provides data regarding the appraisal of Extension Education techniques in relation to all the

Table 8

<table>
<thead>
<tr>
<th></th>
<th>Median</th>
<th>D</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home and business visits</td>
<td>4</td>
<td>4</td>
<td>1.5</td>
</tr>
<tr>
<td>Demonstration</td>
<td>4</td>
<td>4</td>
<td>1.5</td>
</tr>
<tr>
<td>Short period courses</td>
<td>3</td>
<td>3</td>
<td>3.5</td>
</tr>
<tr>
<td>Educational movies</td>
<td>3</td>
<td>4</td>
<td>3.5</td>
</tr>
<tr>
<td>Publication</td>
<td>3</td>
<td>4</td>
<td>3.5</td>
</tr>
<tr>
<td>Tours</td>
<td>3</td>
<td>4</td>
<td>3.5</td>
</tr>
<tr>
<td>Radio programs</td>
<td>2</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

D = 90th to 10th percentile range.
the respondents. This table is presented in three columns: The column under "Median" provides a median score for each education technique for all the respondents appraising each technique. The column entitled "Rank" illustrates the ranking of each education technique that is representative of appraisals made by all of the respondents. The last column entitled "D" shows the 90th to 10th percentile range of each education technique for all the respondents appraising each technique.

The "Rank" column in Table 8 indicates that respondents appraised the following four techniques as the most effective techniques:

1. Home and business visits
2. Demonstration
3. Short period courses
4. Educational movies

The ranking also shows that publication, tours and radio programs were appraised by the respondents as being the least effective.

Table 9 shows the opinions of the extension specialists as to the effectiveness of extension's education techniques. The extension specialists rated the following four techniques as being the most effective:
3. Short period courses
4. Education movies
5. Tours

Publication and radio programs as Extension Education techniques were rated lowest in terms of effectiveness by agents.

It was interesting to note that home and business visits was ranked as the most effective Extension Education technique by both agents and specialists. Both groups also appraised radio programs as being the least effective Extension Education techniques.

Table 9 shows that there were differences in the median scores that reflect the appraisal of Extension Education techniques by extension specialists and extension agents. These differences were shown to be statistically significant according to the Mann-Whitney U Test in appraisal of the following techniques:

- Demonstrations (sig. = .019)
- Short period courses (sig. = .043)
- Education movies (sig. = .01)
- Tours (sig. = .001)
- Radio programs (sig. = .003)

In all the above cases the agents felt these techniques were significantly more effective than the specialists.
Table 9
Appraisal by Specialists and Agents of Extension Education Techniques

<table>
<thead>
<tr>
<th></th>
<th>Specialists (N=21)</th>
<th>Agents (N=48)</th>
<th>Mann-Whitney U</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median</td>
<td>Rank</td>
<td>D.</td>
</tr>
<tr>
<td>Home and business visits</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Demonstrations</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Short period courses</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Publications</td>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Education movies</td>
<td>2</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Tours</td>
<td>2</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Radio programs</td>
<td>1</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

$r_s = .70; \ n = 7; \ D = 90th \ to \ 10th \ percentile \ range$

1. Home and business visits
2. Demonstrations
3. Short period courses
4. Publications

The Extension specialists appraised educational movies, tours and radio programs as being least effective.

Table 9 also reflects the opinions of agents. Agents appraised the following five education techniques as being the most effective:

1. Home and business visits
2. Demonstration
This table also presents a comparison of the rankings of the appraisals made by specialists and agents regarding the effectiveness of extension education techniques.

An $r_s$ of .70 resulted from an application of the Spearman rank order correlation to the rankings of seven extension education techniques. This $r_s$ indicates a strong positive correlation between the ranking order appraisals by specialists and agents. This correlation was of significance at the .05 level.

**Appraisal of Attainment of Agricultural Education Objectives**

This section of the report provides data regarding the appraisal of the effectiveness of the attainment of agricultural education objectives by the Extension Service as viewed by the specialists and the agents. The following rating scale was used to appraise the attainment of the educational objectives:

- $5 = $Excellent
- $4 = $Very good
- $3 = $Good
- $2 = $Fair
- $1 = $Poor

Table 10 illustrated the evaluation of specialists and agents regarding the effectiveness of the Extension Service in attaining the agricultural education objectives.
Table 10
Appraisal by Extension Specialists and Agents of the Attainment of Agricultural Educational Objectives

<table>
<thead>
<tr>
<th>Object</th>
<th>Specialists (N=21)</th>
<th>Agents (N=48)</th>
<th>Mann-Whitney U</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median Rank</td>
<td>Median Rank</td>
<td>Sig.</td>
</tr>
<tr>
<td>To help farmers utilize the knowledge of controlling plant diseases, insects and pests through the safe effective use of fungicides, insecticides and herbicides</td>
<td>3 2.5</td>
<td>3 6.5</td>
<td>.501</td>
</tr>
<tr>
<td>To help farmers utilize the knowledge of seedling, growing, harvesting, and handling crops to improve agricultural and horticultural production</td>
<td>3 2.5</td>
<td>3.5 2</td>
<td>.134</td>
</tr>
<tr>
<td>To help farmers utilize knowledge of controlling animal diseases and pests to improve production</td>
<td>3 2.5</td>
<td>4 1</td>
<td>.017</td>
</tr>
<tr>
<td>To help farmers utilize knowledge of plant selection, breeding, and care to improve agricultural and horticultural productions</td>
<td>2 7.9</td>
<td>3 6.5</td>
<td>.007</td>
</tr>
<tr>
<td>To help farmers utilize knowledge of plant analysis, growth and development to improve agricultural and horticultural production</td>
<td>3 2.5</td>
<td>3 6.5</td>
<td>.840</td>
</tr>
<tr>
<td>To help farmers utilize all the information they need to successfully operate their agricultural business</td>
<td>2 7.9</td>
<td>3 6.5</td>
<td>.041</td>
</tr>
</tbody>
</table>
Table 10 (continued)

| To help farmers utilize the knowledge of plant nutrition, soil testing, soil structure, and soil management to improve agricultural production | 9 7.9 3 6.5 | .041 |
| To help farmers understand how to secure and use farm power and equipment safely | 2 7.9 2.5 11 | .105 |
| To help farmers utilize knowledge of animal nutrition and feeding to improve production | 2 7.9 3 6.5 | .001 |
| To help farmers understand how to use irrigation principle and new development in irrigation techniques | 2 7.9 3 6.5 | .030 |
| To help farmers become more effective in their marketing operation | 2 7.9 2 13.5 | .217 |
| To help farmers utilize knowledge of animal selection, breeding and care to improve production | 1 13.5 3 6.5 | .002 |
| To help farmers develop marginal ability to organize and utilize land capital and new technology | 1 13.5 2 13.5 | .016 |
| To help farmers use soil and water conservation in the management and development of their land use | 1 13.5 2 13.5 | .030 |
Table 10 (continued)

<table>
<thead>
<tr>
<th></th>
<th>Specialists (N=21)</th>
<th>Agents (N=48)</th>
<th>Mann-Whitney U</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median Rank</td>
<td>Median Rank</td>
<td>Sig.</td>
</tr>
<tr>
<td>To help farmers understand</td>
<td>1 13.5</td>
<td>2 13.5</td>
<td>.020</td>
</tr>
<tr>
<td>how to secure, construct,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>maintain and utilize</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>buildings and other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>structures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rs = .59; significant at .05 level; N = 15.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 10 shows that there were differences in the median scores that reflect the appraisal of attaining agricultural education objectives of the Extension Service by specialists and agents. The differences were shown to be statistically significant according to the Mann-Whitney U test in evaluation of the following objectives by specialists and agents:

1. To help farmers utilize knowledge of animal selection, breeding and care to improve production (Sig. = .002).
2. To help farmers utilize knowledge of animal nutrition and feeding to improve production (Sig. = .001)
3. To help farmers utilize knowledge of controlling animal diseases and pests to improve production (Sig. = .017).
4. To help farmers utilize knowledge of plant selection, breeding, and care to improve agricultural and horticultural productions (Sig. = .007).
5. To help farmers use soil and water conservation in the management and development of their land use (Sig. = .03).
6. To help farmers understand how to secure, construct and maintain and utilize buildings and other structures (Sig. = .02)

7. To help farmers develop marginal ability to organize and utilize land capital and new technology (Sig. = .016)

8. To help farmers understand how to use irrigation principle and new developments in irrigation techniques (Sig. = .03)

9. To help farmers utilize the knowledge of plant nutrition, soil testing, soil structure and soil management to improve agricultural production (Sig. = .041)

10. To help farmers utilize all the information they need to successfully operate their agricultural business (Sig. = .041)

Table 10 shows that extension specialists felt that the Extension Service is best in attaining the following educational objectives:

1. To help farmers utilize the knowledge of controlling plant diseases, insects, and pests through the safe and effective use of fungicides, insecticides and herbicides.

2. To help farmers utilize the knowledge of seeding, growing, harvesting, and handling crops to improve agricultural and horticultural production.

3. To help farmers utilize knowledge of controlling animal diseases and pests to improve productions.

4. To help farmers utilize knowledge of plant selection, breeding and care to improve agricultural and horticultural productions.

5. To help farmers utilize knowledge of plant analysis, growth and development to improve agricultural and horticultural production.
Extension specialists appraised the following agricultural education objectives as being the least effectively attained:

1. To help farmers use soil and water conservation in the management and development of their land use.

2. To help farmers understand how to secure, construct, maintain, and utilize buildings and other structures.

3. To help farmers develop marginal ability to organize and utilize land capital and new technology.

4. To help farmers utilize knowledge of animal selection, breeding and care to improve production.

5. To help farmers become more effective in their marketing operation.

Agents ranked the following objectives as the ones being most effectively attained:

1. To help farmers utilize knowledge of controlling animal diseases and pests to improve production.

2. To help farmers utilize the knowledge of seeding, growing, harvesting, and handling crops to improve agricultural and horticultural production.

3. To help farmers utilize knowledge of controlling plant diseases, insects and pests through the safe and effective use of fungicides, insecticides and herbicides.

4. To help farmers utilize knowledge of plant selection, breeding, and care to improve agricultural and horticultural productions.

5. To help farmers utilize all the information they need to successfully operate their agricultural business.
It was also illustrated in Table 10 that the agents appraised the following agricultural education objectives as being the least effectively attained:

1. To help farmers understand how to secure, construct, maintain and utilize buildings and other structures.

2. To help farmers become more effective in their marketing operations.

3. To help farmers use soil and water conservation in the management and development of their land use.

4. To help farmers develop marginal ability to organize and utilize land capital new technology.

5. To help farmers understand how to secure and use farm power and equipment safely.

It was interesting to observe from the data in Table 10 that among the five objectives which were ranked by specialists and agents as being most effectively attained, four were the same. Also among the five objectives which were ranked by specialists and agents as being least effective, four were the same.

The application of the Spearman Rank-order Correlation to the ranking by specialists and agents yielded an $r_s$ of .59. This correlation is significant at the .05 level. This positive strong correlation indicates that specialists and agents are in agreement in the agricultural education objectives which are most effectively and least effectively attained.
Appraisal of the Performance of Critical Tasks in Agricultural Extension Education

The data presented in this section reflect the appraisal of the performance of critical tasks in agricultural extension education. These tasks have been recognized by numerous extension educators as being critical to the development and implementation of effective extension education programs.\footnote{John W. Oren, \textit{op. cit.}}

The performance of critical tasks was appraised through the following rating scale:

- 5 = Excellent
- 4 = Very good
- 3 = Good
- 2 = Fair
- 1 = Poor

Table \ref{table:tasks} shows the opinion of specialists regarding the performance of critical tasks in agricultural education by the Extension Service. As shown in this table specialists appraised the following tasks as being the most effectively performed by the Extension Service:

1. Explaining information to clientele
2. Working with individual clientele to help with their problems
3. Recognizing the problems and extension educational needs
4. Attempting to serve better the educational needs of its clientele
5. Selecting and using interesting methods of teaching its programs.

Table 11
Appraisal by Extension Specialists and Extension Agents of the Critical Tasks in Agricultural Extension Education

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Specialists (N=21)</th>
<th>Agents (N=48)</th>
<th>Mann-Whitney U</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explaining information to clients</td>
<td>3 3</td>
<td>4 1.5</td>
<td></td>
<td>.156</td>
</tr>
<tr>
<td>Working with individual clientele to help with their problems</td>
<td>3 3</td>
<td>4 1.5</td>
<td></td>
<td>.009</td>
</tr>
<tr>
<td>Recognizing the problems and Extension educational needs</td>
<td>3 3</td>
<td>3 8</td>
<td></td>
<td>.307</td>
</tr>
<tr>
<td>Attempting to serve better the educational needs of its clientele</td>
<td>3 3</td>
<td>3.5 3</td>
<td></td>
<td>.020</td>
</tr>
<tr>
<td>Selecting and using interesting methods of teaching its programs</td>
<td>3 3</td>
<td>3 8</td>
<td></td>
<td>.094</td>
</tr>
<tr>
<td>Publicizing its planned activities</td>
<td>2 9</td>
<td>2 13.5</td>
<td></td>
<td>.463</td>
</tr>
<tr>
<td>Demonstrating necessary technical knowledge and experience</td>
<td>3 9</td>
<td>3 8</td>
<td></td>
<td>.121</td>
</tr>
<tr>
<td>Using appropriate materials that are directed at the needs and interests of the people it serves</td>
<td>2 9</td>
<td>3 8</td>
<td></td>
<td>.002</td>
</tr>
<tr>
<td>Involving key leaders and organizations in the planning of its educational programs</td>
<td>2 9</td>
<td>3 8</td>
<td></td>
<td>.030</td>
</tr>
</tbody>
</table>
Table 11 (continued)

<table>
<thead>
<tr>
<th>Task</th>
<th>Specialists (N=21)</th>
<th>Agents (N=48)</th>
<th>Mann-Whitney U</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintaining its public image</td>
<td>2 9</td>
<td>3 8</td>
<td></td>
<td>.006</td>
</tr>
<tr>
<td>Serving all the farmers in the country (percent of farmers it serves)</td>
<td>2 9</td>
<td>3 8</td>
<td></td>
<td>.001</td>
</tr>
<tr>
<td>Showing flexibility and ability to adopt programs to changing circumstances</td>
<td>2 2</td>
<td>2 13.5</td>
<td></td>
<td>.030</td>
</tr>
<tr>
<td>Understanding and providing educational programs to meet educational needs of farmers</td>
<td>1 13.5</td>
<td>3 8</td>
<td></td>
<td>.032</td>
</tr>
<tr>
<td>Involving the people that the Extension serves in its educational program planning</td>
<td>1 13.5</td>
<td>3 8</td>
<td></td>
<td>.003</td>
</tr>
</tbody>
</table>

r_s = .43; not significant at .05 level; N = 14.

Extension specialists felt that the following tasks were least effectively performed:

1. Involving the people that the Extension serves in its educational program planning.

2. Showing flexibility and ability to adopt programs to changing circumstances.

3. Understanding and providing educational programs to meet educational needs of farmers.

4. Serving all the farmers in the country (percent of farmers it serves).

5. Maintaining its public image.
Table 11 also illustrates the agents appraised the following tasks as being the most effectively performed by the Extension Service:

1. Working with individual clientele to help with their problems
2. Explaining information to clientele.
3. Attempting to serve better the educational needs of its clientele.
4. Using appropriate materials that are directed at the people's needs and interests of the people it serves.

Extension agents ranked the following tasks as being the least effectively performed:

1. Showing flexibility and ability to adopt programs to changing circumstances.
2. Involving the people that the extension serves in the educational program planning.
3. Publicizing its planned activities.
4. Understanding and providing educational programs to meet educational needs of farmers.
5. Involving key leaders and organizations in its educational programs.

It was illustrated in Table 11 that the median scores for the appraisal of each task by specialists was different and in all cases lower than median scores for the appraisals by agents. These differences were shown to be statistically significant according to the Mann-Whitney U test in appraisal of the performance in the following critical tasks in agricultural extension education:
1. Working with individual clientele to help with their problems (sig. = .009)

2. Attempting to serve better the educational needs of its clientele (sig. = .002)

3. Using appropriate materials that are directed at the needs and interests of the people it serves (Sig. = .002)

4. Involving key leaders and organizations in planning of its educational programs (Sig. = .03)

5. Maintaining its public image (Sig. = .006)

6. Serving all the farmers in the country (percent of farmers it serves) (Sig. = .001)

7. Understanding and providing educational programs to meet educational needs of farmers (Sig. = .032)

8. Showing flexibility and ability to adopt programs to changing circumstances (Sig. = .030)

9. Involving the people that the extension serves in its educational program planning (Sig. = .003)

Among the five tasks which were indicated by specialists and agents as most effectively performed, three were the same. Also among the tasks which were indicated by agents and specialists as the least effectively performed, three were the same. The Spearman-Rank order correlation coefficient between ranking of the performance of critical tasks by extension specialists and ranking of the performance of critical tasks by agents was .43. This correlation was not significant at .05 level. This would indicate that there
was moderate agreement between specialists and agents in ranking the critical tasks which were most effectively and least effectively performed.

**Overall Appraisal of Education Efforts of the Extension Service**

The respondents were asked, "In general, how effective are the educational efforts of the Extension Service performed?" Table 12 shows the response to the question by specialists and agents.

As shown in Table 12, 81 percent of the specialists appraised the overall effectiveness of educational efforts of the Extension Service as "fair" or "poor." More than 56 percent of the agents appraised the overall effectiveness of the educational efforts of the Extension Service as "fair" or "poor."

Respondents were also asked to explain why they answered the above question as they did. The following explanations were given by those respondents who appraised the overall effectiveness of educational efforts of the Extension Service as "fair" or "poor." This group includes 63.8 percent of the respondents.

- Extension Service does not have enough resources, facilities, and funds to do a good job (N = 10)
- Extension programs are not based on the needs of people and local situation (N = 8)
Table 12

Distribution of Response of Appraisal of the Overall Effectiveness of the Educational Efforts of the Extension Service

<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Very good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>In general, how effective are the educational efforts of the Extension Service performed?</td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
</tr>
<tr>
<td>Specialists</td>
<td>4.7</td>
<td>-</td>
<td>14.3</td>
<td>38.1</td>
<td>42.9</td>
<td>100</td>
</tr>
<tr>
<td>Agents</td>
<td>8.3</td>
<td>8.3</td>
<td>27.1</td>
<td>37.5</td>
<td>18.8</td>
<td>100</td>
</tr>
<tr>
<td>Composite</td>
<td>7.2</td>
<td>5.8</td>
<td>23.2</td>
<td>37.7</td>
<td>26.1</td>
<td>100</td>
</tr>
</tbody>
</table>
- Extension has not been successful due to lack of a valid agricultural policy (N = 6)
- Extension Service has deviated from its objectives (increasing farmers' income through educational programs) (N = 6)
- Extension Service has not been successful in implementing its programs (N = 5)
- Research institutions have not provided the agent with information which can be used to meet the needs of farmers (N = 4)
- Lack of information and expertise on the part of agents (N = 3)
- Farmers do not have sufficient income to use the new agricultural techniques (N = 2)
- Lack of inservice education for extension worker (N = 2)
- Extension administrators do not have a good understanding of agricultural problems (N = 1)
- Most of the specialist's time is occupied by tasks unrelated to educational programs (N = 1)
- Extension service does not use its resources efficiently (N = 1)

The 36.8 percent of respondents who appraised the overall effectiveness of educational efforts of the Extension Service as "good," "very good," or "excellent" gave the following explanations:
- There has been a change in agricultural practices, for example, agents have been able to encourage the farmer to use more chemical fertilizer (N = 6)
- Extension Service has been one of the main reasons for improvement in agricultural practices \( (N = 3) \).

- The farmers who have been in contact with Extension Service have increased their productivity \( (N = 3) \).

Table 13 reveals that there was significant difference between the median scores of appraisal by specialists and agents of the overall effectiveness of the educational efforts of the Extension Service according to the Mann-Whitney U test. Specialists appraised the overall education efforts of the Extension Service as less effective than agents.

Table 13

Appraisal by Specialists and Agents of the Overall Effectiveness of Agricultural Educational Effort of the Extension Service

<table>
<thead>
<tr>
<th></th>
<th>Specialists (N=21)</th>
<th>Agents (N=48)</th>
<th>Mann-Whitney U</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median D.</td>
<td>Median D.</td>
<td>Sig.</td>
</tr>
<tr>
<td>In general, how effective are the educational efforts of the Extension Service performed?</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

\( D = 90 \text{th to 10th percentile range.} \)
Spearman-Rank correlation coefficients were calculated to determine the degree of relationships between the variable overall appraisal of the effectiveness of the educational efforts of the Extension Service with organizational positions, highest level of formal education completed, years of job experience, and months of pre- and in-service education.

As revealed by the data in Table 14, there was a significant negative correlation between the organizational position and "overall appraisal of the effectiveness of the educational efforts of the Extension Service" ($r_s = -.28; \text{sign.} = .009$). Therefore it was concluded that the higher the organizational position (specialists) the lower the perceived effectiveness of the educational efforts of the Extension Service. Table 14 presents data concerning a significant negative correlation between the highest level of formal education completed and "the perceived effectiveness of overall educational efforts of the Extension Service" ($r_s = -.38; \text{sig.} = .001$). The negative relationship shows that as the level of education increases the respondents tended to appraise the overall effectiveness of educational efforts of the Extension Service lower.

This table also shows that there were no significant relationships between the overall effectiveness of the educational efforts of the Extension Service with years of job experience and months of pre- and in-service education.
### Table 14

Relationship between the Overall Appraisal of the Effectiveness of the Agricultural Education Efforts of the Extension Service with Four Selected Characteristics of the Respondents

N=69

<table>
<thead>
<tr>
<th>Organizational Position</th>
<th>Sig.</th>
<th>Educ. Level</th>
<th>Sig.</th>
<th>Years of Exper.</th>
<th>Sig.</th>
<th>Pre- and In-service Educ.</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In general, how effective are the educational efforts of the Extension Service performed?</td>
<td>-0.28</td>
<td>.009*</td>
<td>-0.38</td>
<td>.001*</td>
<td>0.11</td>
<td>.18</td>
<td>0.09</td>
</tr>
</tbody>
</table>

*Significant
Appraisal of the Attainment of Village Youth Club Educational Objectives

The data presented in this part reflect the appraisal of the effectiveness of the attainment of village youth club educational objectives. The respondents were asked to express their opinions regarding the attainment of objectives in the following scale:

- 5 = Excellent
- 4 = Very good
- 3 = Good
- 2 = Fair
- 1 = Poor

Table 15 illustrated the evaluation of the attainment of village youth club objectives by specialists and agents. As shown in the table, specialists ranked the following objectives as most effectively attained:

1. To help members of village youth club to develop a feeling of self-worth
2. To help members of village youth club to better use their leisure time
3. To help members of village youth clubs to develop their personal goals.

The following objectives were felt by specialists as the least effectively attained:

1. To help members of village youth clubs to learn skills through village youth club project experience.
2. To help members of village youth clubs to become more effective leaders.
3. To help members of village youth clubs to become more responsible citizens.
<table>
<thead>
<tr>
<th>Educational Objectives</th>
<th>Specialists (N=21)</th>
<th>Agents (N=48)</th>
<th>Mann-Whitney U</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>To help village youth club members to develop a feeling of self-worth</td>
<td>2 4.5</td>
<td>3 4.5</td>
<td></td>
<td>.183</td>
</tr>
<tr>
<td>To help village youth club members better use their leisure time</td>
<td>2 4.5</td>
<td>3 4.5</td>
<td></td>
<td>1.22</td>
</tr>
<tr>
<td>To help village youth club members develop their personal goals</td>
<td>2 4.5</td>
<td>2 9</td>
<td></td>
<td>1.32</td>
</tr>
<tr>
<td>To help village youth club members improve their personal appearance, health, and physical fitness</td>
<td>2 4.5</td>
<td>3 4.5</td>
<td></td>
<td>.314</td>
</tr>
<tr>
<td>To help village youth club members become a better member of their family</td>
<td>2 4.5</td>
<td>3 4.5</td>
<td></td>
<td>.001</td>
</tr>
<tr>
<td>To help village youth club members explore career opportunities</td>
<td>2 4.5</td>
<td>3 4.5</td>
<td></td>
<td>.027</td>
</tr>
<tr>
<td>To help village youth club members become more responsible citizens</td>
<td>2 4.5</td>
<td>3 4.5</td>
<td></td>
<td>.001</td>
</tr>
<tr>
<td>To help village youth club members become more effective leaders</td>
<td>2 4.5</td>
<td>3 4.5</td>
<td></td>
<td>.001</td>
</tr>
<tr>
<td>To help village youth club members learn skills through village youth club project experience</td>
<td>1 9</td>
<td>3 4.5</td>
<td></td>
<td>.001</td>
</tr>
</tbody>
</table>

\[ r_s = -.04; \text{n.s.} \quad n = 9 \]
Table 15 also presents data regarding the appraisal of the effectiveness of the Extension Service in attaining the village youth club educational objectives. The agents felt that the Extension Service best attained the following educational objectives:

1. To help members of village youth clubs to become a better member of their family.

2. To help members of village youth club to become more responsible citizens.

3. To help members of village youth club to better use their leisure time.

Agents indicated the following educational objectives were the least effectively attained:

1. To help members of village youth club to become a better member of their family.

2. To help members of village youth club to learn skills through village club project experience.

3. To help members of village youth club to develop their personal goals.

The Mann-Whitney U test was utilized to test the significant difference among median scores of appraisal of educational objectives of village youth clubs by specialists and agents. Table 15 presents the statistics concerning the results of utilizing Mann-Whitney U test. There were significant differences in appraisal of the following objectives by specialists and agents:
1. To help members of village youth club become a better member of their family (sig. = .001).

2. To help members of village youth club explore career opportunities (sig. = .021).

3. To help members of village youth club become more responsible citizens (sig. = .001).

4. To help members of village youth club become more effective leaders (sig. = .001).

5. To help members of village youth club learn skills through village youth club project experience (sig. = .001).

In all of the above cases the village youth club educational objectives were felt to be less effectively attained by specialists than by agents.

The Spearman rank order correlation coefficient between the perceived rank of the effectiveness of attaining village youth club educational objectives by specialists and perceived rank of the effectiveness of attaining village youth club educational objectives by agents was .04. This would indicate that there was no agreement between specialists and agents on the village youth club educational objectives which were most effectively and least effectively attained.
Appraisal of Performance of Critical Tasks in Village Youth Club

The study was designed to identify the opinion of respondents regarding the degree of effectiveness that the Extension Service has attained in its performance of village youth club critical tasks. The respondents were asked to appraise the performance of the village youth club critical tasks by utilizing the following scale:

5 = Excellent
4 = Very good
3 = Good
2 = Fair
1 = Poor

Table 16 presents data regarding the appraisal of performance of critical tasks in village youth club by specialists and agents. Specialists ranked the following critical tasks as the most effectively performed by the Extension Service:

1. Publicize its planned village youth club activities

2. Maintaining the public image of village youth club.

The specialists indicated they felt that the following tasks were the least effectively performed:
Table 16
Appraisal by Extension Specialists and Extension Agents of Performance of Critical Tasks in Village Youth Club Extension Education

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Specialists (N=21)</th>
<th>Agents (N=48)</th>
<th>Mann-Whitney U</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publicize its planned village youth club activities</td>
<td>Median Rank</td>
<td>Median Rank</td>
<td>Sig.</td>
<td></td>
</tr>
<tr>
<td>Maintain the public image of village youth club</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>.957</td>
</tr>
<tr>
<td>Look for ways to do a better job of serving people</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>.293</td>
</tr>
<tr>
<td>Display enthusiasm in village youth club program efforts</td>
<td>2</td>
<td>3</td>
<td>2.5</td>
<td>.196</td>
</tr>
<tr>
<td>Demonstrate the technical knowledge and experience necessary for the various village youth club programs</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>.030</td>
</tr>
<tr>
<td>Recognize the problems and village youth club needs</td>
<td>1</td>
<td>7</td>
<td>2</td>
<td>.152</td>
</tr>
<tr>
<td>Understand and provide village youth club program that meets the members' educational needs</td>
<td>1</td>
<td>7</td>
<td>3</td>
<td>.001</td>
</tr>
<tr>
<td>Involve the village youth club participants in club program planning</td>
<td>1</td>
<td>8</td>
<td>2</td>
<td>.001</td>
</tr>
</tbody>
</table>

\[ r_s = .15; n = 8. \]
1. Involving the village youth club participants in club program planning.

2. Understanding and providing village youth club programs that meet the members' educational needs.

3. Recognizing the problems and village youth club needs.

The ranking of the appraisals by agents of the performance of the village youth club critical tasks is illustrated in Table 16. This table shows that agents felt that the following tasks were the most effectively performed by the Extension Service:

1. Demonstrating the technical knowledge and experience necessary for the various village youth club programs.

2. Understanding and providing village youth club programs that meet the members' educational needs.

The table also shows that the agents ranked the following as being the least effectively performed tasks:

1. Involving the village youth club participants in club program planning.

2. Displaying enthusiasm in village youth club program efforts.

3. Recognizing the problems and village youth club needs.

As shown in Table 16 there were differences in the median scores of appraisal by specialists and agents of the Extension Service performance of critical tasks in village youth clubs. These differences were statistically significant for appraisal of the following tasks according to the
Mann-Whitney U test:

1. Looking for ways to do a better job of serving people (sig. = .018)

2. Demonstrating the technical knowledge and experience necessary for the various village youth club programs (sig. = .03).

3. Understanding and providing village youth clubs programs that meet the members' educational needs (Sig. = .001)

4. Involving the village youth club participants in club program planning (Sig. = .001).

In all of the above cases specialists were less satisfied with the performance of the Extension Service in the village youth club critical tasks than were the agents.

The application of the Spearman rank-order correlation to the two ranks in Table 16 yielded a $r_s = .15$, which indicates a low association. This relationship was not statistically significant. This indicates that specialists and agents were not in agreement on the critical tasks in village youth clubs which were most effectively and least effectively performed by the Extension Service.
Overall Appraisal of Educational Efforts of Village Youth Club

The respondents were asked to indicate the degree of effectiveness achieved through the educational efforts of the Extension Service in village youth club programs. Table 17 shows the distribution of responses on appraisal of overall effectiveness of the educational efforts of Extension Service in village youth club. More than 76 percent of specialists evaluated the overall effectiveness of village youth club programs as "fair" or "poor." Agents' reactions to the overall appraisal of educational efforts of village youth club were almost the same as specialists. Seventy-five percent of the agents felt the effectiveness of village youth club program was "fair" or "poor."

The respondents were also asked to explain why they appraised the overall effectiveness of educational efforts of village youth club as they did. The following explanations were given by the 75.4 percent of the respondents who appraised the effectiveness of extension service in village youth club programs as "fair" or "poor."

- Lack of resources, facilities and funds (N = 14)
- Village youth club programs did not originate from the needs of the people, therefore they cannot be carried out successfully (N = 13)
- Village youth club programs have never been implemented from planning to action (N = 11)
Table 17
Distribution of Response of Appraisal of the Overall Effectiveness of the Educational Efforts of the Extension Service in Village Youth Club Programs

<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
</tr>
<tr>
<td>In general, how effective are the educational efforts of the Extension Service in village youth club programs performed?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialists</td>
<td>4.8</td>
<td>0.0</td>
<td>19.0</td>
<td>14.3</td>
<td>71.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Agents</td>
<td>4.2</td>
<td>6.3</td>
<td>14.6</td>
<td>29.2</td>
<td>45.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Composite</td>
<td>4.3</td>
<td>4.34</td>
<td>15.9</td>
<td>24.6</td>
<td>50.8</td>
<td>100.0</td>
</tr>
</tbody>
</table>
- Immigration of youths from rural areas to cities for work does not give them much time to participate in programs (N = 10)

- Village youth club programs do not meet the needs of rural youths (N = 7)

- Lack of in-service education for agents by experts in this area (N = 2)

- Lack of enthusiasm on the part of the agents (N = 2)

The following explanations were given by respondents who felt the effectiveness of educational efforts of village youth club was "good," "very good," or "excellent." This group consisted of 24.5 percent of the respondents.

- Village youth club programs are a good way of diffusing new ideas about agriculture (N = 5)

- Village youth club programs encourage youths to be a better farmer in the future (N = 3)

Table 18 presents data regarding the median score of the appraisal of educational efforts of village youth club by specialists and agents. There was not a significant different in the median score of overall appraisal by specialists and agents. Both specialists and agents evaluated the overall effectiveness of educational efforts of village youth club very low.

To investigate the relationships between the overall appraisal of effectiveness of village youth club educational efforts with organizational positions, highest level of formal education completed, years of job experience, and
Table 18
Appraisal by Specialists and Agents of the Overall Effectiveness of Village Youth Club Educational Efforts of the Extension Service

<table>
<thead>
<tr>
<th>Specialists (N=41)</th>
<th>Agents (N=48)</th>
<th>Mann-Whitney U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median D</td>
<td>Median D</td>
<td>Sig.</td>
</tr>
</tbody>
</table>

In general, how effective are the educational efforts of the Extension Service village youth club programs performed? 1 2 2 2 .329

D = 90th to 10th percentile range.
months of pre- and in-service education completed, Spearman rank-correlation coefficients were used. As shown by the data in Table 19, there was a low negative association between the overall appraisal of the effectiveness of village youth club educational efforts with highest level of formal education completed which was significant at .05 level ($r_s = -0.20$; sig. = .05). Therefore, it was concluded that as level of formal education of respondents increased they tended to appraise the overall effectiveness of village youth club educational efforts lower. Further analysis of data in Table 19 shows that there were no significant relationships between the overall appraisal of effectiveness of village youth club educational efforts with organization position, years of job experiences, and months of pre- and in-service education completed.

**Respondents' Preceptions of Program Priorities**

One of the objectives of this study was to examine the opinion of respondents regarding the importance of the various program areas of Extension. Eight program areas were appraised by the respondents utilizing the following scale:

- **4** = Very important
- **3** = Important
- **2** = Fairly important
- **1** = Not important
Table 19
Relationship between the Overall Appraisal of the Effectiveness of the Village Youth Club Educational Efforts of the Extension Service with Four Selected Characteristics of Respondents

<table>
<thead>
<tr>
<th>Organization</th>
<th>Sig. Position</th>
<th>Sig. Educ. Level</th>
<th>Sig. Years of Exper.</th>
<th>Sig. Pre- and In-service Educ.</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>In general, how effective are the educational efforts of the Extension Service youth club programs performed?</td>
<td>-0.12</td>
<td>.16</td>
<td>-0.20</td>
<td>.053*</td>
<td>-0.06</td>
</tr>
</tbody>
</table>

N = 69;
*Significant
The ranking of program area according to importance, as perceived by specialists, is illustrated in Table 20. Specialists ranked the following program areas as the most important:

1. Pesticide education
2. Improving farm income
3. Improving family living
4. Marketing, utilizing, distributing and supplying farm products
5. Food and nutrition

"Improving soil and water conservation," "community development," and "village youth club development" were ranked as program areas of lowest priority by specialists.

Table 20 also shows that agents ranked the following five program areas as being the most important:

1. Pesticide education
2. Improving farm income
3. Improving family living
4. Improving soil and water conservation
5. Food and nutrition

The program areas ranked as lowest in priority by agents were: "village youth club development," "marketing, utilizing, distributing, and supplying farm products," and "community development."
Table 20
Appraisal by Extension Specialists and Extension Agents of the Importance of Program Areas of Extension Education

<table>
<thead>
<tr>
<th></th>
<th>Specialists (N=21)</th>
<th>Agents (N=48)</th>
<th>Mann-Whitney U</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median</td>
<td>Rank</td>
<td>Median</td>
</tr>
<tr>
<td>Pesticide education</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Improving farm income</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Improved family living</td>
<td>1</td>
<td>5.5</td>
<td>2</td>
</tr>
<tr>
<td>Marketing, utilizing, distributing, and supplying farm products</td>
<td>1</td>
<td>5.5</td>
<td>2</td>
</tr>
<tr>
<td>Food and nutrition</td>
<td>1</td>
<td>5.5</td>
<td>2</td>
</tr>
<tr>
<td>Village Youth Club development</td>
<td>1</td>
<td>5.5</td>
<td>2</td>
</tr>
<tr>
<td>Community development</td>
<td>1</td>
<td>5.5</td>
<td>3</td>
</tr>
<tr>
<td>Improving soil and water conservation</td>
<td>1</td>
<td>5.5</td>
<td>2</td>
</tr>
</tbody>
</table>

$r_s = .48$; n.s.  $N = 8$.

There was a significant difference between the median scores of priorities by specialists and agents in the following program areas according to the Mann-Whitney U test:
1. Improving farm income (sig. = .002)
2. Improved family living (sig. = .002)
3. Marketing, utilizing, distributing, and supplying farm products (sig. = .019)
4. Food and nutrition (sig. = .002)
5. Community development (sig. = .001)

6. Improving soil and water conservation (sig. = .001)

In all of the above cases the specialists felt the program areas were less important than agents.

A Spearman Rank Correlation was calculated for the ranks in Table 20 and a $r_s$ of .48 evolved. This indicates a moderate agreement between specialists and agents in ranking the program areas. However, this correlation was not significant at the .05 level which means this correlation might have happened by chance. A correlation of this magnitude was not significant because the number of tasks which were ranked were few.

**Differential Comparison of Appraisal of Extension Service by Level of Education, Years of Experience, and Length of Pre- and In-service Education**

The Kruskal Wallis, an alternative, nonparametric test for one way analysis of variance was used to analyze the median scores of appraisal of the Extension Service based upon the highest level of formal education completed by all respondents. Table 21 presents data regarding the results of analysis of this test. There were significant differences among the median scores of the four groups of respondents in the appraisal of Extension Service in following evaluation areas:
Table 21
Differential Comparison of Appraisal of Extension Service by Level of Education, Years of Experience, and Length of Pre-Service and In-Service Education

<table>
<thead>
<tr>
<th>Evaluation Area</th>
<th>Level of Education</th>
<th>Years of Experience</th>
<th>Length of Pre- and In-service Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Corrected $X^2$</td>
<td>Sig.</td>
<td>Corrected $X^2$</td>
</tr>
<tr>
<td>Evaluation of various Extension Education techniques</td>
<td>11.51</td>
<td>.009</td>
<td></td>
</tr>
<tr>
<td>Evaluation of fulfilling Objectives in Agri. Education</td>
<td>14.43</td>
<td>.002</td>
<td></td>
</tr>
<tr>
<td>Evaluation of performance of critical tasks in Agr. Education</td>
<td>13.43</td>
<td>.004</td>
<td></td>
</tr>
<tr>
<td>Evaluation of the importance of program area of Ext. Educ.</td>
<td>21.90</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Evaluation of fulfilling objectives in Village Youth Club</td>
<td>13.88</td>
<td>.001</td>
<td>11.07</td>
</tr>
<tr>
<td>Evaluation of performance of critical tasks in Village Youth Club</td>
<td>14.52</td>
<td>.002</td>
<td></td>
</tr>
</tbody>
</table>
1. Evaluation of various Extension Education techniques (Sig. = .009)

2. Evaluation of fulfilling objectives of Extension Service in agricultural education (Sig. = .009)

3. Evaluation of Performance of critical tasks in agricultural education (Sig. = .004)

4. Evaluation of the importance of program areas of extension education (Sig. = .001)

5. Evaluation of fulfilling objectives in village youth club (sig. = .001)

6. Evaluation of performance of critical tasks in village youth club (Sig. = .009)

The results of analysis indicated that the higher the educational level of respondents, the lower they tended to appraise the educational efforts of the Extension Service.

Table 21 shows that there were significant differences among median scores for evaluation of the objectives in village youth club based upon the years of experience of the respondents. The greater the number of years of experience of the respondents the lower they tended to appraise the educational efforts of extension service in fulfilling objectives in village youth club.

There were no significant differences among the median scores of respondents based upon the months of pre- and in-service education they had completed in any evaluation area.
Differential Comparison of Appraisal of Extension Service by Organizational Position, Province and Place of Residence

The Mann-Whitney U, an alternative non-parametric test for t test was performed to compare two groups of respondents based on their organizational position (specialists and agents) on their mean scores of evaluation. As shown in Table 22 there were significant differences among median areas of evaluation by specialists and agents for the following evaluation areas:

1. Evaluation of various Extension Education techniques (sig. = .001)
2. Evaluation of fulfilling objectives in agricultural education (sig. = .001)
3. Evaluation of performance of critical tasks in agricultural education (sig. = .001)
4. Evaluation of the importance of program areas of Extension Education (sig. = .001)

Specialists appraised the Extension Service less effective than agents.

Table 22 also indicates that there were significant differences between the median scores of evaluation by respondents in Fars and Semnan provinces for the following evaluation areas:

1. Evaluation of performance of critical tasks in village youth club (sig. = .002)
Table 22
Differential Comparison of Appraisal of Extension Service by Organizational Position, Province, and Place of Residence

<table>
<thead>
<tr>
<th>Evaluation Area</th>
<th>Organizational Position</th>
<th>Province</th>
<th>Place of Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation of various Extension techniques</td>
<td></td>
<td>.001*</td>
<td></td>
</tr>
<tr>
<td>Evaluation of fulfilling objectives in agricultural education</td>
<td></td>
<td>.003*</td>
<td></td>
</tr>
<tr>
<td>Evaluation of performance of critical tasks in agricultural education</td>
<td></td>
<td>.001*</td>
<td></td>
</tr>
<tr>
<td>Evaluation of the importance of program areas of Extension Education</td>
<td></td>
<td>.001*</td>
<td></td>
</tr>
<tr>
<td>Evaluation of fulfilling objectives in village youth club</td>
<td>.003*</td>
<td>.059*</td>
<td></td>
</tr>
<tr>
<td>Evaluation of performance of critical tasks in village youth club</td>
<td>.018*</td>
<td>.020*</td>
<td></td>
</tr>
</tbody>
</table>

*2-tailed test, for Mann-Whitney-U.
In the above case the respondents in Semnan province appraised the educational efforts of Extension Service more effective than respondents in Fars province.

The Mann-Whitney U test was utilized to test the significant difference between the mean scores of evaluation of the two groups of respondents based upon their place of residence. Table 22 shows there was no significant difference between median scores of evaluation of two groups for any evaluation area.

**Summary**

In this chapter in order to answer the research questions of this study the researcher:

1. Described the respondents by the following background and characteristics:
   a. Organizational position
   b. Level of education
   c. Years of job experience
   d. Place of residence

2. Analyzed the appraisal by respondents of the effectiveness of educational techniques that were used by the Extension Service. Respondents appraised the following techniques as being the most effective:
a. Home and business visits  
b. Demonstration  
c. Short period courses  
d. Educational movies  
The result also indicates that publication, tours and radio programs were appraised by the respondents as being least effective techniques.  
3. Described the appraisal of the effectiveness of the attainment of agricultural education objectives by the Extension Service as viewed by specialists and agents. It was observed that the objectives were appraised by agents as being more effectively attained than by specialists. However, both agents and specialists were not satisfied with the degree to which the Extension Service was attaining its objectives.  
4. Presented data regarding the appraisal of the performance of critical tasks in agricultural extension education. The effectiveness of Extension Service in performing its critical tasks was appraised lower by specialists than by agents.  
5. Identified the opinions of respondents regarding:  
a. Appraisal of effectiveness of the attainment of village youth club educational objectives
b. The degree of effectiveness that the Extension Service has attained in its performance of village youth club critical tasks

6. Determined the respondents' perceptions of program priorities. The following five program areas were indicated as most important by respondents:
   a. Pesticide education
   b. Improving farm income
   c. Improving family living
   d. Improving soil and water conservation
   c. Food and nutrition

7. Presented data regarding the differential comparisons of appraisal of Extension Service by level of education, years of experience, length of pre- and in-service education, organizational position, province and place of residence.
CHAPTER IV
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The Problem

Extension has been defined as an educational program with the purpose of bringing about desirable changes in people's behavior (knowledge, skill and attitude) which will contribute to better farm and home practices and better family living. The conceptual change (thinking or feeling) must precede the technical change (action) and can best be brought about by education. Extension evaluation is the process of determining the extent to which these desired behavioral changes have been accomplished in ways of thinking, feeling and acting. The extension worker, if properly trained, should be able to judge if the program has been adequately planned and successfully accomplished, not only as to number of practices adopted, but also as to their permanence.\textsuperscript{44}

The general problem addressed in this study was, "How do extension specialists and extension agents appraise the

educational efforts of the Extension Service in the area of agricultural production and village youth clubs in terms of the accomplishment of objectives of Extension Service in provinces of Fars and Semnan."

Research Questions

The following research questions guided the conduct of the investigation:

1. What are the background, status, and characteristics of the extension specialists and the extension agents in the Fars and Semnan provinces in Iran?

2. How do extension specialists and extension agents evaluate the educational efforts of the Extension Service in fulfilling the educational goals of farmers?

3. How do extension specialists and extension agents evaluate the educational efforts of the Extension Service in fulfilling the educational goals of village youth club members?

4. How do extension specialists and extension agents evaluate the educational efforts of the Extension Service in fulfilling the functions of conducting educational programs for farmers?

5. How do extension specialists and extension agents evaluate the educational efforts of the
Extension Service in fulfilling the functions of conducting educational programs for village youth club members?

6. How do extension specialists and extension agents perceive the priorities of program areas of the Extension Service in Fars and Semnan provinces in Iran?

7. How do extension specialists and extension agents evaluate the effectiveness of extension education techniques?

8. What is the relationship between "How extension specialists and extension agents evaluate the educational efforts of Extension Service" and the following characteristics of extension specialists and extension agents:
   a. Organizational position
   b. Years of job experience in Extension Service
   c. Level of formal education
   d. Length of pre- and in-service extension education

Research Methodology

The design of this study is one of survey research design as defined by Kerlinger. Surveys can be conveniently classified by the methods of obtaining information.
Mail questionnaires were thought to be the appropriate method of obtaining information for this study.

To overcome the problem that respondents may rank themselves high, the researcher took the following approach:

1. It was explained in the cover letter that the data would be analyzed as a group and no information would be provided to any government organization on how a respondent appraised the educational efforts of the Extension Service.

2. A Q sort methodology was used in asking the respondents to answer the questionnaire. But many respondents did not follow the Q sort instructions.

Population

The target population of this study consisted of all the extension specialists and extension agents in Fars and Semnan provinces in Iran.

Thirty-two, or 57.1 percent, of the agents in Fars province completed the questionnaire. The percent of specialists who completed the questionnaire was much higher than agents. Fourteen, or 77.8 percent, of the specialists in Fars province completed the questionnaire. Seven, or all, of the specialists in Semnan province completed the questionnaire. Sixteen, or 84.2 percent, of
Semnan agents completed the questionnaire.

Data and Instrumentation

The questionnaire which was used for this study consisted of the following parts:

Part I - Provided information on characteristics of respondents.

Part II - provided information on evaluation of effectiveness of extension education techniques.

Part III - provided information on how the respondents evaluated the educational efforts of the Extension Service in fulfilling the educational goals of farmers.

Part IV - provided information on how respondents evaluated the educational efforts of the Extension Service in fulfilling the functions of conducting educational programs for farmers.

Part V - provided information on how respondents perceived the priorities of program areas of the Extension Service.

Part VI - provided information on how respondents evaluated the educational efforts of the Extension Service in fulfilling the educational goals of village youth club members.

Part VII - provided information on how respondents evaluated the educational efforts of the Extension Service
in fulfilling the functions of conducting educational pro-
grams for village youth club members.

All of the above sections of the questionnaire were
designed to provide answers to research questions.

The data for this study were collected by the author
during the winter of 1978-79 (December, 1978) by personal
contact and mail questionnaire in Iran.

Analysis of Data

Descriptive statistics which involved the tabulating,
depicting and describing of collections of data were used
for analysis of the data of this study. In order to provide
a measure of the variability or dispersion of data, 90th to
10th percentile range was used in this study.

Ranks were used to indicate the relative magnitude of
attainment of objectives or performance of critical tasks
by the Extension Service. The Spearman Rank order correla-
tion coefficient ($r_s$) was used in the analysis of the data
to measure agreement in ranking between different groups of
respondents.

The following non-parametric statistics were used:

a. The Mann-Whitney U test was used to test
   for significant differences between variables
   that had only two levels;
b. The Kruskal Wallis test was used to test for significant difference between variables that had more than two levels.

The Kuder-Richardson equation eight for scale reliability was used to determine the reliability coefficient of the instrument.

**Major Findings**

To answer the research questions of this study the researcher:

1. Described the respondents by the following background characteristics:
   a. Organizational position
   b. Level of education
   c. Years of job experience
   d. Place of residence

2. Analyzed the appraisal by respondents of the effectiveness of educational techniques that were used by the Extension Service.

3. Described the appraisal of the effectiveness of the attainment of objectives by the Extension Service as perceived by extension specialists and extension agents.

4. Presented data regarding the appraisal of the performance of critical tasks in extension programs.
5. Determined the respondents' perceptions of program priorities

6. Presented data regarding the differential comparison of appraisal of Extension Service by level of education, years of job experience, length of pre- and in-service education, organizational position, province, and place of residence.

Characteristics of Respondents

Organizational Position

The respondents in this study consisted of extension specialists and extension agents in Fars and Semnan provinces of Iran. Twenty-one, or 30.4 percent, of the respondents were extension specialists. Forty-eight, or 69.6 percent, of respondents were extension agents.

Educational Level

More than half of the respondents in both provinces were high school graduates. Seventeen, or 24.6 percent, of the respondents were college graduates and four, or 5.8 percent, of the respondents had more than a Bachelor's degree.

Seventeen, or 81.0 percent, of the specialists were college graduates and four, or 19.0 percent, of the specialists had completed college work beyond the Bachelor's
degree level. There were no college graduate agents; however, 38, or 79.2 percent, of the agents were high school graduates. More than 20.0 percent of the agents indicated they had received some college education.

**Years of Job Experience**

Ten, or 47.0 percent, of the specialists had between four to six years of job experience. Four, or 12.0 percent, of the specialists had between one to three years of job experience. Three, or 14.4 percent, of the specialists had between seven to nine years of job experience. Two, or 9.0 percent, of the specialists had between 10 to 12 years of job experience in the Extension Service and the same number of specialists had 13 or more years of job experience.

Nineteen, or 39.6 percent, of the agents had between seven to nine years of job experience. Eleven or 22.9 percent of the agents indicated that they had 13 or more years of job experience in extension service. Only two, or 4.2 percent, of the agents had between one to three years of job experience.

The mean years of job experience for all the respondents was 8.82 and the standard deviation was 4.42.
Months of Pre- and In-Service Education

Twelve, or 57.1 percent, of the specialists had completed between one and two months of in-service and pre-service education. Only two, or 9.5 percent, of the specialists had completed seven or more months of pre- and in-service education. Fourteen, or nearly 30 percent, of the agents had completed one or two months of pre- and in-service education. The percent of agents who completed seven or more months of pre-service and in-service education was almost 30 percent.

All respondents had a mean of 6.53 months of pre-service and in-service education completed and a standard deviation of 7.45.

Place of Residence

Forty-five, or 97.8 percent, of all respondents of Fars province were originally from the same province and only 2.2 percent of respondents were from other provinces.

In Semnan province 60.9 percent of the respondents were from the same province and 39.1 percent of the respondents were originally from other provinces.
Appraisal by Respondents of Extension Education Techniques

Respondents appraised the following four techniques as the most effective techniques:

1. Home and business visits
2. Demonstration
3. Short period courses
4. Educational movies

The ranking also showed that publications, tours and radio programs were appraised by all respondents as being the least effective.

It was noted that home and business visits was ranked as the most effective extension technique by both agents and specialists. Both groups also appraised radio programs as being the least effective extension technique.

There were differences in the median scores that reflected the appraisal of extension education techniques by extension specialists and extension agents. These differences were shown to be statistically significant according to the Mann-Whitney U test in appraisal of the following techniques:

- Demonstrations (sig. = .019)
- Short period courses (sig. = .043)
- Education movies (sig. = .01)
- Tours (sig. = .001)
- Radio programs (sig. = .003)
In all the above cases the extension agents felt the techniques used by Extension Service were more effective than the specialists.

Application of Spearman Rank order correlation to the ranking by specialists and agents indicated that both groups were in general agreement on the techniques which were most effective and those that were least effective ($r_s = .70; \text{sig.} = .05$).

**Appraisal of Attainment of Agricultural Education Objectives**

Specialists and agents had significantly different perceptions of the degree to which extension was attaining its objectives. The differences were shown to be statistically significant according to the Mann-Whitney U test for following objectives:

1. To help farmers utilize knowledge of animal selection, breeding and care to improve production (sig. $= .002$)

2. To help farmers utilize knowledge of animal nutrition and feeding to improve production (sig. $= .001$)

3. To help farmers utilize knowledge of controlling animal diseases and pests to improve production (sig. $= .017$)
4. To help farmers utilize knowledge of plant selection, breeding and care to improve agricultural and horticultural productions (sig. = .007)

5. To help farmers use soil and water conservation in the management and development of their land use (sig. = .03)

6. To help farmers understand how to secure, construct and maintain, and utilize buildings and other structures (sig. = .02)

7. To help farmers develop marginal ability to organize and utilize land capital and new technology (sig. = .016)

8. To help farmers understand how to use irrigation principle and new developments in irrigation techniques (sig. = .03)

9. To help farmers utilize the knowledge of plant nutrition, soil testing, soil structure and soil management to improve agricultural production (sig. = .041).

10. To help farmers utilize all the information they need to successfully operate their agricultural business (sig. = .04)
It was interesting to observe that the objectives were perceived by agents as being attained to a larger degree than the specialists perceived the level of attainment.

It was observed that among the five objectives which were ranked by specialists and agents as being most effectively attained, four were the same. Also among the five objectives which were ranked by specialists and agents as being least effective, four were the same.

The application of the Spearman-Rank order correlation to the ranking by specialists and agents indicated that specialists and agents were in agreement about the agricultural education objectives which were most effectively and least effectively attained ($r_s = .59; \text{sig.} = .05$).

**Appraisal of the Performance of Critical Tasks in Agricultural Extension Education**

The analysis of data indicated that the specialists' median scores for the appraisal of each task was different and in all cases lower than median scores of the appraisal by agents. These differences were shown to be statistically significant according to the Mann-Whitney U test.
for the following tasks in agricultural extension education:

1. Working with individual clientele to help with their problems (sig. = .009)
2. Attempting to serve better the educational needs of its clientele (sig. = .002)
3. Using appropriate materials that are directed at the needs and interests of the people it serves (sig. = .002)
4. Involving key leaders and organizations in planning of its educational programs (sig. = .03)
5. Maintaining its public image (sig. = .006)
6. Serving all the farmers in the country (percent of farmers it serves) (sig. = .001)
7. Understanding and providing educational programs to meet educational needs of farmers (sig. = .032)
8. Showing flexibility and ability to adopt programs to changing circumstances (sig. = .03)
9. Involving the people that the extension serves in its educational program planning (sig. = .003)

The Spearman Rank order correlation coefficient between ranking of the performance of critical tasks by
specialists and ranking of the performance of critical tasks by agents indicated that there was moderate agreement between specialists and agents in ranking the critical tasks which were most effectively and least effectively performed ($r_s = .43$).

**Overall Appraisal of Education Efforts of the Extension Service**

About 64 percent of the respondents appraised the overall effectiveness of educational efforts of the Extension Service as "fair" or "poor." The primary explanations for appraising the overall effectiveness of educational efforts of the Extension Service as "poor" or "fair" were as follows:

- Extension Service does not have enough resources, facilities, and funds to do a good job ($n = 10$)
- Extension programs are not based on the needs of people and local situations ($n = 8$)
- Extension has not been successful due to lack of a valid agricultural policy ($n = 6$)
- Extension Service has deviated from its objectives (increasing farmers' income through
educational programs) \((n = 6)\)
- Extension Service has not been successful in implementing its programs \((n = 5)\)
- Research institutions have not provided the agent with information which can be used to meet the needs of farmers \((n = 4)\)

The 36.8 percent of the respondents who appraised the overall effectiveness of educational efforts of the Extension Service as "good," "very good" or "excellent" gave the following explanations:
- There has been a change in agricultural practices; for example agents have been able to encourage the farmer to use more chemical fertilizer
- Extension Service has been one of the main reasons for improvement in agricultural practices

There was significant difference between the mean scores of appraisal by specialists and agents of the overall effectiveness of the educational efforts of the Extension Service according to the Mann-Whitney U test. Specialists appraised the overall educational efforts of the Extension Service as less effective than agents.

There was a significant negative correlation between the organizational position and "overall appraisal of the effectiveness of the educational efforts of the Extension Service" \((r_s = .28; \text{sig.} = .009)\). Therefore, it was con-
cluded that the higher the organizational position (specialists), the lower the perceived effectiveness of the Extension Service. The significant negative correlation between the highest level of formal education completed and "the perceived effectiveness of overall educational efforts of the Extension Service" indicated that as the level of education increased the respondents tended to appraise the overall effectiveness of educational efforts of the Extension Service lower ($r_s = -0.38; \text{sig.} = .001$).

**Appraisal of the Attainment of Village Youth Club Educational Objectives**

The statistics concerning the results of utilizing the Mann-Whitney U test indicated that there were significant differences in appraisal of the following objectives by specialists and agents:

1. To help members of village youth club become a better member of their family ($\text{sig.} = .001$)
2. To help members of village youth club explore career opportunities ($\text{sig.} = .021$)
3. To help members of village youth club become more responsible citizens ($\text{sig.} = .001$)
4. To help members of village youth club become more effective leaders ($\text{sig.} = .001$)
5. To help members of village youth club learn skills through village youth club project experience (sig. = .001)

All the village youth club educational objectives were felt to be less effectively attained by specialists than by agents.

The Spearman Rank order correlation coefficient between the perceived rank of the effectiveness of attaining village youth club educational objectives by specialists and perceived rank of the effectiveness of attaining village youth club educational objectives by agents indicated that there was no agreement between specialists and agents.

**Appraisal of Performance of Critical Tasks in Village Youth Club**

There were differences in the mean scores of appraisal by specialists and agents of the Extension Service performance of critical tasks in village youth clubs. These differences were statistically significant for appraisal of the following critical tasks according to Mann-Whitney U test:

1. Looking for ways to do a better job of serving people (sig. = .018)
2. Demonstrating the technical knowledge and experience necessary for the various village
club programs (sig. = .03)

3. Understanding and providing village youth club programs that meet the members' educational needs (sig. = .001)

4. Involving the village youth club participants in club program planning (sig. = .001)

In all of the above cases specialists were less satisfied with the performance of the Extension Service in the village youth club critical tasks than were the agents.

The application of Spearman-Rank Order Correlation to the ranking of performance of critical tasks by specialists and agents indicated that specialists and agents were not in agreement on the critical tasks in village youth clubs which were most effectively and least effectively performed by the Extension Service.

**Overall Appraisal of Educational Efforts of Village Youth Club**

More than 76 percent of the specialists evaluated the overall effectiveness of village youth club programs as "fair" or "poor." Agents' reaction to the overall appraisal of educational efforts of village youth clubs were almost the same as specialists. Seventy-five percent of the agents felt the effectiveness of village youth club programs was "fair" or "poor."
Some of the explanations which were given by the 75.4 percent of the respondents as to why they thought the effectiveness of Extension Service in village youth club programs was "fair" or "poor" were as follows:
- Lack of resources, facilities and funds 
  \(n = 14\)
- Village youth club programs did not originate from the needs of the people; therefore they cannot be carried out successfully \(n = 13\)
- Village youth club programs have never been implemented from planning to action \(n = 11\)
- Immigration of youths from rural areas to cities for work does not give them time to participate in programs \(n = 10\)
- Village youth club programs do not meet the needs of rural youth \(n = 7\)

The following explanations were given by respondents who felt the effectiveness of educational efforts of village youth club was "good," "very good," or "excellent." This group consisted of 24.5 percent of the respondents.
- Village youth club programs are a good way of diffusing new ideas about agriculture
- Village youth club programs encourage youths to be a better farmer in the future
There was not a significant difference in the mean score of overall appraisal of village youth club by specialists and agents according to the Mann-Whitney U test. Both specialists and agents evaluated the overall effectiveness of educational efforts of village youth club very low.

There was a significant but low negative association between the overall effectiveness of village youth club educational efforts with highest level of formal education completed. Therefore it was concluded that as the level of formal education of respondents increased, they tended to appraise the overall effectiveness of village youth club educational efforts lower ($r_s = -.20; \text{sig. } = .05$).

**Respondents' Perceptions of Program Priorities**

Specialists ranked the following program areas as the most important:

1. Pesticide education
2. Improving farm income
3. Improving family living
4. Marketing, utilizing, distributing and supplying farm products

"Village youth club development" was ranked as the program area of lowest priority by both specialists and agents.
Agents ranked the following four program areas as being the most important:

1. Pesticide education
2. Improving farm income
3. Improving family living
4. Improving soil and water conservation

In general the specialists felt the program areas were less important than agents.

**Differential Comparison of Appraisal of Extension Service by Level of Education, Years of Experience and Length of Pre- and In-Service Education**

The Kruskal Wallis test was used to analyze the mean scores of appraisal of the Extension Service based upon the highest level of formal education completed by all respondents. The results of analysis indicated that the higher the educational level of the respondents, the lower they tend to appraise the educational efforts of the Extension Service.

There were significant differences among mean scores for evaluation of fulfilling the objectives in village youth club based upon the years of experience of the respondents. The greater the number of years of experience of the respondents the lower they tended to appraise the educational efforts of Extension Service in fulfilling objectives in village youth clubs.
There were no significant differences among the mean scores of respondents based upon the months of pre- and in-service education they had completed in any evaluation area.

**Differential Comparison of Appraisal of Extension Service by Organizational Position and Place of Residence**

The Mann-Whitney U test was performed to compare two groups of respondents based on their organizational position (specialists and agents) on their mean scores of evaluation. There was significant difference between mean scores of evaluation by specialists and agents for the following evaluation areas:

1. Evaluation of various extension education techniques (sig. = .001)
2. Evaluation of fulfilling objectives in agricultural education (sig. = .003)
3. Evaluation of performance of critical tasks in agricultural education (sig. = .001)
4. Evaluation of the importance of program areas of Extension Education (sig. = .001)
5. Evaluation of fulfilling objectives in village youth club (sig. = .003)
6. Evaluation of performance of critical tasks in village youth club (sig. = .018)
Specialists appraised the educational efforts of the Extension Service less effective than agents.

The Mann-Whitney U test was utilized to test the significant difference between scores of evaluation of the two groups of respondents based upon their place of residence. The result of analysis indicated that there was no significant difference between median scores of evaluation of two groups for any evaluation area.

Conclusions

The major findings provided the basis for the following conclusions:

1. Extension agents and specialists in Fars and Semnan provinces perceived home and business visits, demonstration and short period courses as the most effective Extension Education techniques.

2. The agents and specialists of Fars and Semnan provinces perceived the following agricultural education objectives as most effectively attained:

   a. To help farmers utilize the knowledge of controlling plant diseases, insects and pests through the safe and effective use of fungicides, insecticides and herbicides.
b. To help farmers utilize the knowledge of seeding, growing, harvesting, and handling crops to improve agricultural and horticultural production.

c. To help farmers utilize knowledge of controlling animal diseases and pests to improve production.

3. Agricultural education objectives were appraised by specialists as being less effectively attained than by agents.

4. Extension agents and specialists perceived the following critical tasks in agricultural education as most effectively performed by the Extension Service:
   a. Explaining information to clientele
   b. Working with individual clientele to help with their problems
   c. Attempting to serve better the educational needs of its clientele

5. Extension specialists were less satisfied with the performance of critical tasks by the Extension Service in agricultural education than agents.

6. Extension agents and extension specialists felt that the overall effectiveness of the Extension service was very low.
7. Extension specialists were less satisfied with overall effectiveness of Extension Service than agents.

8. The respondent felt the Extension Service was not successful in its educational efforts for the following reasons:
   a. Extension Service does not have enough resources, facilities, and funds to do a good job
   b. Extension programs are not based on the needs of people and local situation
   c. Extension has not been successful due to lack of a valid agricultural policy
   d. Extension service has deviated from its objectives (increasing farmers' income through educational programs).
   e. Research institutions have not provided the agent with information which can be used to meet the needs of farmers

9. The extension specialist felt that Extension Service most effectively attained the following village youth club educational objectives:
   a. To help member of village youth club to develop a feeling of self-worth
   b. To help members of village youth club to better use their leisure time
c. To help members of village youth clubs to
develop their personal goals

10. The extension agents felt that extension was
best attaining the following village youth club
educational objectives:
   a. To help members of village youth clubs to
      become a better member of their family
   b. To help members of village youth club to
      become more responsible citizens
   c. To help members of village youth club to
      better use their leisure time

11. The extension specialists felt that extension was
best performing the following tasks in village
youth club programs:
   a. Publicize its planned village youth club
      activities
   b. Maintaining the public image of village youth
      club

12. The extension agents felt that extension was best
performing the following tasks in village youth
club programs:
   a. Demonstrating the technical knowledge and
      experience necessary for the various village
      youth club programs
b. Understanding and providing village youth club programs that meet the members' educational needs

13. The agents and specialists ranked the following program areas as most important:
   a. Pesticide education
   b. Improving farm income
   c. Improving soil and water conservation
   c. Improving family living
   e. Food and nutrition

14. The agents and specialists felt that Extension least effectively attained the following agricultural education objectives:
   a. To help farmers use soil and water conservation in the management and development of their land use
   b. To help farmers understand how to secure, construct, maintain and utilize buildings and other structures
   c. To help farmers become more effective in their marketing operation

15. The agents and specialists felt that Extension least effectively performed the following critical tasks in agricultural education:
a. Involving the people that the Extension serves in its educational program planning
b. Showing flexibility and ability to adopt programs to changing circumstances
c. Understanding and providing educational programs to meet educational needs of farmers

16. The specialists felt that Extension least effectively attained the following village youth club educational objectives:
   a. To help members of village youth clubs to learn skills through village youth club project experience
   b. To help members of village youth clubs to become more effective leaders
   c. To help members of village youth clubs to become more responsible citizens

17. The agents felt that Extension least effectively attained the following village youth club educational objectives:
   a. To help members of village youth clubs to become better members of their family
   b. To help members of village youth clubs to learn skills through village club project experience
   c. To help members of village youth clubs to develop their personal goals
18. The village youth club educational objectives were felt to be less effectively attained by specialists than by agents.

19. The agents and specialists were not satisfied with the effectiveness of the Extension Service in attaining village youth club educational objectives.

20. The Extension village youth club program least effectively performed the following tasks:
   a. Involving the village youth club participants in club program planning
   b. Recognizing the problems and village youth club needs

21. Specialists were less satisfied with the performance of Extension Service in the village youth club's critical tasks than agents.

22. Specialists and agents perceived the overall effectiveness of village youth club educational efforts very low.

23. The reasons for low effectiveness of village youth club programs were as follows:
   a. Lack of resources, facilities and funds
   b. Village youth club programs have never been implemented from planning to action
   c. Immigration of youth from rural areas to cities for work does not give them much time
to participate in programs
d. Village youth club programs do not meet the needs of rural youth

Recommendations

The following recommendations, based upon the findings of the study and writer's judgment, are stated as guides to implement the conclusions of this study:

The Extension Service should:

1. Use more interesting and effective methods for teaching educational programs

2. Base the educational programs on the needs of people and the local situation

3. Provide a channel for exchange of information between extension workers and research institutions

4. Involve its clientele in extension program planning

5. Establish educating the rural people (as means of increasing agricultural productivity and providing a better life for rural people) as its main objective

6. Obtain more funds and resources

Further research is needed in the following areas in relation to this study:
1. A study should be developed to determine the degree of importance of each extension objective and critical tasks of extension as perceived by the Extension worker.

2. A study should be conducted to investigate the causes of relatively ineffectiveness of educational efforts of the Extension Service.

3. A study should be conducted to determine the effectiveness of educational efforts of the Extension Service in other provinces.
APPENDIX A

QUESTIONNAIRE
Dear Extension Worker:

Mr. Ezatollah Karami, a Ph.D. Candidate in Extension Education, at The Ohio State University, is conducting a research on appraisal of educational efforts of Extension service.

Mr. Karami's letter, which is also enclosed, indicates the purpose of the study and gives instructions for completing and returning the questionnaire.

I feel that the information gained from this study will be helpful in future planning of the Extension Service Programs.

Your cooperation with Mr. Karami will be appreciated.

Sincerely yours,

General Director of Iran Extension Service
Dear Extension Worker:

You have been selected to participate in an extension service research project. The purpose of this research is to gather information to appraise the education efforts of Extension Service in the area of agricultural production and village youth clubs in two provinces.

Would you please complete the enclosed questionnaire and return it as soon as possible? The code number in the right hand corner makes it unnecessary to have your name appear on the questionnaire. This procedure is used solely to enable us to follow-up and thus obtain a higher percentage return.

Your frank opinions are very important to us. All the replies will be treated confidentially and will be submerged in the composite analysis of the study.

Thank you for your willingness to participate in this study. The results should provide useful information for improvement of Extension Service. A stamped self-addressed envelope is enclosed for your use.

Sincerely yours,

Ezatollah Karami
APPENDIX A

QUESTIONNAIRE

1. Please ( ) the province you work in and your organizational position.
   _____ Fars  Extension Specialist
   _____ Semnan  Extension Agent

2. Please check ( ) the highest level of formal education you have completed.
   _____ High school graduate
   _____ Some college
   _____ College graduate
   _____ More than a Bachelor's degree

3. How many years of job experience have you completed in Extension Service?
   _____ years

4. How many months of pre-service and in-service Extension education have you completed?
   _____ months

5. Is the province in which you are working your home province (please check ( ) one)?  _____ Yes  _____ No

6. The following techniques are used by the Extension Service to teach people regarding agriculture, community development and the youth farmer club. Please indicate on the scale next to each technique how well it provided extension information by circling the appropriate number. If you have never used the technique, please indicate by circling NU at the extreme right.
The following is a list of objectives of the Extension Service. Please indicate the extent to which you feel the educational efforts of the Extension Service are fulfilling each objective or task by circling the appropriate number. There are no right or wrong answers. Please give your frank opinions. (In answering questions 7-21, please select 3 of your answers in the category of "excellent," 3 answers in the category of "poor" and the rest in between.)

5 = excellent  
4 = very good  
3 = good  
2 = fair  
1 = poor  

NU = never used

A. Publication
B. Home and Business Visits  
C. Tours  
D. Demonstrations  
E. Radio Programs  
F. Short Period Courses  
G. Education Movies

How well do you feel the educational efforts of the Extension Service help farmers to:

7. Utilize knowledge of animal selection, breeding and care to improve protection?  
   5 4 3 2 1

8. Utilize knowledge of animal nutrition and feeding to improve production?  
   5 4 3 2 1
How well do you feel the educational efforts of the Extension Service help farmers to:

9. Utilize knowledge of controlling animal diseases and pests to improve production?  
   5 = excellent  
   4 = very good  
   3 = good  
   2 = fair  
   1 = poor

10. Utilize knowledge of plant selection, breeding, and care to improve agricultural and horticultural productions?  
   5 = 4 3 2 1

11. Utilize knowledge of plant analysis, growth and development to improve agricultural and horticultural productions?  
   5 = 4 3 2 1

12. Utilize the knowledge of seeding, growing, harvesting, and handling crops to improve agricultural and horticultural production?  
   5 = 4 3 2 1

13. Utilize the knowledge of controlling plant diseases, insects and pests through the safe effective use of fungicides, insecticides and herbicides?  
   5 = 4 3 2 1

14. Use soil and water conservation in the management and development of their land use?  
   5 = 4 3 2 1

15. Understand how to secure and use farm power and equipment safely?  
   5 = 4 3 2 1
How well do you feel the educational efforts of the Extension Service help farmers to:

16. Understand how to secure, construct, maintain and utilize buildings and other structures?

17. Develop marginal ability to organize and utilize land capital and new technology?

18. Understand how to use irrigation principle and new developments in irrigation techniques?

19. Utilize the knowledge of plant nutrition, soil testing, soil structure, and soil management to improve agricultural production?

20. Become more effective in their marketing operation?

21. Utilize all the information they need to successfully operate their agricultural business?
In answering questions 22-37, please select 3 of your answers in the category of "excellent," 3 in the category of "poor" and the rest in between. Please circle the number you feel indicates how well the Extension Service is performing the following tasks:

5 = Excellent
4 = very good
3 = good
2 = fair
1 = poor

22. Recognizing the problems and Extension educational needs
5 4 3 2 1

23. Understanding and providing educational programs to meet educational needs of farmers?
5 4 3 2 1

24. Involving the people that the Extension services in its educational program planning?
5 4 3 2 1

25. Involving key leaders and organizations in the planning of its educational programs?
5 4 3 2 1

26. Showing flexibility and ability to adopt programs to changing circumstances?
5 4 3 2 1

27. Demonstrating necessary technical knowledge and experience?
5 4 3 2 1

28. Using appropriate materials that are directed at the needs and interests of the people it serves?
5 4 3 2 1
5 = excellent  
4 = very good  
3 = good  
2 = fair  
1 = poor

Please circle the number you feel indicates how well the Extension Service is performing the following tasks:

29. Explaining information to clientele
20. Working with individual clientele to help with their problems?
31. Selecting and using interesting methods of teaching its programs?
32. Attempting to serve better the educational needs of its clientele?
33. Publicizing its planned activities?
34. Maintaining its public image?
35. Serving all the farmers in the country (% of farmers it serves)?
36. In general, how effective are the educational efforts of the Extension Service performed? (Please check ( ) one.)
   ______ excellent  ______ very good  ______ good
   ______ fair  ______ poor
37. Would you please explain why you answered the above question as you did? ______________________________
Please indicate your opinion regarding the importance of each of the following program areas of Extension Education by circling the response you feel is appropriate. (In questions 39-46 please select 2 of your answers in the category of "very important," 2 in the category of "not important," and the rest in between).

4 = very important  
3 = important  
2 = fairly important  
1 = not important

38. Improving farm income
39. Improving soil and water conservation.
40. Marketing, utilizing, distributing, and supplying farm products
41. Food and nutrition.
42. Pesticide education
43. Village Youth Club Development.
44. Improved family living.
45. Community development.
As you react to the following question, please share with us your frank opinions. There are no right or wrong answers to these questions. Please circle the appropriate number in the scale next to each item. (In Questions 47-55, please select 2 answers in the category of "excellent," 2 in the category of "poor," and the rest in between.)

How well do you feel the educational efforts of the Extension Service help members of village youth club to:

5 = excellent
4 = very good
3 = good
2 = fair
1 = poor

46. Learn skills through village youth club project experience? 5 4 3 2 1
47. Develop a feeling of self-worth? 5 4 3 2 1
48. Develop their personal goals? 5 4 3 2 1
49. Become a better member of their family? 5 4 3 2 1
50. Improve their personal appearance, health, and physical fitness? 5 4 3 2 1
51. Better use their leisure time? 5 4 3 2 1
52. Explore career opportunities? 5 4 3 2 1
53. Become more responsible citizens? 5 4 3 2 1
54. Become more effective leaders? 5 4 3 2 1
Please circle the number you feel indicates how well the Extension Service is performing the following tasks:
(In questions 56-63, please select 2 answers in the category of "excellent," 2 in the category of "poor," and the rest in between.)

5 = excellent  
4 = very good  
3 = good  
2 = fair  
1 = poor

55. Recognizing the problems and village youth club needs?  
5 4 3 2 1

56. Understanding and providing village youth club programs that meet the members' educational needs?  
5 4 3 2 1

57. Involving the village youth club participants in club program planning?  
5 4 3 2 1

58. Demonstrating the technical knowledge and experience necessary for the various village youth club programs?  
5 4 3 2 1

59. Publicizing its planned village youth club activities?  
5 4 3 2 1

60. Displaying enthusiasm in village youth club program efforts?  
5 4 3 2 1

61. Looking for ways to do a better job of serving people?  
5 4 3 2 1

62. Maintaining the public image of village youth club?  
5 4 3 2 1
63. In general, how effective are educational efforts of Extension Service in village youth club programs performed? (Please check ( ) one.)

_____ excellent  _____ very good  _____ good
_____ fair          _____ poor

64. Would you please explain why you answered the above question as you did? 

_____________________________________________________________
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