INFORMATION TO USERS

This was produced from a copy of a document sent to us for microfilming. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help you understand markings or notations which may appear on this reproduction.

1. The sign or “target” for pages apparently lacking from the document photographed is “Missing Page(s)”. If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure you of complete continuity.

2. When an image on the film is obliterated with a round black mark it is an indication that the film inspector noticed either blurred copy because of movement during exposure, or duplicate copy. Unless we meant to delete copyrighted materials that should not have been filmed, you will find a good image of the page in the adjacent frame.

3. When a map, drawing or chart, etc., is part of the material being photographed the photographer has followed a definite method in “sectioning” the material. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.

4. For any illustrations that cannot be reproduced satisfactorily by xerography, photographic prints can be purchased at additional cost and tipped into your xerographic copy. Requests can be made to our Dissertations Customer Services Department.

5. Some pages in any document may have indistinct print. In all cases we have filmed the best available copy.
SABIHI, MASOOD

PERCEIVED PROFESSIONAL EDUCATION TRAINING NEEDS OF THE EXTENSION SPECIALISTS AND AGENTS IN SELECTED PROVINCES OF IRAN.

THE OHIO STATE UNIVERSITY, PH.D., 1978
PERCEIVED PROFESSIONAL EDUCATION TRAINING NEEDS
OF THE EXTENSION SPECIALISTS AND AGENTS IN
SELECTED PROVINCES OF IRAN

DISSERTATION

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

By
Masood Sabihi, B.Sc., M.Sc.

* * * * *

The Ohio State University
1978

Reading Committee:
Dr. Robert W. McCormick
Dr. David D. Jenkins
Dr. William L. Flinn

Approved By

Robert W. McCormick
Adviser
Department of Agricultural Education
ACKNOWLEDGMENTS

The education of a person is a never-ending process. There are many individuals who have contributed to the formal education of this author. It is impossible to mention them all. It is the wish of the author to acknowledge those who have helped him to attain the final goal. The following individuals deserve sincere appreciation and gratitude. Special thanks:

To Dr. Robert W. McCormick for his constant assistance, guidance and encouragement as the Chairman of the Reading Committee and major Adviser to the author throughout the graduate study.

To Dr. David D. Jenkins for his guidance and helpful consultation as a member of the Reading Committee and Graduate Program Committee.

To Dr. William L. Flinn, member of the Reading Committee and Graduate Program Committee, for his counsel and friendly advice in the completion of this study.

To Dr. Ralph E. Bender, Dr. J. Robert Warmbrod and Dr. L. H. Newcomb for their contributions and support throughout the entire graduate program.
To the Extension specialists and agents who participated in this study for their time and effort in responding to the questionnaire for this study.

To the author's parents for their encouragement, patience and support during his educational accomplishments.
VITA

December 25, 1951 . . .  Born - Neiriz, Iran

June 1970 . . . . . . . Graduate, Razi High School, Shiraz, Iran

June 1974 . . . . . . . B.Sc., Agricultural Economics, Pahlavi University, Shiraz, Iran


August 1978 . . . . . M.Sc., Agricultural Education, Major in Extension, The Ohio State University

FIELDS OF STUDY

Major Field: Agricultural and Extension Education

Studies in Agricultural Education. Professor Ralph E. Bender

Studies in Extension Education. Professor David D. Jenkins and Professor Robert W. McCormick

Studies in Research and Evaluation. Professor Robert W. McCormick

RELATED DISCIPLINE

Studies in Community Development. Professor William L. Flinn
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>Vita</td>
<td>iv</td>
</tr>
<tr>
<td>List of Tables</td>
<td>viii</td>
</tr>
<tr>
<td>List of Figures</td>
<td>xi</td>
</tr>
</tbody>
</table>

## Chapter

### I. INTRODUCTION .................................................................................................................. 1

- Agricultural Extension Service .................. 4
- Statement of the Problem ....................... 9
- Specific Objectives ................................ 10
- Importance of the Study ....................... 12
- Basic Assumptions ................................ 15
- Limitation of the Study ....................... 16
- Definition of Terms ................................ 17
- Research Methodology ......................... 19
- Instrumentation .................................. 20
- Pilot Test ....................................... 22
- Population and Sample ......................... 23
- Data Collection Procedures .................... 26
- Analysis of Data ................................ 26

### II. REVIEW OF RELATED LITERATURE ......................................................................................... 29

- Definition of Training .......................... 29
- Needs for Training ............................ 32
- Inservice Training ............................. 44
- Variables Which Influence Training Needs ... 48
- Summary ......................................... 51

### III. FINDINGS .......................................................................................................................... 53

- Characteristics of the Respondents .......... 55
- Perceived Professional Education Needs of Specialists ........................................ 62
- Perceived Professional Education Needs of Agents ................................................. 74
IV. Professional Education Training Needs of the Respondents in Six Training Areas .................................. 84
Differential Comparison of the Perceived Amount of Professional Education Training Needed by the Extension Specialists and Agents with Tenure, Degree and Major Field of Study .................................. 88
Differential Comparison of the Perceived Professional Education Training Needs of the Extension Specialists and Agents by Tenure .................................. 91
Differential Comparison of the Perceived Professional Education Training Needs of the Extension Specialists and Agents by Degree .................................. 93
Differential Comparison of the Overall Professional Education Training Needs of the Extension Specialists and Agents by Major Field of Study .................................. 95
Analysis of Association Between Variables. .................................. 98
Relationship Between the Perceived Amount of Training Needed in Specific Areas, by the Extension Specialists and Age, Tenure, Degree, Extension Corps Experience, Major Field of Study .................................. 98
Relationship Between the Perceived Amount of Training as Needed in Specific Areas by the Extension Agents and Age, Tenure, Degree, Extension Corps Experience, and Major Field of Study .................................. 101
Relationship Between the Perceived Amount of Training Needed by All of the Respondents (Specialists and Agents) in Specific Areas of Training and Age, Tenure, Degree, Extension Corps Experience, and Major Field of Study .................................. 103

IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS .................................. 106
The Problem .................................. 106
Specific Objectives .................................. 107
Research Methodology ........................................ 108
Instrumentation ............................................... 109
Pilot Test ...................................................... 110
Population ..................................................... 111
Data Collection Procedure ................................... 112
Analysis of Data ................................................ 112
Summary of Findings .......................................... 114
Characteristics of Respondents .............................. 115
Perceived Professional Education
   Needs of the Extension Specialists ...................... 118
Perceived Professional Education
   Needs of the Extension Agents ............................ 121
Perceived Professional Education
   Needs of the Respondents in
   Six Areas of Training ..................................... 125
Differential Comparison of the
   Perceived Amount of Professional
   Education Training Needed by the
   Extension Specialists and Agents
   with Tenure, Degree, and Major
   Field of Study ............................................ 126
Differential Comparison of the
   Perceived Professional Education
   Training Needs of the Extension
   Specialists and Agents by Tenure ........................ 128
Differential Comparison of the
   Perceived Professional Education
   Training Needs of the Extension
   Specialists and Agents by Degree ....................... 129
Differential Comparison of the Overall
   Professional Education Training
   Needs of the Extension Specialists
   and Agents by Major Fields of
   Study .......................................................... 130
Relationship Between the Variables
   in the Study ................................................ 132
Conclusions ..................................................... 135
Recommendations ............................................... 139

APPENDICES

A. Questionnaire ............................................. 142

B. Table 27 ..................................................... 154

BIBLIOGRAPHY .................................................. 155

vii
LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>DESCRIPTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>DISTRIBUTION OF RESPONDENTS</td>
<td>25</td>
</tr>
<tr>
<td>2.</td>
<td>AGE OF THE RESPONDENTS</td>
<td>56</td>
</tr>
<tr>
<td>3.</td>
<td>TENURE OF EXTENSION SPECIALISTS AND AGENTS</td>
<td>57</td>
</tr>
<tr>
<td>4.</td>
<td>LEVELS OF FORMAL EDUCATION FOR EXTENSION SPECIALISTS AND AGENTS</td>
<td>58</td>
</tr>
<tr>
<td>5.</td>
<td>AREAS OF PRESERVICE EDUCATION FOR EXTENSION SPECIALISTS AND AGENTS</td>
<td>60</td>
</tr>
<tr>
<td>6.</td>
<td>EXTENSION CORPS EXPERIENCE OF EXTENSION SPECIALISTS AND AGENTS</td>
<td>61</td>
</tr>
<tr>
<td>7.</td>
<td>RANK ORDER OF THE EXTENSION SPECIALISTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF EXTENSION PHILOSOPHY, ORGANIZATION AND ADMINISTRATION</td>
<td>64</td>
</tr>
<tr>
<td>8.</td>
<td>RANK ORDER OF THE EXTENSION SPECIALISTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF PROGRAM PLANNING</td>
<td>66</td>
</tr>
<tr>
<td>9.</td>
<td>RANK ORDER OF THE EXTENSION SPECIALISTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF TEACHING-LEARNING PROCESS</td>
<td>68</td>
</tr>
<tr>
<td>10.</td>
<td>RANK ORDER OF THE EXTENSION SPECIALISTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF EVALUATION</td>
<td>70</td>
</tr>
<tr>
<td>11.</td>
<td>RANK ORDER OF THE EXTENSION SPECIALISTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF HUMAN DEVELOPMENT AND SOCIAL KNOWLEDGE</td>
<td>72</td>
</tr>
</tbody>
</table>
12. RANK ORDER OF THE EXTENSION SPECIALISTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF COMMUNICATION ........................................... 73

13. RANK ORDER OF THE EXTENSION AGENTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF EXTENSION PHILOSOPHY, ORGANIZATION AND ADMINISTRATION .................................................. 75

14. RANK ORDER OF THE EXTENSION AGENTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF PROGRAM PLANNING .......................................................... 77

15. RANK ORDER OF THE EXTENSION AGENTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF TEACHING-LEARNING PROCESS .............................................. 79

16. RANK ORDER OF THE EXTENSION AGENTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF EVALUATION .............................................................. 81

17. RANK ORDER OF THE EXTENSION AGENTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF HUMAN DEVELOPMENT AND SOCIAL KNOWLEDGE ................................................. 82

18. RANK ORDER OF THE EXTENSION AGENTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF COMMUNICATION .......................................................... 85

19. RANK ORDER OF THE EXTENSION SPECIALISTS' AND AGENTS' RESPONSES FOR THE AMOUNT OF TRAINING IN EACH AREA OF PROFESSIONAL EDUCATION TRAINING NEEDS ............................................... 87

20. DIFFERENTIAL COMPARISON OF THE PERCEIVED PROFESSIONAL EDUCATION TRAINING NEEDED BY THE EXTENSION SPECIALISTS AND AGENTS WITH THEIR TENURE, DEGREE AND MAJOR FIELD OF STUDY .................................................. 89

21. DIFFERENTIAL COMPARISON OF THE PERCEIVED PROFESSIONAL EDUCATION TRAINING NEEDS OF THE EXTENSION SPECIALISTS AND AGENTS BY TENURE .................................................. 92
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>22. Differential comparison of the perceived professional education training needs of the extension specialists and agents by degree</td>
<td>94</td>
</tr>
<tr>
<td>23. Differential comparison of the overall professional education training needs of the extension specialists and agents by major field of study</td>
<td>96</td>
</tr>
<tr>
<td>24. Relationship between specific areas of training needed by extension specialists with age, tenure, degree, extension corps experience and major</td>
<td>100</td>
</tr>
<tr>
<td>25. Relationship between the perceived amount of training as needed in specific areas by the extension agents with age, tenure, degree, extension corps experience, and major</td>
<td>102</td>
</tr>
<tr>
<td>26. Relationship between the perceived amount of training needed by all of the specialists and agents in specific areas of training and age, tenure, degree, extension corps experience, and major field of study</td>
<td>104</td>
</tr>
<tr>
<td>27. Comparison of the perceived professional education training needs of the extension specialists and agents by major field of study</td>
<td>154</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>FIGURE</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Map of Iran</td>
<td>24</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

In the past decade, agricultural technology and science have changed drastically. This change has affected the social and economic development of every society.

As stated by Andre Bouchard:

The numerous changes in agriculture have made it more and more evident that agriculture is more than farming alone. Needless to say, agriculture today is radically different from what it was forty years ago, when mechanization and agricultural science had their beginning. The agricultural methods are no longer practiced according to tradition, nor according to ancestral methods, transmitted from father to son.\(^1\)

These changes have given way to new conditions and trends in the agricultural methods used today.

In Iran as well as other developing countries, changes have taken place which included technological changes as well as social economic changes.

Arsvik mentioned that:

The commencement of the land reform and the Revolution of the Shah and the people in 1962

led to a real transformation of agriculture from traditional methods to more mechanized methods.

Rapid social and economical development has taken place during 1962-72 in Iran, the implementation of land reform certainly benefited farmers and had great effects on agricultural development.²

Aresvik concluded that a favorable development of industrial crops, increased fertilizer use, plant protection chemical use, rapid tractor mechanization, are mainly a result of introduction of improved technology and scientific methods in Iranian agriculture.³

The above changes are the key words to the success of the Extension programs. Hence, the agricultural Extension specialist and agent must be able to adapt themselves to today's situation and adopt new methods. To be effective, they must be analytical and practical in assessing the needs of their community for the present and future.

Continuing to improve family living is the ultimate goal of Extension. Improved production and increased income are means toward this end. Every member of the


³Ibid., 237-238.
rural family can contribute to family goals and needs to participate in the educational program. In developing countries especially in Iran, where women and children do much of the field work, involvement of these groups in Extension education is important.

The Extension specialists and agents not only have to be able to analyze situations and to know facts to apply to these situations, but they must direct their attention to the clientele and develop the interest of the clientele to the point of action.

They are teachers where the results are actions by the members of the family and community in solving individual and group problems in every situation.4

To approach these needs and to find solutions, Extension specialists and agents need training in subject matter related to Extension education concepts, philosophy, organization, supervision, leadership, evaluation, and program planning. Overall, they must be well prepared to aid these problems.

As stated by Penders:

An Extension worker is more than an expert in a certain field of agriculture or home economics.

---

His training should also prepare him to be a community organizer, an adult educator, and a student of human behavior.^^

The Extension agent needs to be competent and well trained not only in his education and know-how, but also he must be open to change and methods most conducive to his Extension work.

Rassi stated that:

A growing country, a free and developing nation will not deny the effort, budget, and manpower necessary for Extension education, no matter how expensive this important distribution service may be. The key to the success of Extension work under any condition is a good training program for its employees.^^

The Extension agent must be attuned to the human and emotional attitudes of his clientele. He must be observant of behavior and prepared to deal with such an open and understanding manner.

Agricultural Extension Service

Prior to 1951, agricultural research and Extension were only in the early stages of development in Iran. The Extension Service was established in 1953 with the cooperation of the

5J. M. A. Penders, "Conclusion of the XIth Training Center," Lecture given at the International Agriculture Center, Wageningen, Holland, August 1963.

The successffulness of Extension work, with its accomplishments, in the present status is primarily based upon education. In its early years of establishment it was not only the best assisted program, but also had unlimited help from the United States government. To date, the Extension Service still finds it necessary for new personnel to undergo required training programs.

The minimum education required for a person to be an Extension agent is secondary school and for a specialist is a B.S. degree with some experience within Extension.

Prior to 1958 Extension education was not taught in agricultural colleges. However, recently it was jointly agreed by the Ministry of Agriculture and Natural Resources and the College of Agriculture that Extension education should be taught in all colleges.

The Extension Service in Iran is headed by a Director General who reports to the under-secretary for regulatory work and is assisted by one technical, one administrative, and one educational director. It has eight divisions: Extension Education, General Service, Development Corps, Development Corps, Development Corps, Development Corps.

---

7Aresvik, p. 179
Rural Youth Publications, Audio Visual Methods, Fairs, Shows, and Production.

Currently the Extension organization within the Ministry of Agriculture and Natural Resources has a staff of about 1,120 of whom 795 are Extension agents working at the local or village level, 292 supervisors or specialists at the provincial level, and the rest are assistant specialists. This staff is supplemented by the members of the Paramilitary Extension Corps in the country. The Extension agents receive three years of training at vocational high schools and agricultural resource institutions. Directors and specialists receive at least four years of training at agricultural colleges.

In order to complete two years of compulsory military service, members of the Extension Corps, which is part of the army, receive six months of training in Agricultural Extension and must then work in the villages for eighteen months. Some young men who have completed vocational high school or agricultural college may prefer to be assigned to the Extension Corps instead of regular military service.

Although, the director of the Extension in the province directs and supervises the work of the Extension Corps, the members are still under military command and discipline. However, the training program of the Extension
Corps is supervised and planned by the Ministry of Agriculture and Natural Resources.

Army funds are used to pay the corpsmen in training. However, all fees and costs of the program are borne by the Ministry of Agriculture and Natural Resources as soon as they assume their Extension duties. As stated by Aresvik, generally the quality of Extension staff is unsatisfactory and the proper supervision and training of lower staff is lacking.\textsuperscript{8}

Since the Extension Corps serves such a useful function in so many ways, it could be an efficient supplement to the regular Extension Service. As a result of most desk work being done in an urban center, there are generally not enough Extension agents in the field. Thus, the results of the research are rarely brought to the operational level—causing vast communication gaps between the Extension Service and the research institutions. Informal contacts are used between the central and provincial subject matter specialists and the agricultural research centers. But a formal system should be devised to systematically bring farm problems to the research institution's

\textsuperscript{8}Aresvik, p. 181.
attention. Only at annual meetings on the director general level are Extension and research problems taken into consideration.

The FAO (1971) perspective study indicated an organizational pattern that would require 8,500 Extension agents and 1,200 Extension specialists by the end of 1985.\(^9\)

The quality of staff can be improved through better preservice training as well as inservice training.

As stated by Oddvar Aresvik:

There is a need for better coordination between the Extension organization and activities carried by other agencies such as research institutes and universities.\(^10\)

To be effective in the field, the Extension workers must be well trained and well educated and the farmer must have confidence in the advice rendered to them. Hence, the training needs of Extension specialists and agents must be identified. Also the length and quality of training for Extension specialists and agents require improvement in order for them to perform well on the job.

---


\(^10\) Aresvik, p. 182.
In addition to the quality shortcomings, Extension has been hampered by the lack of a strong program and by the low priority traditionally accorded to it, which has led to poor motivation. This will, it is hoped, change with the new emphasis now being given to the development of programs and training needs and other incentives.

Statement of the Problem

The basic purpose of this study was:

To identify and describe the perceived professional education training needs of Extension specialists and Extension agents in selected Provinces of Iran.

The training needs were described as they relate to the following areas:

1. Extension philosophy, organization, and administration,
2. Program planning,
3. Education, teaching-learning process,
4. Evaluation,
5. Communication,

\[11\] Aresvik, p. 182.
6. Human development and social action.

Increased emphasis on Extension programs places an urgency to improve the training of the Extension agents and specialists who are responsible for performing the teaching-learning process, program planning, leadership, evaluation, communication, and subject matter to meet today's challenges in the fullest sense of the word.

It should be noted that the purpose of this study is not to evaluate the present performance of the personnel or quality of the program in Extension, rather it is to identify the perceived professional education training needs of Extension specialists and agents in selected Provinces of Iran.

Specific Objectives

The following specific objectives were established in order to give more detailed direction to the study under investigation:

1. To describe selected characteristics of the Extension specialists and agents in selected Provinces of Iran on:
   a. age
   b. tenure or years of experience
   c. degrees held or level of formal education
   d. Extension Corps experience
   e. major field of study or preservice education
2. To determine the perceived professional education training needs of the Extension specialists in selected Provinces of Iran.

3. To identify the perceived professional education training needs of the Extension agents in selected Provinces of Iran.

4. To identify the order of importance of the training items as perceived by the respondents in each area of training.

5. To identify the order of importance of the professional education training areas as perceived by the specialists and agents.

6. To compare perceived professional education training needs of the Extension specialists and agents by: age, tenure, degree, Extension Corps experience, and major field of study.

7. To investigate the relationship between the perceived amount of training needed in specific areas of training by the Extension specialists and age, tenure, degree, Extension Corps experience and major field of study.

8. To investigate the relationship between the perceived amount of training needed in specific areas of training by the Extension agents and age, tenure, degree, Extension Corps experience and the major field of study.

9. To investigate the relationship between the perceived amount of training needed in specific areas of training by the respondents and age, tenure, degree, Extension Corps experience and major field of study.
Importance of the Study

Out-of-school education is primarily a developmental requirement as pointed out by Extension and similar informal educational programs in Iran.

As reported by J. Rassi:

In Iran where more than half of the population are illiterate and the majority live within rural areas, Extension has many practical advantages: It helps illiterates to adopt scientific methods in farming and living. It changes their traditional environment to a learning environment. It has the advantage of taking the school to those who do not have access to a school. It presents a new life, a real life, to the people inspiring those who suffer from a lack of education.

Extension Service should by all means stay within the areas of rural life and change its developmental duties by creating attitudes, skills, and knowledge basic to a progressive rural life.12

In this regard, Leagans' statement serves special purposes in Iran and other developing countries:

Rural development in democratic societies is not a matter of only plans and statistics, targets and budgets, technology and methods, material and professional staff or agencies and organizations to administer them. Rather it is effective use of these mechanisms as educational means for changing the mind, the actions of people in such ways that they "help themselves" attain economic and social improvements. Hence, the process is one of working with people and not for them; of helping people

12Rassi, Extension Education Today, pp. 77, 80.
become self reliant, not dependent on others; of working people, the central actors in the drama, not the stage hands or spectators; in short—helping people by means of education, putting useful knowledge to work for them. This process is the essence of education.  

Therefore, Extension is based on the needs of the people it serves; people in the school of life are its students. To assist these people to obtain more satisfaction in their community, farms, and homes is the ultimate goal of Extension.

As stated by Leagans:

The assumption has long been accepted that Extension and other continuing educators who attain high professional ability and continue to improve it become more useful; the opposite is true for those who do not.

What is known today about the personnel development process all points to the necessity of identifying the competencies needed as a development activity.

Without this knowledge of what competencies are needed it is virtually impossible for either a trainee or a trainer to select accurately the content needed, effective communication techniques or the time required for a training program.

---


A comprehensive review of literature shows that no study has been done in the area of training within the Extension Services in selected Provinces of Iran.

There exists a need to know and identify the training needs of Extension specialists and agents for successful performance on the job.

Information obtained from this study could serve as a guideline for Extension authorities and influence the present way of training specialists and agents in Iran.

Basically the need for this study is based upon the consideration of the following factors:

1) There is a current and future need for skilled and trained Extension specialists and agents in selected Provinces of Iran.

2) Professional education training is needed by Extension directors and administrators for planning and conducting relevant preservice and inservice training programs for Extension specialists and agents.

An important conclusion drawn from the study by Rassi stated that:

In agrarian countries where both community development and Extension or similar programs exist, preliminary administrative coordination is essential with emphasis on
sound training of personnel to more concise effective teaching activities.\textsuperscript{15}

Thus, Extension specialists who are charged with the responsibilities of working with Extension agents and helping people to help themselves to work out their destinies should be trained and well prepared. This study will provide those individuals who are working in Iranian Extension Service and are responsible for staff training, recruitment and development with some criteria and suggestions as to the type of professional education training as needed by Extension specialists and agents.

\textbf{Basic Assumptions}

1) Extension administrators and directors are interested in the improvement and/or development of an overall training program for Extension specialists and agents.

2) The Extension specialists and agents have sufficient knowledge and understanding of their job to identify and describe the training needs.

3) The Extension specialist needs to be trained in his field and to have sufficient knowledge to work with Extension agents and people.

4) The Agricultural Extension specialist and agent have nearly the same function and require the same qualifications and professional education training needs regardless of their geographical location within the country.

**Limitation of the Study**

There was a serious concern in the fact that the written questionnaire had to be translated into Farsi (Persian language) in order to be completed by the respondents, but the major limitations which are based on the nature of the study were:

1) This study was limited to an investigation of perceived professional education training needs of Extension specialists and agents excluded other training needs such as technical knowledge and skills which may be included among the essential qualifications of Extension specialists.

2) The study was limited to respondents' possible varied interpretations of professional education
training needs of Extension specialists and agents in selected Provinces of Iran.

3) This study was restricted to the information received by questionnaires returned from a sample of current Extension specialists and agents in selected Provinces of Iran.

4) This study was limited to an investigation of the perceived professional education training needs of Extension specialists and agents in four selected Provinces within the Country during the summer of 1978.

**Definition of Terms**

**Extension Specialists**

The supervisory position does not exist in the Iranian Extension Service and where such positions are of administrative nature, they are responsible for both administrative and subject matter functions. More specifically, Extension specialists are keeping Extension agents up to date, helping them to develop community programs, assisting with the effective use of teaching methods, planning and conducting the programs. Extension specialists are required to have a Bachelor's degree in
agriculture with a broad scientific knowledge and training in the area of specialization. 16

**Extension Agent**

A term used to designate employees in the Iranian Extension Service. This term includes agricultural agents and home economic agents, and 4-H agents who are responsible for teaching, solving community problems, diffusing new technology and developing youth potentials.

**Extension Corps Experience**

This refers to those organized activities and Agricultural Extension training which Extension specialists or agents may have had during their military service in Iran.

**Perceived Training Need**

Knowledge, understanding, or skills identified by Extension specialists and agents as essential for them to perform on the job.

---

Area of Training

A composite of items of training in a given educational field such as specified in this study. An example of an area of training is the area of "evaluation."

Item of Training

A specific unit within an educational field embodying knowledge, understanding, or skill.

Research Methodology

The design for this study was a combination of descriptive survey and correlational research. This research can be classified as ex post facto research as defined by Campbell and Stanley.17 At this point exploratory literature in the area under investigation is insufficient, thus no concrete hypotheses were formulated. The dependent variables were:

1. professional education training needs of the Extension specialists as perceived by specialists
2. professional education training needs of the Extension agents as perceived by agents

The independent variables in this study were the following characteristics of specialists and agents:

1) age
2) tenure or years of experience within Extension Service
3) degree or level of formal education
4) Extension Corps experience
5) Major field of study or preservice education

In this study the relationship between professional education training needs and each independent variable for both group of respondents were investigated.

Instrumentation

A review of related literature did not reveal any instrument that could be specifically adapted to the objectives of this study. However, a questionnaire developed and used by McCormick in Ohio and a similar study by Bouchard in Quebec, Canada, focusing on the training areas recommended by the National Task Force (1959) provided the basic ingredients of the questionnaire that were designed for this study. The research instrument used in this study was a two-part questionnaire. Part I

---


of the questionnaire was composed of questions pertaining to personal data concerning age, tenure, degree, Extension Corps experience, major and situational data of the research subjects for both group of respondents (see Part I, Appendix A). Part II of the questionnaire was designed to identify and describe the professional education training needs of the Extension specialists and agents in selected Provinces of Iran.

A review of related literature generated 73 statements that related to the following six areas of training needed by Extension specialists and agents:

1. Extension philosophy, organization, administration
2. Program planning
3. Teaching—learning process
4. Evaluation
5. Human development and social knowledge
6. Communication

In developing the instrument for this study, instruments utilized in similar studies were obtained and modified to achieve the objectives of the study. The instrument was reviewed by the faculty members of the researcher's doctoral program at The Ohio State University.
Also a jury of experts from the Ministry of Agriculture and Natural Resources in Iran were asked to assist in translating and evaluating the instrument. As a result of evaluation only one item was deleted. The items relating to each area of professional education training need were randomly assigned by using a table of random numbers to reduce the possibility of bias due to the item position on the questionnaire.

Pilot Test

The researcher personally pretested the questionnaire to be used with a group of Extension specialists and agents who were employed by the Extension Service in Kermanshahan Province and Saheli Province in Iran. After reviewing the questionnaire with a group of experts from the Ministry of Agriculture and Natural Resources, only one item was deleted. The remaining 72 items on the questionnaire were completed by 30 individuals in the above-named Provinces who had the same characteristics as the target population. The questionnaire was personally administered by the researcher to the pilot test group.

A total of 24 or 80 percent of the questionnaires were properly completed and six questionnaires were not adequately completed. Test results from pretesting the
instrument were subjected to an Item Analysis Program (Johnson and McCabe, 1970), which was designed to perform an internal consistency analysis of a questionnaire (scored on the Likert Scale) according to the formula based on Kuder and 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 of the analysis, three more items were deleted and the instrument reliability coefficient for Part II of the questionnaire was 0.85.

Population and Sample

The target population of this study was the Extension specialists and agents from the four Provinces (Markazi, Isfaham, Fars, and Yazd) located in the central and southern part of the country as shown in the map of Iran in Figure 1. A 50 percent random sample of the agents and a census of specialists made up the sample used in this study.

Since no study had been done in the area of professional education training needed by the Extension specialists and
Figure 1.

Map of Iran
and agents in the aforementioned Provinces, the Ministry of Agriculture and Natural Resources recommended to do the study in the above Provinces. These Provinces, in terms of Extension Program, population, agricultural activities and close proximity, were representative of the central and southern part of the country. The list of individuals in the population was obtained from the chief director of the Extension Service in Iran. The population for this study included 128 specialists and agents currently employed by the Extension Service.

The target population composed of 40 or a census of the Extension specialists and 88 or 50 percent of the Extension agents within selected Provinces. Table 1 shows the distribution of the respondents within each selected province.

TABLE 1

DISTRIBUTION OF RESPONDENTS

<table>
<thead>
<tr>
<th>Selected Provinces</th>
<th>Specialists Number</th>
<th>Specialists Respondents</th>
<th>Agents Number</th>
<th>Agents Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fars</td>
<td>14</td>
<td>12</td>
<td>28</td>
<td>23</td>
</tr>
<tr>
<td>Isfahan</td>
<td>10</td>
<td>9</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>Markazi</td>
<td>12</td>
<td>11</td>
<td>23</td>
<td>18</td>
</tr>
<tr>
<td>Yazd</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
<td><strong>35</strong></td>
<td><strong>88</strong></td>
<td><strong>72</strong></td>
</tr>
</tbody>
</table>
Data Collection Procedures

The data for this study were collected by personal interview method and mail questionnaires during the summer of 1978. Thirty-five or 87.5 percent of the Extension specialists were interviewed by the researcher and the research instrument was sent with a cover letter asking the agent's cooperation in identifying his professional education training needs. This letter was signed by the chief director of Extension Service in Iran. A total of 72 questionnaires were returned by the agents which was an 81.8 percent response. Data from 107 questionnaires were coded for computer application and computer analysis at the Instructional Research Computer Center at The Ohio State University.

Analysis of Data

The data for this study were taken from 107 questionnaires. Responses to the professional education training needs were rated on a five-point scale. A value of zero was assigned to "no training needed," one was assigned to "little training needed," two was assigned to "some training needed," three was assigned to "much training needed," and four was assigned to "very much training needed." The highest possible score on an item or group of items was
four. The lowest possible score on an item or group of items was zero. The analysis of data was made in relationship to the specific objectives of the study. The computer facilities of the Instructional and Research Computer Center of The Ohio State University were used for calculations and data analysis. The data were analyzed using frequencies, measures of central tendencies, measures of relationship and measures of variations.

Rank, mean weighted scores, and standard deviations were calculated for each training need item and for each area of professional education training.

The Kruskall-Wallis Test, an alternative nonparametric test for one way analysis of variance for more than two groups, and the Mann-Whitney U Test, an alternative nonparametric test for the t-test for only two groups, were performed to test the difference between the amount of training needed by the respondents in each area of training with their age, tenure, degree, Extension Corps experience and the major field of study.

Since the dependent variables of the study were considered as ordinal data, Spearman-Rank-Order-Correlation Coefficient was utilized to determine the degree of relationship between variables and between two groups of respondents.
An alpha level of 0.05 was utilized to test the significance of all associations. The scale measurement for each independent variable was considered as ordinal.

The Kruskall-Wallis Test; the Mann-Whitney U Test; the Statistical Package for the Social Sciences (SPSS); Subprogram for Spearman-Rank Order Correlation Coefficient; and Kendall Tau Correlation Coefficient were used.
CHAPTER II

REVIEW OF RELATED LITERATURE

It is not the purpose of this chapter to present all research and literature in the area of training of Extension personnel. However, it is the plan of the researcher to summarize the literature most clearly related to this study. A review of the literature shows that a considerable amount of research has been done on the training needs of Extension personnel in the United States, but no research was found related to the perceived professional education training needs of the Extension specialists and agents in selected Provinces of Iran.

It seems important in this study to establish a clear concept or meaning for the term training.

Definition of Training

There are many definitions of training that have been developed by writers in the field. Some of the more relevant ones will be presented as a guide line for this study.

According to Staff Development Policy in the Extension Service, the term "training and development"
means a planned and well-conducted routine of instruction and practice directed toward definite improvement of the objectives.²⁰

Beach defines training as the organized procedure by which people learn knowledge and/or skills for a definite purpose. The objective of training is to achieve a change in the behavior of those trained so that the employee may apply newly acquired knowledge and skills on the job in such a way as to aid in the achievement of organizational goals.²¹

The 1958 Government Employees Training Act uses training to mean the process of providing for and making available to an employee and placing or enrolling such employee in a planned, prepared, and coordinated course, curriculum, subject, system, or routine of instruction or education which are or will be directly related to performance by such employee—in order to increase the knowledge, proficiency, ability, skill and qualifications of such employee to the performance of official duties.²²


Terry defines training as a planned development of people. It is an enlargement of work habits which are useful in solving problems in the future.\(^{23}\)

Proctor and Thornton state that training is the intentional act of providing the means for subordinates to learn.\(^{24}\) This implies that training efforts must be based on a real need. When training needs have been carefully determined, the planning initiating, measuring and followups of training are vastly more organized and meaningful.

Based on the above definitions the common purpose of training are: increasing the efficiency of the organization and improving the quality, skill and performance of the employees and employers. Extension personnel who work with people and especially with farmers must be well trained in educational and technical subject matter in order to help them.

McCormick stated that:

The agent who limits his training to technical subject matter is only partially equipped


as an educator. Research in psychology, education and human relations offers a "gold mine" of training opportunities.  

Bouchard in this regard pointed out that since the Extension worker is working with every class of society, chiefly with farmers, he or she must study and learn about their behavior, attitudes, and capacity for learning, and he must be aware of successful Extension methods of reaching and teaching people, and basic principles of Extension program development.  

At the end as it has been stated by the National Policy Guide for Staff Development in Extension Service:  

The effectiveness of the educational programs of Extension depends upon the abilities and skills of its staff. Well qualified personnel with the capacity to grow and mature on the job and ability to adjust to changing demands is to continue as a vital force in meeting the needs of people.

---

**Needs for Training**

The necessity for identifying training needs in any organization is essential. As stated by Frank Cushman:

---


26 Bouchard, p.43.

The need for a training program is always indicated by the existence of some particular condition or group of conditions, or by some situation which if improved or modified will increase the efficiency with which the work of an organization is performed. To the extent to which these situations or conditions properly sized up, it becomes possible to formulate training objectives and to make plans for a training program which will be designed to bring improvement in definite and specific ways.\(^\text{28}\)

McCormick conducted a study on the training needs of the Ohio Extension agents. In this study McCormick used nine areas of competency as identified by the National Task Force Committee and reported that the perceived training needs were ranked as follows:

1) Program planning and development
2) Effective thinking
3) Communication
4) Technical knowledge
5) Human development
6) The educational process
7) Understanding social system
8) Organization and administration\(^\text{29}\)

\(^{28}\)Frank Cushman, *Training Procedures* (New York: John Whiley and Sons, 1940), p. 27.

\(^{29}\)McCormick, pp. 97-98.
McCormick found that the training needs of Extension agents vary within the different tenure groups. He concluded that the point of greatest differentiation of training needs was between the agents of less than ten years and those of ten or more years of experience. The tenure group that had the most agreement as to the type of training were the agents with ten to twenty years of tenure and those with twenty years and over.  

Price conducted a study in Arkansas on the training needs of the agents. His study was similar to McCormick and he utilized the nine competency areas identified by the National Task Force to rank the training needs of the agents.

The perceived training needs were ranked as follows:
1) Program planning and development
2) Human development
3) Technical knowledge
4) Communication
5) Research and evaluation
6) Effective thinking

\[30\text{Ibid., p. 86.}\]
7) The educational process
8) Understanding social systems
9) Extension organization and administration

Soobitsky conducted a study of the perceived training needs of urban Cooperative Extension agents working with disadvantaged audiences in the twelve northeastern states. He identified and ranked the perceived training needs as:

1) Communication
2) Effective thinking
3) Program planning and development
4) Human development
5) Social systems
6) The educational process
7) Research and evaluation
8) Technical knowledge
9) Extension organization and administration

Soobitsky reported that four out of five tenure groups agreed that most training needed was in the areas

---


of communication and effective thinking. Agents with similar tenure perceived similar types of training need.\textsuperscript{33}

Brooks identified and described the training needs of Extension specialists at 1890 land-grant institutions and Tuskegee Institute. In this study he described the training needs as they related to a modified version of the areas of competency recommended by the ECOP Subcommittee on Staff Training and Development in 1968 as important to all Extension professionals. The specific areas of training needs were ranked as:

1) Methods and procedures essential to evaluating and reporting Extension programs.

2) Methods and procedures essential to implementing Extension programs.

3) Methods and procedures essential to planning Extension programs.

4) Relationship with the total university and other agencies.

5) Extension philosophy, organization, and internal procedures.\textsuperscript{34}

\textsuperscript{33}Ibid., p. 320.

He concluded that in general specialists rated the items relating to training needed in evaluating and reporting Extension programs higher than the items relating to other areas of training.  

Bouchard studied the training needs of Extension agents in Quebec, Canada and found seven major areas of competency by the following ranking order:
1) Program planning
2) Psychological and educational activities
3) Performance of educational activities
4) Research and evaluation
5) Social knowledge
6) Knowledge about the Extension Service
7) Technical subject matter

Bouchard reported that agents with five or more years of tenure have different training needs when compared to those with less than two years of tenure.

Kalangi also conducted a study to analyze the training needs of Extension agents in urban and farm counties in eleven midwestern states. In his study he found nine areas of training needed:

\[\text{Ibid., p. 97.}\]
\[\text{Ibid., pp. 228-229.}\]
\[\text{Ibid., p. 248.}\]
Kalangi found that there were significant differences between the training needs of Extension agents working with urban and rural people. He mentioned that these differences occurred in training needs within the nine areas of competency identified by the National Task Force on Cooperative Extension Inservice Training.\textsuperscript{38}

Shabbazi conducted a study on the Extension Program Planning and its effectiveness in Hamedan Sub-Provence, Iran. In this study he evaluated the whole process of Program Planning in Extension in Hamedan, and compared


\textsuperscript{39}Ibid., pp. 185-186.
it step by step with Boyle's Program Planning Model (1965) which has the following processes: plan, program decisions, organizing, initiation, and formulation.\textsuperscript{40}

He found that none of the variables such as age, level of education, position, length of tenure, the village distance from the central city, and the type of land holding had any bearing on the selected aspects of program planning.\textsuperscript{41}

The findings revealed that the respondents had an unsatisfactory understanding of philosophy, objectives, policies and procedures which were the necessary conditions for formulating the basis for the Extension program. It was found that the local people were not involved in planning programs, and current program activities were pre-determined.

He indicated that such shortcomings were found to be due mainly to: 1) insufficient preservice and inservice training programs, 2) an inefficient system of communication, 3) unsatisfactory cooperation and coordination with other formal agencies operating at


\textsuperscript{41}Ibid., p. 4.
the village level, and 4) inadequacy of effecting systematic processes and end evaluation of the programs. Finally, he concluded that Extension professional staff members lacked sufficient knowledge of subject matter related to the field of agriculture as well as the principles of Extension program development.\footnote{Ibid., pp. 2, 5.}

Fite analyzed the educational needs of the Alabama Associate County Extension Chairmen and Extension Home Economics Agents. In her study: 1) she identified the major competency areas, and items within each of the major areas in which Alabama Home Economic Extension Agents felt the most need for educational improvement, and 2) she related the agent's opinions of the relative importance of the major competency areas, and items within each of the major areas, to their effectiveness as Extension agents.

The major competency areas which formed the framework for the study were:

1) Understanding social systems
2) Program planning and development
3) Understanding human development
4) Extension organization and administration

\footnote{Ibid., pp. 2, 5.}
5) Education process
6) Communication
7) Effective thinking
8) Research and evaluation
9) Technical knowledge

She reported that the relatively short tenure of Extension home agents suggested the need for a strong induction training program. The areas "program planning and development," "communication," and "technical knowledge" were of greatest importance to the effectiveness of the agents, and their need for more education and training in these areas. Of secondary importance are the areas of "understanding human development," "effective thinking," and "Extension organization and administration."

Onazi conducted a study on the training needs of potential Extension agents in the northern states of Nigeria. He stated that seven areas of training in priority order were:


44 Ibid., p. 143.
1) Technical knowledge in agriculture
2) Agricultural Extension philosophy, organization, and administration
3) Communications
4) Program planning
5) Research and evaluation
6) Educational process and human development
7) Sociological factors

He found that the most important areas in which agents needed intensive training were: technical knowledge in agriculture, agricultural Extension philosophy, organization, administration, and communication. Also there were significant differences in some items of training when opinions of Extension staff were compared by status, tenure, and agricultural background. Finally, he indicated that Extension agents in the northern states of Nigeria overwhelmingly endorsed the training offered at the School of Agriculture as being relevant to the needs of potential agents. This was

evident from the high ratings given to a majority of training items.\textsuperscript{46}

Williams conducted a study to identify the professional training needs of Extension agents in Western Nigeria as the basis for development and training curriculum. In his study from 115 respondents he extracted 95 fairly distinct behavioral elements which have been classified into five major categories as follows:

1) Creating appropriate teaching learning situations for clientele
2) Planning, organizing and implementing Extension projects
3) Demonstrating interpersonal relationships with staff members within the Extension Agency and with outside agencies
4) Working with groups of clientele
5) Conducting and organizing training programs for co-workers and clientele.\textsuperscript{47}

He reported that no significant relationships were found between tenure of agents and any of the major

\textsuperscript{46}Ibid., pp. 262-263.

categories. But significant relationships were found between age and major categories "working with groups of clientele" and "conducting and organizing training programs for co-workers and clientele." Also between position of agents and "planning, organizing and implementing Extension and projects" and "working with groups of clientele." 48

**Inservice Training**

According to the National Policy Guideline for Staff Development, "Experienced staff members need inservice training and educational experience to assist them with the following:

1) To further develop technical subject matter competencies to keep abreast of and, if possible, ahead of change.

2) To explore educational and technological content and processes in varying depths to extend personal competencies (may include organizational development, program coordination, program development, program analysis, program interpretation, and accountability).

---

48 Ibid., pp. 182-183.
3) To take broader view and get a greater focus on particular extension role responsibilities and update approaches to carrying out responsibilities.

4) To develop a continuing sensitivity to social economic and political changes, and to acquire the capacity to deal with these situations.  

An inservice training program is one of the important segments of the Cooperative Extension Service.

The (1959) National Task Force in Cooperative Extension Inservice Training defined inservice training as "Inservice training is that phase of organized learning experience which is provided employees by the agency throughout the employment period. It is training directed toward developing, understanding the job operations and standards, agency philosophy, policies and procedures, as well as current technical research findings. It includes induction training for new workers and on the job training in both subject matter

and in educational methods for experienced personnel at all levels in the organizations."

The characteristics of inservice training as recommended by the National Task Force are:

1) **Official.** Supported by written administrative policy and administrative procedures.

2) **Purposeful.** Directed toward definite purposes of objectives.

3) **Cooperative.** Planned cooperatively by the trainer and the trainees.

4) **Need oriented.** Based on individual needs, abilities and interests.

5) **Dynamic.** Improvement of the on-going education process.

6) **Flexible.** Adjusted to changes in programs, personnel.

7) **Comprehensive.** Stimulate intellectual capacity.

8) **Longtime.** Continuous character available throughout the professional life of personnel.

---


10. Well organized. Planned to achieve continuity, sequence and integration.


12. Efficient. Designed to effect changes and use best resources.

13. Scientific. Based upon scientific information.51

A Guide to Inservice Training Program for Cooperative Extension Service recommended that inservice training should provide Extension specialists with understanding and skills in areas such as:

1) The role of specialists

2) The specialist's function in Extension program building

3) Effective techniques for Extension teaching

4) Working relationships of Specialists

5) How to analyze and interpret economic and social data

51Ibid., pp. 2, 3.
6) How to maintain leadership in technical fields.\textsuperscript{52}

In summary it can be said that inservice training is an important factor in making the Extension workers ready to meet the needs of people, it should be a continuous process for Extension specialists and agents while they are working on the job.

**Variables Which Influence Training Needs**

Kalangi concluded that all Extension agents, regardless of situation or position, require intensive training in the educational process, human development and human relations, program development and communication.

The urban county agents need more training in mass communication media, especially in the use of television and radio in Extension. He also indicated that training in leadership is essential for all Extension agents.\textsuperscript{53}

McCormick found that there are two areas of competency where disagreement occurred between agents who

\textsuperscript{52}Ibid., pp. 5, 13-15.

\textsuperscript{53}Kalangi, pp. 185-186.
perceived their role as educational and those who perceived their role as noneducational. These were the areas of program planning and development and communication. Agents who perceived their role as educational as their greatest need for training, while the agents with noneducational job perception ranked the area of communication as their area of greatest need for training. He also suggested that the training needs of Extension agents varied within different tenure groups.\(^5^4\)

Soobitsky reported that there was a high degree of agreement between perceived training needs and importance of the nine areas of competency based on the variables of divisional response (Agriculture, Home Economics, 4-H) tenure in the Extension Service and previous experience in working with disadvantaged audiences.

The agents as a total group perceived the competency areas of communication and understanding social systems as the most important for job effectiveness. The training areas of educational process and research and evaluation were the only two areas in which all the tenure categories as perceived a high degree of agreement as the importance of job effectiveness.\(^5^5\)

\(^{54}\)McCormick, p. 196.

\(^{55}\)Soobitsky, pp. 314-315, 320.
Brooks concluded that specialists as a total group perceived that the most training needed was in the area of evaluating and reporting Extension programs. Subject matter specialists' perception of the amount of training needed in Extension philosophy decreased as age increased. Specialists in different Extension divisions perceived the amount of training needed similarly in all areas except specific technical areas. He also found that younger specialists with the least amount of tenure in Extension and tenure in their present positions perceived a greater need for training than older specialists with more tenure in Extension and their present positions.56

Bouchard found that there was a lower degree of relationship between the training needs of the younger agents and the older agents than between any other age group.

When the areas of training were compared there were more differences in training needs between the 0 to 2 and the 5 to 10 year tenure groups, and between the 0 to 2 and the 10 to 20 year tenure groups than between any other groups of tenure. Finally, he stated that all

56Brooks, p. 96.
Extension agents, regardless of age, tenure, and professional status felt that they needed less training in the area of technical subject matter and more training in the area of program planning.\textsuperscript{57}

Price reported that 71 percent of the county agents in Arkansas, 51 percent of the home agents, and 40 percent of the assistants and associates perceived their role to be primarily educational in nature. The remainder see their role as being more service oriented.

In the lower tenure groups, the tendency was for agents to view their roles as more service and less educational in nature.\textsuperscript{58}

**Summary**

This chapter attempted to give a general idea of the concept of the term "training" and illustrated the important need for training, as felt by colleges, universities, as well as by Extension workers. A point of view has been presented which supports the notion that training is both a dynamic and continuous process.

---

\textsuperscript{57} Bouchard, pp. 248, 249

\textsuperscript{58} Price, p. 154.
Therefore, these studies were reported for the purpose of providing a broad picture of the training needs felt by Extension personnel.

In general, the majority of studies supported that training needs vary according to tenure, age, preservice training, and level of education of Extension workers. From the review of literature it can be stated that a training program for Extension specialists or agents should be flexible according to individual needs, and modified and adjusted from one year to another.

Because of the increased emphasis on Extension programs and due to the ever changing scientific and technological changes, the Extension specialists and agents should be well trained in order to meet the needs of the people.
CHAPTER III

FINDINGS

The major objectives of this study were: 1) to describe selected characteristics of the Extension specialists and agents in selected Provinces of Iran on: a) age, b) tenure or years of experience, c) degrees held or level of formal education, d) major field of study or preservice training, and e) Extension Corps experience; 2) to determine the perceived professional education training needs of the Extension specialists in selected Provinces of Iran; 3) to identify the perceived professional education training needs of the Extension agents in selected provinces of Iran; 4) to identify the order of importance of training items as perceived by respondents in each area of training; 5) to determine the order of importance of professional education training areas as perceived by respondents; 6) to compare perceived professional education training needs of the Extension specialists and agents by age, degree, tenure, major and Extension Corps experience; 7) to investigate the relationship between perceived amount
of training needed in specific areas of training by the Extension specialists and age, tenure, degree, major, and Extension Corps experience; 8) to investigate the relationship between the perceived amount of training needed in the areas of training by the Extension agents and age, tenure, degree, major and Extension Corps experience; 9) to investigate the relationship between the perceived amount of training needed in the areas of training by the respondents and age, tenure, degree, Extension Corps experience and major field of study.

The explanation of findings in this chapter will be presented in three parts. The first part of this chapter will be a discussion of demographic characteristics of the Extension specialists and agents in selected provinces of Iran. The second part will be an explanation of professional education training needs of the respondents. Also the second part will indicate the order of importance of training items and training areas as perceived by respondents. The last part of the chapter will present an analysis of the relationship between the perceived amount of professional education training in specific areas needed by the Extension respondents and the selected characteristics such as
age, tenure, degree, Extension Corps experience and major field of study.

**Characteristics of the Respondents**

Part I of the research instrument was planned to measure five variables as selected characteristics of the Extension specialists and agents in this study. The following characteristics were involved to determine if they were related to the perceived professional education training needs of the respondents:

1) Age
2) Tenure
3) Degrees held
4) Extension Corps experience
5) Major field of study

**Age of the Respondents**

The study indicated that the age of the Extension specialists and agents ranged from 23 to 44 years. Table 2 shows that ten or 28.6 percent of specialists were 23 to 29 years old. Nineteen or 54.3 percent of specialists were 30 to 39 years old. Six or 17.1 percent of specialists were 40 to 44 years old. The age of Extension agents as shown in Table 2 indicates that
43 or 59.7 percent of agents were 23 to 29 years old. Twenty-eight or 38.9 percent of agents were 30 to 39 years old. Only one 1.4 percent of agents were 40 to 44 years of age.

**TABLE 2**

<table>
<thead>
<tr>
<th>Years</th>
<th>Specialists (N = 35)</th>
<th>Agents (N = 72)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>23 - 29</td>
<td>10</td>
<td>28.6</td>
</tr>
<tr>
<td>30 - 39</td>
<td>19</td>
<td>54.3</td>
</tr>
<tr>
<td>40 - 45</td>
<td>6</td>
<td>17.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>35</td>
<td>100</td>
</tr>
</tbody>
</table>

Mean = 30.33; Std = 4.61; Median = 29.53; Range = 21

**Tenure of Respondents**

Table 3 shows that two or 5.7 percent of the specialists employed by the Extension Service had less than one year experience in Extension. Eighteen or 51.4 percent of the specialists had one to five years tenure in the Extension Service. Twelve or 34.3 percent of the specialists had five to ten years tenure. Three or 8.6 percent of specialists had more than ten years experience in the Extension Service. Table 3 also shows that 4 or
5.6 percent of the Extension agents had less than one year of experience in Extension work. Forty-five or 62.5 percent of the Extension agents had 1 to 5 years of tenure in Extension Service. Twenty or 27.8 percent of agents had 5 to 10 years of Extension experience. Three or 4.1 percent of the agents had more than 10 years of experience in Extension Service.

TABLE 3
TENURE OF EXTENSION SPECIALISTS AND AGENTS

<table>
<thead>
<tr>
<th>Tenure Years</th>
<th>Specialists (N = 35)</th>
<th>Agents (N = 72)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Less than 1</td>
<td>2</td>
<td>5.7</td>
</tr>
<tr>
<td>1 - 5</td>
<td>18</td>
<td>51.4</td>
</tr>
<tr>
<td>5 - 10</td>
<td>12</td>
<td>34.3</td>
</tr>
<tr>
<td>More than 10</td>
<td>3</td>
<td>8.6</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100</td>
</tr>
</tbody>
</table>

Mean = 2.35
Std = 0.67
Median = 2.25
Range = 3
Level of Formal Education of the Respondents

As shown in Table 4, sixty-three or 87.5 percent of the Extension agents were high school graduates specialized in the different areas of preservice education such as Agronomy, Animal Science, Horticulture, Irrigation and General Agriculture. Nine or 12.5 percent of the agents had more than high school and less than Bachelor's degrees.

Further analysis of the data in Table 4 indicated that twenty-six or 74.3 percent of the Extension specialists had Bachelor's degrees. Nine or 25.7 percent of the specialists had Master's degrees.

TABLE 4

LEVELS OF FORMAL EDUCATION FOR EXTENSION SPECIALISTS AND AGENTS

<table>
<thead>
<tr>
<th>Highest Academic Degree</th>
<th>Specialists (N = 35)</th>
<th>Agents (N = 72)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>High School Diploma</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>More than High School and Less than Bachelor's</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Bachelor's</td>
<td>26</td>
<td>74.3</td>
</tr>
<tr>
<td>Master's</td>
<td>9</td>
<td>25.7</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100</td>
</tr>
</tbody>
</table>
Areas of Preservice Education

Table 5 shows that four or 11.4 percent of the specialists that responded to the questionnaire received their highest academic degree in Agronomy. Four or 11.4 of the specialists' highest academic degrees were in Animal Science. Only one or 2.8 percent of the specialists had a degree in Agricultural Economics. Three or 8.7 percent of the specialists had degrees in agricultural education. Five or 14.3 percent of the specialists received their degree in Horticulture. Only one or 2.8 percent of the specialists earned their degrees in Irrigation. Two or 5.7 percent of the specialists' highest academic degrees were in Food Technology. Three or 8.7 percent of the specialists had degrees in Soil Science. Six or 17.1 percent of the Extension specialists had academic degrees in Plant Pathology.

Table 5 also reveals that eighteen or 25 percent of the Extension agents were specialized in Agronomy. Seven or 9.7 percent of the agents were specialized in Animal Science. Five or 6.9 percent of the agents in selected Provinces of Iran were specialized in Horticulture. Three or 4 percent of the agents were specialized in the area of Irrigation. Thirty-eight or 53 percent of the Extension agents were trained in general agriculture.
**TABLE 5**

AREAS OF PRESERVICE EDUCATION FOR EXTENSION SPECIALISTS AND AGENTS

<table>
<thead>
<tr>
<th>Major</th>
<th>Specialists (N = 35)</th>
<th>Agents (N = 72)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Agronomy</td>
<td>4</td>
<td>11.4</td>
</tr>
<tr>
<td>Animal Science</td>
<td>4</td>
<td>11.4</td>
</tr>
<tr>
<td>Agricultural Economics</td>
<td>1</td>
<td>2.8</td>
</tr>
<tr>
<td>Agricultural Education</td>
<td>3</td>
<td>8.7</td>
</tr>
<tr>
<td>Agricultural Engineering</td>
<td>5</td>
<td>14.3</td>
</tr>
<tr>
<td>Horticulture</td>
<td>6</td>
<td>17.1</td>
</tr>
<tr>
<td>Irrigation</td>
<td>1</td>
<td>2.8</td>
</tr>
<tr>
<td>Food Technology</td>
<td>2</td>
<td>5.7</td>
</tr>
<tr>
<td>Soil Science</td>
<td>3</td>
<td>8.7</td>
</tr>
<tr>
<td>Plant Pathology</td>
<td>6</td>
<td>17.1</td>
</tr>
<tr>
<td>General Agriculture</td>
<td>38</td>
<td>53</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>35</td>
<td>100</td>
</tr>
</tbody>
</table>

No agent's preservice education was in the areas of Agricultural Economics, Agricultural Education, Agricultural Engineering, Food Technology or Plant Pathology.
Extension Corps Experience for the Respondents

As indicated earlier Extension Corps experience refers to those organized activities and Agricultural Extension training activities which Extension specialists and agents may have had during their military service training in Iran. Table 6 shows that sixteen or 45.7 percent of the Extension specialists had Extension Corps experience. Nineteen or 54.3 percent of the Extension specialists did not have Extension Corps experience. Table 6 also reveals that thirty-eight or 52.8 percent of the agents had Extension Corps experience. Thirty-four or 47.2 percent of the agents did not have Extension Corps experience.

<table>
<thead>
<tr>
<th>Extension Corps Experience</th>
<th>Specialists (N = 35)</th>
<th>Agents (N = 72)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Yes</td>
<td>16</td>
<td>45.7</td>
</tr>
<tr>
<td>No</td>
<td>19</td>
<td>54.3</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100</td>
</tr>
</tbody>
</table>
Perceived Professional Education Needs of Specialists

The major objectives of this study were to identify and describe the perceived professional education training needs of Extension specialists and agents in selected Provinces of Iran. Also the order of importance of training items within each area of training and the order of importance of training areas expressed as needed by the respondents will be presented in this section. The training needs were described as they related to the following six areas of training:

1) Extension philosophy, organization, and administration
2) Program planning
3) Teaching-Learning process
4) Evaluation
5) Human development and social knowledge
6) Communication

To accomplish the above objectives 69 training items in the six different training areas were involved in the study. A five point scale was used (0 = no training needed, 4 = very much training needed) to determine the perceived training needs of the respondents. The mean score, rank and standard deviation for each of the items within each area of training were calculated.
The following is the description of the findings for each specific area of professional education training needed by the respondents:

**Extension Philosophy, Organization, Administration**

To investigate the professional education training needs of the Extension specialists in the area of "Extension philosophy, organization, administration" there were 13 training items identified. Specialists were asked to indicate their educational needs in performing each item. The mean score ratings were used to rank the 13 training items. As revealed by the data in Table 7 the mean score for the 13 items was 2.02 with a standard deviation of 1.17 (2 = some training needed), which indicated that the Extension specialists in selected Provinces of Iran need some training in the area of "Extension philosophy, organization and administration."

The study indicated that the Extension specialists need considerable professional education help in: knowledge and understanding of Extension policies in Iran; knowledge of the Extension organization at the national level; understanding the objectives of Extension Service in Iran; understanding the relationship between Extension and other agencies; understanding Extension procedures on promotion salary, insurance and
<table>
<thead>
<tr>
<th>Training Items</th>
<th>Mean Wt. Score</th>
<th>Rank</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge and understanding of Extension policies in Iran</td>
<td>2.65</td>
<td>1</td>
<td>1.08</td>
</tr>
<tr>
<td>Knowledge of the Extension Organization at the National level</td>
<td>2.51</td>
<td>2</td>
<td>1.01</td>
</tr>
<tr>
<td>Understanding the objectives of Extension Service in Iran</td>
<td>2.34</td>
<td>3</td>
<td>1.21</td>
</tr>
<tr>
<td>Understanding the relationship between Extension and other agencies</td>
<td>2.11</td>
<td>4.5</td>
<td>1.05</td>
</tr>
<tr>
<td>Understanding Extension procedures on promotion, salary, insurance, and retirement</td>
<td>2.11</td>
<td>4.5</td>
<td>1.18</td>
</tr>
<tr>
<td>Understanding Extension philosophy</td>
<td>2.02</td>
<td>5.5</td>
<td>1.24</td>
</tr>
<tr>
<td>Understanding the interrelationship between various levels of Extension staff</td>
<td>2.02</td>
<td>5.5</td>
<td>1.12</td>
</tr>
<tr>
<td>Understanding the Extension history in Iran</td>
<td>1.94</td>
<td>8</td>
<td>1.05</td>
</tr>
<tr>
<td>Understanding of the specialists' roles at the Provincial level</td>
<td>1.88</td>
<td>9.5</td>
<td>1.30</td>
</tr>
<tr>
<td>Knowledge of office management</td>
<td>1.88</td>
<td>9.5</td>
<td>1.15</td>
</tr>
<tr>
<td>Knowledge of the organization of Extension at the Provincial level</td>
<td>1.85</td>
<td>11</td>
<td>1.41</td>
</tr>
<tr>
<td>Understanding the Director's role at the Provincial level</td>
<td>1.54</td>
<td>12</td>
<td>1.24</td>
</tr>
<tr>
<td>Understanding the role of Extension in the development of people</td>
<td>1.42</td>
<td>13</td>
<td>1.19</td>
</tr>
</tbody>
</table>

\[ N = 35 \]
\[ \text{Grand Mean} = 2.02 \]
\[ \text{Standard deviation} = 1.17 \]
retirement. From the findings in this area it can be concluded that the Extension specialists needed more professional education training on the above training items in the area of "Extension philosophy, organization, and administration" than other training items.

Program Planning

Table 8 shows the professional education training needs of the Extension specialists in the area of "Program Planning." The mean score and standard deviation for each item was obtained and the items were ranked in the order which respondents needed the most professional education training. The study indicated that the grand mean for 12 training items involved in this area was 2.12 (2 = some training needed) with a standard deviation of 1.18. The respondents indicated that they needed more professional education training in developing a short and long range Extension program; ability to develop the plan of action; developing evaluation procedures into plans of work; organizing and working with effective program planning committees; getting the participation of lay leaders and professional groups in the program planning process other than the training items involved in the area of "program planning."
TABLE 8

RANK ORDER OF THE EXTENSION SPECIALISTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF PROGRAM PLANNING

<table>
<thead>
<tr>
<th>Training Items</th>
<th>Mean</th>
<th>Wt. Score</th>
<th>Rank</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing a short and long range Extension program</td>
<td>2.62</td>
<td></td>
<td>1</td>
<td>1.05</td>
</tr>
<tr>
<td>Skill and ability to develop the plan of action</td>
<td>2.25</td>
<td>2.5</td>
<td>1.17</td>
<td></td>
</tr>
<tr>
<td>Developing evaluation procedures into plans of work</td>
<td>2.25</td>
<td>2.5</td>
<td>1.12</td>
<td></td>
</tr>
<tr>
<td>Organizing and working with effective program planning committees</td>
<td>2.20</td>
<td>4</td>
<td>1.25</td>
<td></td>
</tr>
<tr>
<td>Getting the participation of lay leaders and professional groups in the program planning</td>
<td>2.17</td>
<td>5</td>
<td>1.25</td>
<td></td>
</tr>
<tr>
<td>Using resources personnel in program planning process</td>
<td>2.11</td>
<td>6.5</td>
<td>0.99</td>
<td></td>
</tr>
<tr>
<td>Ability to use data of census and other resources</td>
<td>2.11</td>
<td>6.5</td>
<td>1.02</td>
<td></td>
</tr>
<tr>
<td>Giving people satisfaction from the Extension program</td>
<td>2.05</td>
<td>8</td>
<td>1.51</td>
<td></td>
</tr>
<tr>
<td>Ability to analyze the situation</td>
<td>2.02</td>
<td>9</td>
<td>1.12</td>
<td></td>
</tr>
<tr>
<td>Ability to identify the specific and general objectives</td>
<td>2.00</td>
<td>10</td>
<td>1.28</td>
<td></td>
</tr>
<tr>
<td>Identifying people's needs, interests and priorities</td>
<td>1.85</td>
<td>11.5</td>
<td>1.33</td>
<td></td>
</tr>
<tr>
<td>Knowledge of involving people in program planning processes</td>
<td>1.85</td>
<td>11.5</td>
<td>1.16</td>
<td></td>
</tr>
</tbody>
</table>

Grand Mean = 2.12

Standard Deviation = 1.18
Teaching-Learning Process

The specialists were asked to indicate the level at which they needed professional education training in performing 12 training items in the area of the teaching-learning process.

Findings in this phase of the study indicated that the overall mean score of professional education needs of the Extension specialists in the area of teaching-learning process was 1.98 (2 = some training needed). Table 9 shows that the items in which specialists needed most help were: understanding the principles and techniques of counseling; knowledge of the principles and procedures in teaching adults; knowledge of the use of problem solving methods; understanding the principles of learning and teaching; understanding of how the young and adults learn; knowledge of different teaching methods; and knowledge of the problems of rural education. The overall standard deviation was 1.19.

Evaluation

There were eight professional education training items involved in the area of evaluation. The grand mean of the eight items was 2.03 (2 = some training needed) with a standard deviation of 1.18. A study of the findings in this phase of the study indicated that the
TABLE 9
RANK ORDER OF THE EXTENSION SPECIALISTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF TEACHING-LEARNING PROCESS

<table>
<thead>
<tr>
<th>Training Items</th>
<th>Mean Wt. Score</th>
<th>Rank</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding the principles and techniques of counseling</td>
<td>2.22</td>
<td>1</td>
<td>1.16</td>
</tr>
<tr>
<td>Knowledge of the principles and procedures in teaching adults</td>
<td>2.20</td>
<td>2</td>
<td>1.18</td>
</tr>
<tr>
<td>Knowledge of the use of problem solving method</td>
<td>2.17</td>
<td>3</td>
<td>1.27</td>
</tr>
<tr>
<td>Understanding the principles of learning and teaching</td>
<td>2.11</td>
<td>4.5</td>
<td>1.15</td>
</tr>
<tr>
<td>Understanding of how young and adults learn</td>
<td>2.11</td>
<td>4.5</td>
<td>1.10</td>
</tr>
<tr>
<td>Knowledge of different teaching methods</td>
<td>2.08</td>
<td>6</td>
<td>1.12</td>
</tr>
<tr>
<td>Knowledge of the problems of rural education</td>
<td>2.05</td>
<td>7</td>
<td>1.16</td>
</tr>
<tr>
<td>Understanding the relationship of interest to learning</td>
<td>1.94</td>
<td>8</td>
<td>1.34</td>
</tr>
<tr>
<td>Skills in working effectively with Committee of farmers</td>
<td>1.91</td>
<td>9</td>
<td>1.14</td>
</tr>
<tr>
<td>Ability to motivate people</td>
<td>1.88</td>
<td>10</td>
<td>1.20</td>
</tr>
<tr>
<td>Understanding the process of logical thinking and reasoning</td>
<td>1.68</td>
<td>11</td>
<td>1.13</td>
</tr>
<tr>
<td>Understanding the development of individual patterns of behavior</td>
<td>1.48</td>
<td>12</td>
<td>1.33</td>
</tr>
</tbody>
</table>

Grand Mean = 1.98
Standard Deviation = 1.19
Extension specialists needed the most training in understanding ways of designing evaluation projects; ability to evaluate Extension programs; understanding research methodology; and knowledge of research area in Extension education. Table 10 shows the mean score, rank and standard deviation of professional education training items in this area.

**Human Development and Social Knowledge**

The professional education training area of human development and social knowledge in this research project was an area in which 16 training items were included to investigate the degree of the Extension specialists' professional education perceived needs. A study of findings in this phase of the study indicated that the specialists in selected Provinces of Iran needed more training in social consequences in changing the type of farming; knowledge of identifying local and informal leadership; ability to use local leadership; knowledge of factors affecting the way of living and family relations; ability to deal with low income families and lagged farmers; knowledge of factors that contribute to rural migration and its consequences; and understanding the influence of technology on farm families. The grand mean score for all items in this area was 1.91 with a
TABLE 10

RANK ORDER OF THE EXTENSION SPECIALISTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF EVALUATION

<table>
<thead>
<tr>
<th>Training Items</th>
<th>Mean Wt. Score</th>
<th>Rank</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding ways of designing evaluation projects</td>
<td>2.54</td>
<td>1</td>
<td>1.09</td>
</tr>
<tr>
<td>Ability to evaluate Extension programs</td>
<td>2.28</td>
<td>2</td>
<td>1.20</td>
</tr>
<tr>
<td>Understanding research methodology</td>
<td>2.22</td>
<td>3</td>
<td>1.13</td>
</tr>
<tr>
<td>Knowledge of research area in Extension education</td>
<td>2.05</td>
<td>4</td>
<td>1.08</td>
</tr>
<tr>
<td>Ability to use research publications</td>
<td>1.91</td>
<td>5</td>
<td>1.22</td>
</tr>
<tr>
<td>Ability to devise and conduct survey</td>
<td>1.82</td>
<td>6</td>
<td>1.22</td>
</tr>
<tr>
<td>Knowledge of criteria for evaluating the work of Extension agents</td>
<td>1.77</td>
<td>7</td>
<td>1.37</td>
</tr>
<tr>
<td>Making application of research findings in assisting people of the region</td>
<td>1.71</td>
<td>8</td>
<td>1.20</td>
</tr>
</tbody>
</table>

Grand Mean = 2.03

Standard Deviation = 1.18
standard deviation of 1.14. Table 11 presents the data concerning the mean score, rank and standard deviation of the professional education needs in this area.

**Communication**

In order to find out the professional education training needs of the Extension specialists in the "communication" training area, specialists were asked to indicate the level at which they needed professional assistance in performing eight items based on a fine point scale (0 = no training needed, 4 = very much training needed). The mean value of 2.04 for eight items was obtained as the indicator of the level at which specialists needed help to perform in the communication area (2 = some training needed). Among the eight items involved in this area: making public speaking more effective; effective use of television and radio in Extension; ability and skills to organize tours, field trips, and farm and home visits; and ability to use exhibits, slides, pictures in Extension were found to be the most needed training items involved in this area.

Table 12 shows the mean score, rank, standard deviation of each training item in this area. The standard deviation for the eight items was 1.02.
<table>
<thead>
<tr>
<th>Training Items</th>
<th>Mean</th>
<th>Wt. Score</th>
<th>Rank</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Consequences in changing the type of farming</td>
<td>2.25</td>
<td>1.5</td>
<td>1.14</td>
<td></td>
</tr>
<tr>
<td>Knowledge of identifying local and informal leadership</td>
<td>2.25</td>
<td>1.5</td>
<td>1.01</td>
<td></td>
</tr>
<tr>
<td>Ability to use local leadership</td>
<td>2.20</td>
<td>2</td>
<td>1.07</td>
<td></td>
</tr>
<tr>
<td>Knowledge of factors affecting way of living and family relations</td>
<td>2.17</td>
<td>3</td>
<td>1.07</td>
<td></td>
</tr>
<tr>
<td>Ability to deal with low income families and lagged farmers</td>
<td>2.11</td>
<td>4</td>
<td>1.34</td>
<td></td>
</tr>
<tr>
<td>Knowledge of factors that contribute to rural migration and its consequences</td>
<td>1.97</td>
<td>5</td>
<td>1.09</td>
<td></td>
</tr>
<tr>
<td>Understanding the influence of technology on farm families</td>
<td>1.94</td>
<td>6</td>
<td>1.08</td>
<td></td>
</tr>
<tr>
<td>Understanding the influence of mass communication in society</td>
<td>1.91</td>
<td>7</td>
<td>1.14</td>
<td></td>
</tr>
<tr>
<td>Understanding why people join groups and organization</td>
<td>1.88</td>
<td>8</td>
<td>1.07</td>
<td></td>
</tr>
<tr>
<td>Understanding the different levels of class in society</td>
<td>1.82</td>
<td>9.5</td>
<td>1.20</td>
<td></td>
</tr>
<tr>
<td>Understanding the role of business, labor, professional, and civic organizations</td>
<td>1.82</td>
<td>9.5</td>
<td>1.17</td>
<td></td>
</tr>
<tr>
<td>Understanding group interactions</td>
<td>1.77</td>
<td>11</td>
<td>1.21</td>
<td></td>
</tr>
<tr>
<td>Ability to identify the problems of the community</td>
<td>1.71</td>
<td>12</td>
<td>1.17</td>
<td></td>
</tr>
<tr>
<td>Understanding of community development needs</td>
<td>1.68</td>
<td>13</td>
<td>1.13</td>
<td></td>
</tr>
<tr>
<td>Knowledge of the different kinds of adopters in the community</td>
<td>1.60</td>
<td>14</td>
<td>1.03</td>
<td></td>
</tr>
<tr>
<td>Understanding the individual's behavior in a group</td>
<td>1.57</td>
<td>15</td>
<td>1.17</td>
<td></td>
</tr>
</tbody>
</table>

Grand Mean = 1.91; Standard Deviation = 1.14
TABLE 12
RANK ORDER OF THE EXTENSION SPECIALISTS’ PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF COMMUNICATION

<table>
<thead>
<tr>
<th>Training Items</th>
<th>Mean</th>
<th>Wt. Score</th>
<th>Rank</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making public speaking more effective</td>
<td>2.42</td>
<td>1</td>
<td>0.94</td>
<td></td>
</tr>
<tr>
<td>Effective use of television and radio in Extension</td>
<td>2.25</td>
<td>2</td>
<td>0.95</td>
<td></td>
</tr>
<tr>
<td>Ability and skills to organize tours, field trips, farm and home visits</td>
<td>2.22</td>
<td>3</td>
<td>1.05</td>
<td></td>
</tr>
<tr>
<td>Ability to use exhibits, slides pictures in Extension</td>
<td>2.20</td>
<td>4</td>
<td>0.83</td>
<td></td>
</tr>
<tr>
<td>Understanding the basic principles of communication</td>
<td>1.97</td>
<td>5.5</td>
<td>1.09</td>
<td></td>
</tr>
<tr>
<td>Skills and ability to use visual aids</td>
<td>1.97</td>
<td>5.5</td>
<td>0.92</td>
<td></td>
</tr>
<tr>
<td>Ability and skill to give demonstrations</td>
<td>1.68</td>
<td>7</td>
<td>1.36</td>
<td></td>
</tr>
<tr>
<td>Ability to lead a meeting</td>
<td>1.62</td>
<td>8</td>
<td>1.03</td>
<td></td>
</tr>
</tbody>
</table>

Grand Mean = 2.04
Standard Deviation = 1.02
Perceived Professional Education Needs
of Agents

Extension Philosophy, Organization, and Administration

The investigation of the professional education training needs of the Extension agents in selected Provinces of Iran revealed that the mean scores of the respondents' needs in performing 13 training items in this area ranged from 2.93 to 1.98. The grand mean for all 13 training items was 2.50. The mean score as such in this study indicates that generally the agents believed that they needed some training in the area of "Extension philosophy, organization, and administration area." The greatest perceived needs of the agents were found in: understanding of the objectives of the Extension Service in Iran; knowledge of the organization at the national level; knowledge and understanding of Extension policies in Iran; understanding Extension philosophy in Iran; understanding the relationships between Extension and other agencies and understanding Extension procedures on promotion, salary, insurance and retirement. Table 13 presents the details concerning the mean score, rank and standard deviation of the respondents' professional education training needs in this area. The overall standard deviation for this area was 0.95.
### TABLE 13

RANK ORDER OF THE EXTENSION AGENTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF EXTENSION PHILOSOPHY, ORGANIZATION AND ADMINISTRATION

<table>
<thead>
<tr>
<th>Training Items</th>
<th>Mean</th>
<th>Wt. Score</th>
<th>Rank</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding the objectives of Extension Service in Iran</td>
<td>2.93</td>
<td>1</td>
<td>1</td>
<td>0.89</td>
</tr>
<tr>
<td>Knowledge of the Organization at the national level</td>
<td>2.88</td>
<td>2</td>
<td>2</td>
<td>0.86</td>
</tr>
<tr>
<td>Knowledge and understanding of Extension policies in Iran</td>
<td>2.73</td>
<td>3</td>
<td>3</td>
<td>0.91</td>
</tr>
<tr>
<td>Understanding Extension Philosophy</td>
<td>2.72</td>
<td>4</td>
<td>4</td>
<td>0.96</td>
</tr>
<tr>
<td>Understanding the Extension history in Iran</td>
<td>2.66</td>
<td>4</td>
<td>5</td>
<td>0.91</td>
</tr>
<tr>
<td>Understanding the relationship between Extension and other agencies</td>
<td>2.62</td>
<td>6</td>
<td>6</td>
<td>0.91</td>
</tr>
<tr>
<td>Understanding Extension procedures on promotion, salary, insurance, retirement</td>
<td>2.59</td>
<td>7</td>
<td>7</td>
<td>0.85</td>
</tr>
<tr>
<td>Knowledge of office management</td>
<td>2.48</td>
<td>8.5</td>
<td>8.5</td>
<td>0.99</td>
</tr>
<tr>
<td>Understanding the specialist's role at the Provincial level</td>
<td>2.48</td>
<td>8.5</td>
<td>8.5</td>
<td>0.93</td>
</tr>
<tr>
<td>Understanding the relationship between various levels of Extension staff</td>
<td>2.40</td>
<td>10</td>
<td>10</td>
<td>1.04</td>
</tr>
<tr>
<td>Understanding the director's role at the Provincial level</td>
<td>2.08</td>
<td>11</td>
<td>11</td>
<td>1.05</td>
</tr>
<tr>
<td>Knowledge of the organization of Extension at the Provincial level</td>
<td>2.01</td>
<td>12</td>
<td>12</td>
<td>0.97</td>
</tr>
<tr>
<td>Understanding the role of Extension in the development of people</td>
<td>1.98</td>
<td>13</td>
<td>13</td>
<td>1.10</td>
</tr>
</tbody>
</table>

Grand Mean = 2.50

Standard Deviation = 0.95
Program Planning

The training area of program planning was an area in which 12 training items were involved in this investigation. The agents were asked to indicate the level at which they needed professional education training in performing well on the job. Table 14 reveals that the mean scores of respondents' needs ranged from 2.50 to 1.91. The grand mean for all 12 items was 2.17 which indicates that the agents needed some training in this area.

Ability to identify the specific and general objectives; developing a short and long range program in Extension; skill and ability to develop the plan of action; developing evaluation procedures into plan of work; ability to analyze the situation; ability to use data of census and other resources; organizing and working with effective program planning committees; identifying people's needs, interests and priorities; getting participation of the lay leaders and professional groups in program planning processes and knowledge of involving people in program planning were indicated as the items in which the agents needed more training than the other professional education training items. The standard deviation for this area was 0.96.
<table>
<thead>
<tr>
<th>Training Items</th>
<th>Mean</th>
<th>Wt. Score</th>
<th>Rank</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to identify the specific and</td>
<td>2.50</td>
<td>1</td>
<td>1.11</td>
<td></td>
</tr>
<tr>
<td>general objectives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing a short and long range program in Extension</td>
<td>2.44</td>
<td>2</td>
<td>.96</td>
<td></td>
</tr>
<tr>
<td>Skill and ability to develop the plan of action</td>
<td>2.31</td>
<td>3</td>
<td>1.03</td>
<td></td>
</tr>
<tr>
<td>Developing evaluation procedures into plan of work</td>
<td>2.25</td>
<td>4</td>
<td>.89</td>
<td></td>
</tr>
<tr>
<td>Ability to analyze the situation</td>
<td>2.23</td>
<td>5</td>
<td>.98</td>
<td></td>
</tr>
<tr>
<td>Ability to use data of census and other resources</td>
<td>2.18</td>
<td>6</td>
<td>.86</td>
<td></td>
</tr>
<tr>
<td>Organizing and working with effective program planning committee</td>
<td>2.11</td>
<td>7</td>
<td>.91</td>
<td></td>
</tr>
<tr>
<td>Identifying people's needs, interests and priorities</td>
<td>2.11</td>
<td>8</td>
<td>1.01</td>
<td></td>
</tr>
<tr>
<td>Getting the participation of the lay leaders and professional group in the</td>
<td>2.05</td>
<td>9</td>
<td>.91</td>
<td></td>
</tr>
<tr>
<td>program planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge of involving people in program planning process</td>
<td>2.01</td>
<td>10</td>
<td>.98</td>
<td></td>
</tr>
<tr>
<td>Using resources personnel in program planning and Extension program</td>
<td>1.98</td>
<td>11</td>
<td>.94</td>
<td></td>
</tr>
<tr>
<td>Giving people satisfaction from the Extension program</td>
<td>1.91</td>
<td>12</td>
<td>.94</td>
<td></td>
</tr>
</tbody>
</table>

Grand Mean = 2.17

Standard Deviation = 0.96
Teaching-Learning Process

Table 15 shows the perceived professional education training needs of the Extension agents in selected Provinces of Iran. The mean score for each training item was obtained and the items were ranked in the order which respondents needed the most professional education training. The study indicated that the grand mean for 12 training items involved in this area was 2.07 (2 = some training needed) with the standard deviation of 0.85. The agents indicated that they needed more training in: understanding the principles of learning and teaching; knowledge of the different teaching methods; knowledge of the principles and procedures in teaching adults; understanding the principles and techniques of counseling; knowledge of the problem solving methods in Extension and knowledge of the problems of rural education.

Evaluation

Eight professional education training items were used to investigate the degree of professional education needed by the Extension agents in the area of "evaluation." The grand mean of 2.26 indicated that the agents felt they could perform on the job in an acceptable manner,
TABLE 15
RANK ORDER OF THE EXTENSION AGENTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF TEACHING-LEARNING PROCESS

<table>
<thead>
<tr>
<th>Training Items</th>
<th>Mean Wt. Score</th>
<th>Rank</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding the principles of learning and teaching</td>
<td>2.44</td>
<td>1</td>
<td>1.03</td>
</tr>
<tr>
<td>Knowledge of the different teaching methods</td>
<td>2.33</td>
<td>2</td>
<td>0.88</td>
</tr>
<tr>
<td>Knowledge of the principles and procedures in teaching adults</td>
<td>2.29</td>
<td>3</td>
<td>0.94</td>
</tr>
<tr>
<td>Understanding the principles and techniques of counseling</td>
<td>2.25</td>
<td>4</td>
<td>1.01</td>
</tr>
<tr>
<td>Knowledge of the problem solving methods in Extension</td>
<td>2.18</td>
<td>5</td>
<td>0.77</td>
</tr>
<tr>
<td>Knowledge of the problems of rural education</td>
<td>2.11</td>
<td>6</td>
<td>1.02</td>
</tr>
<tr>
<td>Understanding the relationship of interest to learning</td>
<td>2.04</td>
<td>7</td>
<td>0.91</td>
</tr>
<tr>
<td>Understanding of how the young and adults learn</td>
<td>2.00</td>
<td>8</td>
<td>0.96</td>
</tr>
<tr>
<td>Skill in working effectively with a committee of farmers</td>
<td>1.93</td>
<td>9</td>
<td>0.92</td>
</tr>
<tr>
<td>Understanding the development of individual patterns of behavior</td>
<td>1.91</td>
<td>10</td>
<td>0.93</td>
</tr>
<tr>
<td>Ability to motivate people</td>
<td>1.73</td>
<td>11</td>
<td>0.97</td>
</tr>
<tr>
<td>Understanding the process of logical reasoning and thinking</td>
<td>1.65</td>
<td>12</td>
<td>0.93</td>
</tr>
</tbody>
</table>

Grand Mean = 2.07
Standard Deviation = 0.85
but they felt they needed some training in this area. From the findings in this part of the study it can be stated that the agents needed the most help in evaluating the extension program; knowledge of the research area in Extension education; understanding research terminology; understanding ways of designing evaluation projects; ability to use research publications. Table 16 shows the mean score, rank and standard deviation of each training item in the area of evaluation for the Extension agents in selected Provinces of Iran. The standard deviation for eight items involved in this area was 0.94.

**Human Development and Social Knowledge**

To investigate the professional education training needs of the Extension agents in the area of human development and social knowledge, there were 16 training items identified. Agents were asked to indicate their professional education needs in performing each item. The mean score ratings were used to rank the 16 items. As revealed by the data in Table 17 the grand mean for the 16 items was 2.03 with the standard deviation of 1.01 (2 = some training needed), which indicated that the Extension agents in the selected Provinces of
### TABLE 16

**RANK ORDER OF THE EXTENSION AGENTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF EVALUATION**

<table>
<thead>
<tr>
<th>Training Items</th>
<th>Mean Wt. Score</th>
<th>Rank</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to evaluate the Extension Program</td>
<td>2.80</td>
<td>1</td>
<td>.92</td>
</tr>
<tr>
<td>Knowledge of the research area in Extension education</td>
<td>2.50</td>
<td>2</td>
<td>.87</td>
</tr>
<tr>
<td>Understanding research terminology</td>
<td>2.48</td>
<td>3</td>
<td>.96</td>
</tr>
<tr>
<td>Understanding ways of designing evaluation projects</td>
<td>2.37</td>
<td>4.5</td>
<td>.99</td>
</tr>
<tr>
<td>Ability to use research publications</td>
<td>2.37</td>
<td>4.5</td>
<td>.87</td>
</tr>
<tr>
<td>Ability to devise and conduct survey</td>
<td>2.01</td>
<td>5</td>
<td>.94</td>
</tr>
<tr>
<td>Making application of research findings in assisting people of the region</td>
<td>1.91</td>
<td>7</td>
<td>.88</td>
</tr>
<tr>
<td>Knowledge of criteria for evaluating the work of Extension personnel</td>
<td>1.68</td>
<td>8</td>
<td>1.13</td>
</tr>
</tbody>
</table>

Grand Mean = 2.26

Standard Deviation = 0.94
### TABLE 17

RANK ORDER OF THE EXTENSION AGENTS' PROFESSIONAL EDUCATION TRAINING NEEDS IN THE AREA OF HUMAN DEVELOPMENT AND SOCIAL KNOWLEDGE

<table>
<thead>
<tr>
<th>Training Items</th>
<th>Mean Wt. Score</th>
<th>Rank</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of factors affecting the way of living and family relations</td>
<td>2.50</td>
<td>1</td>
<td>0.93</td>
</tr>
<tr>
<td>Knowledge of factors that contribute to rural migration and its consequences</td>
<td>2.41</td>
<td>2.5</td>
<td>0.94</td>
</tr>
<tr>
<td>Ability to deal with low income families and lagged farmers</td>
<td>2.41</td>
<td>2.5</td>
<td>0.93</td>
</tr>
<tr>
<td>Knowledge of identifying local and informal leadership</td>
<td>2.33</td>
<td>4</td>
<td>1.04</td>
</tr>
<tr>
<td>Understanding the influence of technology on farm families</td>
<td>2.22</td>
<td>5</td>
<td>0.93</td>
</tr>
<tr>
<td>Understanding why people join groups and organizations</td>
<td>2.20</td>
<td>6</td>
<td>0.90</td>
</tr>
<tr>
<td>Understanding the influence of mass communication in society</td>
<td>2.16</td>
<td>7</td>
<td>0.88</td>
</tr>
<tr>
<td>Understanding the role of business, labor, professional, civic organization in society</td>
<td>2.12</td>
<td>8</td>
<td>0.93</td>
</tr>
<tr>
<td>Social consequences in changing the type of farming</td>
<td>2.08</td>
<td>9</td>
<td>1.12</td>
</tr>
<tr>
<td>Ability to use local leadership</td>
<td>2.05</td>
<td>10</td>
<td>0.88</td>
</tr>
<tr>
<td>Understanding of community development needs</td>
<td>1.84</td>
<td>11</td>
<td>1.03</td>
</tr>
<tr>
<td>Ability to identify the problem of the community</td>
<td>1.80</td>
<td>12</td>
<td>1.68</td>
</tr>
<tr>
<td>Understanding group interaction</td>
<td>1.73</td>
<td>13</td>
<td>0.64</td>
</tr>
<tr>
<td>Understanding the individual behavior in the group</td>
<td>1.61</td>
<td>14</td>
<td>1.02</td>
</tr>
<tr>
<td>Understanding the different levels of class in the society</td>
<td>1.58</td>
<td>15</td>
<td>1.03</td>
</tr>
<tr>
<td>Knowledge of the different kinds of adopters in the community</td>
<td>1.56</td>
<td>16</td>
<td>1.12</td>
</tr>
</tbody>
</table>

Grand Mean = 2.03  
Standard Deviation = 1.01
Iran need some training in this area. From the findings in this area it can be concluded that the Extension agents needed more training about knowledge of factors affecting the way of living and family relations; knowledge of factors that contribute to rural migration and its consequences; ability to deal with low income families and lagged farmers; knowledge of identifying local and informal leadership; understanding the influence of technology on farm families; understanding why people join groups and organizations; understanding the influence of mass communication in society; understanding the role of business, labor, professional, civic organization in society; social consequences in changing the type of farming; and the ability to use local leadership.

**Communication**

The professional education training area of communication in this research project was an area in which eight items were included to investigate the degree of the Extension agents professional education needs. A study of the findings in this phase of the study indicated that the agents in selected provinces of Iran needed the most training in making public speaking more effective. Agents also expressed a need for using
exhibits, slides and pictures in Extension; ability and skill to organize tours, field trips, farm and home visits; understanding the basic principles of communication and effective use of television and radio in Extension. The grand mean score for all items in this area was 2.12 (2 = some training needed) with a standard deviation of 0.95. Table 18 presents the data concerning the mean score, rank and standard deviation for each of the professional education training items in this area.

**Professional Education Training Needs of the Respondents in Six Training Areas**

The grand mean scores of the professional education training needs of the respondents in six areas of training were rank ordered to provide a way for the researcher to identify the area or areas in which the Extension specialists and agents needed more training to perform on the job proficiently.

As revealed in Table 19 the Extension specialists indicated that they needed educational training in all six areas of training. The grand mean score indicating the professional education needs of the Extension specialists ranged from 2.12 to 1.91 (2 = some training needed). Table 19 shows that the highest mean score was
<table>
<thead>
<tr>
<th>Training Items</th>
<th>Mean Wt. Score</th>
<th>Rank</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making public speaking more effective</td>
<td>2.43</td>
<td>1.5</td>
<td>.97</td>
</tr>
<tr>
<td>Ability to use exhibits, slides, pictures in Extension</td>
<td>2.43</td>
<td>1.5</td>
<td>.91</td>
</tr>
<tr>
<td>Ability and skill to organize tours, field trips, farm and home visits</td>
<td>2.33</td>
<td>3</td>
<td>.94</td>
</tr>
<tr>
<td>Understanding the basic principles of communication</td>
<td>2.22</td>
<td>4</td>
<td>.90</td>
</tr>
<tr>
<td>Effective use of television and radio in Extension</td>
<td>2.15</td>
<td>5</td>
<td>1.03</td>
</tr>
<tr>
<td>Skills and ability to use visual aids</td>
<td>1.91</td>
<td>6</td>
<td>.98</td>
</tr>
<tr>
<td>Ability to lead a meeting and discussion</td>
<td>1.77</td>
<td>7</td>
<td>.99</td>
</tr>
<tr>
<td>Ability and skill to give demonstration</td>
<td>1.72</td>
<td>8</td>
<td>.95</td>
</tr>
</tbody>
</table>

Grand Mean = 2.12

Standard Deviation = 0.95
indicated for the area of "program planning" which means the specialists needed more professional training in this area than any other areas in this study. The training areas of "communication," "evaluation," "Extension philosophy," "teaching learning process" and "human development and social knowledge" were ranked as the second, third, fourth, fifth and sixth areas in which specialists needed professional education training. Table 19 also reveals that the Extension agents rated the training areas somewhat differently from the Extension specialists. In general, agents tended to rate the need for training higher than specialists. The grand mean score indicating the professional education needs of the Extension agents ranged from 2.50 to 2.03 \((2 = \text{some training needed})\). Table 19 shows that the highest mean score was indicated for the area of "Extension philosophy" which means the agents needed more training in this area than any other areas in this study.

The training areas of "evaluation," "program planning," "communication," "teaching-learning process," and "human development and social knowledge" were ranked as the second, third, fourth, fifth and sixth areas in which the agents needed professional education training. Further analysis of the data in Table 19 shows that both
### TABLE 19
RANK ORDER OF THE EXTENSION SPECIALISTS' AND AGENTS' RESPONSES FOR THE AMOUNT OF TRAINING IN EACH AREA OF PROFESSIONAL EDUCATION TRAINING NEEDS

<table>
<thead>
<tr>
<th>Training Area</th>
<th>Specialists (N = 35)</th>
<th>Agents (N = 72)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grand Mean Score</td>
<td>S.D. Rank</td>
</tr>
<tr>
<td>Program Planning</td>
<td>2.12</td>
<td>1.18 1</td>
</tr>
<tr>
<td>Communication</td>
<td>2.04</td>
<td>1.02 2</td>
</tr>
<tr>
<td>Evaluation</td>
<td>2.03</td>
<td>1.18 3</td>
</tr>
<tr>
<td>Extension Philosophy, Organization and Administration</td>
<td>2.02</td>
<td>1.17 4</td>
</tr>
<tr>
<td>Teaching-Learning Process</td>
<td>1.98</td>
<td>1.19 5</td>
</tr>
<tr>
<td>Human Development and Social Knowledge</td>
<td>1.91</td>
<td>1.14 6</td>
</tr>
</tbody>
</table>

Spearman-Rank-Correlation Coefficient between specialists' and agents' responses, \( r_s = .48 \)
specialists and agents ranked two areas of training very similarly. These areas are "teaching-learning process" and "human development and social knowledge." The Spearman-Rank Order Correlation Coefficient between the perceived rank of the areas of training needs by the Extension specialists and the perceived rank of the training areas needed by the Extension agents was 0.48. This would indicate that there was moderately high agreement between specialists and agents.

**Differential Comparison of the Perceived Amount of Professional Education Training Needed by the Extension Specialists and Agents with Tenure, Degree and Major Field of Study**

The Kruskall-Wallis-One Way Analysis of Variance was performed to compare six areas of professional education training needs as perceived by the Extension specialists and agents on their mean ranks of tenure, degree and major field of study (no statistical hypothesis was developed). Table 20 presents the data concerning the relationship between variables in this phase of the study. A chi square approximation and chi square corrected for ties were obtained. As a result of this statistical technique it was found that 1) there were significant differences at 0.02 level between four levels
### TABLE 20

DIFFERENTIAL COMPARISON OF THE PERCEIVED PROFESSIONAL EDUCATION TRAINING NEEDED BY THE EXTENSION SPECIALISTS AND AGENTS WITH THEIR TENURE, DEGREE AND MAJOR FIELD OF STUDY

<table>
<thead>
<tr>
<th>Training Area</th>
<th>Tenure</th>
<th></th>
<th>Degree</th>
<th></th>
<th>Major</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Corrected $X^2$</td>
<td>Sig.</td>
<td>Corrected $X^2$</td>
<td>Sig.</td>
<td>Corrected $X^2$</td>
</tr>
<tr>
<td>Extension Philosophy, Organization &amp; Administration</td>
<td>9.47</td>
<td>0.02</td>
<td></td>
<td>19.97</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Program Planning</td>
<td>8.12</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching-Learning Process</td>
<td>9.09</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td>9.01</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Development and Social Knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19.60</td>
<td>0.03</td>
</tr>
<tr>
<td>Communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
of formal education (degrees), different major field of study and amount of training needed in the area of "Extension philosophy, organization, administration"; 2) there was a significant difference between the respondent's length of tenure and the amount of training needed in the area of "program planning" at 0.04 level; 3) there was significant difference at the 0.02 level between different lengths of tenure the amount of training needed in the perceived professional education training area of "teaching-learning process"; 4) there was significant difference at the 0.02 level between levels of formal education (degrees) of the respondents and the amount of training needed in the area of "evaluation"; 5) there was also a significant difference at 0.03 between eleven major fields of study and the amount of training needed in the area of "human development and social knowledge" by the specialists and agents in selected Provinces of Iran; and 6) there was not any significant difference at the 0.05 level between the amount of training needed in the area of "communication" and variables: tenure, degree and the major field of study.
Differential Comparison of the Perceived Professional Education Training Needs of the Extension Specialists and Agents by Tenure

The Mann-Whitney U Test was utilized to test the significant difference at the 0.05 level between the mean values of the respondent's tenure, degree, major field of study and the amount of training needed in each area of training. As revealed in Table 21: 1) there was significant difference between respondents who had less than one year tenure and those who had one to five years of tenure for the amount of training needed in the area of "program planning" at the 0.04 level; 2) there was significant difference at the 0.02 level between those who had five to ten years of tenure and those who had more than ten years of experience for the amount of training needed in the area of "program planning"; 3) there was significant difference between respondents who had less than one year of experience and five to ten years of tenure for the amount of training needed in the area of "teaching-learning process" at the 0.02 level; 4) there was significant difference between those respondents who had one to five years of tenure and those who had more than ten years of tenure in Extension for the amount of professional education training needed
<table>
<thead>
<tr>
<th>Training Areas</th>
<th>Less than 1 yr &amp; 5-10 yrs</th>
<th>Less than 1 yr &amp; More than 10 yrs</th>
<th>1-5 yrs &amp; 5-10 yrs</th>
<th>1-5 yrs &amp; More than 10 yrs</th>
<th>5-10 yrs &amp; More than 10 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension Philosophy, Organization &amp; Administration</td>
<td>0.04</td>
<td></td>
<td>0.02</td>
<td></td>
<td>0.02</td>
</tr>
<tr>
<td>Program Planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching-Learning Process</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Development and Social Knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2 Tailed Test, p.
in the area of "teaching-learning process" at the 0.04 level; 5) there was significant difference at the 0.005 level between respondents who had five to ten years of experience and those who had more than ten years of tenure for the amount of training in the area of "teaching-learning process"; 6) in the area of "communication" there was significant difference at the 0.04 level between respondents who had one to five years of experience and those who had more than ten years of tenure for the amount of training needed; and 7) also there was significant difference at the 0.03 level between respondents who had five to ten years of tenure and those who had more than ten years for the amount of training needed in the area of "communication."

Differential Comparison of the Perceived Professional Education Training Needs of the Extension Specialists and Agents by Degree

In order to test for a significant difference at the 0.05 level between the mean value of the respondent's degree and the amount of training needed in each area of training, the Mann-Whitney-U Test was utilized in this part of the study. Table 22 shows that: 1) there was significant difference between respondents who were
TABLE 22

DIFFERENTIAL COMPARISON OF THE PERCEIVED PROFESSIONAL EDUCATION TRAINING NEEDS OF THE EXTENSION SPECIALISTS AND AGENTS BY DEGREE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension Philosophy, Organization &amp; Administration</td>
<td>Sig 0.006</td>
<td>Sig</td>
<td>Sig</td>
<td>Sig</td>
<td>Sig</td>
<td>Sig</td>
</tr>
<tr>
<td>Program Planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching-Learning Process</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td>0.04</td>
<td>0.005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Development and Social Knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2 Tailed Test, p.
high school graduates and those who had an associate degree in the amount of training perceived as needed in the area of "Extension philosophy, organization, and administration" at the 0.006 level; 2) there was significant difference at the 0.04 level between respondents who were high school graduates and respondents who had associate degrees in the amount of training needed in the area of "evaluation"; and 3) also there was significant difference at the 0.005 level between respondents who had high school certificates and those who had Master degrees in the amount of training needed in the area of "evaluation."

Differential Comparison of the Overall Professional Education Training Needs of the Extension Specialists and Agents by Major Field of Study

The Mann-Whitney U Test was utilized to test the significant difference between the mean values of the respondents' major fields of study and the amount of training needed in the overall areas of professional education training at the 0.05 level. As revealed in Table 23: 1) there was significant difference between respondents who had Agronomy as a major field of study and those who had Soil Science as a major in the amount
TABLE 23
DIFFERENTIAL COMPARISON OF THE OVERALL PROFESSIONAL EDUCATION TRAINING NEEDS OF THE EXTENSION SPECIALISTS AND AGENTS BY MAJOR FIELD OF STUDY

<table>
<thead>
<tr>
<th>Major</th>
<th>Overall Professional Education Training Needs</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agronomy and Soil Science</td>
<td>0.003</td>
<td></td>
</tr>
<tr>
<td>Animal Science and Soil Science</td>
<td>0.009</td>
<td></td>
</tr>
<tr>
<td>Agricultural Engineering and Soil Science</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Horticulture and Soil Science</td>
<td>0.009</td>
<td></td>
</tr>
<tr>
<td>Irrigation and Soil Science</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Food Technology and General Ag.</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Soil Science and Plant Pathology</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Soil Science and General Ag.</td>
<td>0.001</td>
<td></td>
</tr>
</tbody>
</table>

2 Tailed Test, p.

of training needed in the overall professional education training areas at the 0.003 level; 2) there was significant differences at the 0.009 level between those respondents who had Animal Science as a major and those who had Soil Science as a major field of study in the amount of training needed by the respondents in the overall areas of training; 3) there was significant difference
between respondents who had Agricultural Engineering as a major and those respondents who had Soil Science as a major field of study in the amount of training in overall professional education training areas at the 0.01 level; 4) there was significant difference at the 0.009 level between respondents who had Horticulture as a major and those who had Soil Science as a major in the amount of training needed by them in the overall areas of training in this study; 5) there was significant difference between those who had Irrigation as a major and those who had Soil Science as a major field of study in the perceived amount of training needed in all of the areas of professional education training at the .02 level; 6) there was significant difference at the 0.05 level between those respondents who had a degree in Food Technology and those who had Soil Science as a major field of study in the amount of training in overall areas of training; 7) there was significant difference between respondents who had Soil Science as a major field of study and those who had Plant Pathology as a major in the perceived amount of training needed in all of the areas of professional education training at the 0.03 level; and 8) there was significant difference at the 0.001 level between respondents who had Soil Science as a major and
those who had General Agriculture as a major field of study in the amount training needed in overall areas of training in this study. The differential comparison of the perceived professional education training needs of the Extension specialists and agents by different major fields of study is shown in Table 27 (see Appendix B).

Analysis of Association Between Variables

One of the objectives of this study was to investigate the relationship between each of the selected characteristics of the Extension specialists and agents and the perceived amount of professional education training needed in each area of training. To attain this objective, Spearman-Rank-Correlation Coefficients were calculated to investigate the degree of relationship between variables. No statistical hypotheses were developed for this phase of the study.

Relationship between the Perceived Amount of Training Needed in Specific Areas, by the Extension Specialists and Age, Tenure, Degree, Extension Corps Experience, Major Field of Study

To investigate the relationship between the amount of training needed by the Extension specialists within
each area of professional education training and selected characteristics of the specialists, Spearman-Rank-Correlation Coefficients were used at the 0.05 level. As revealed by the data in Table 24, there was a negative correlation between age and the perceived amount of training in the area of "Extension philosophy, organization, and administration" at the 0.05 level ($r_s = -0.23$, $P = 0.05$). Therefore, it was concluded that as age increased, the perceived amount of training needed decreased in this area. Table 24 presents data concerning the negative relationship at the 0.04 level between tenure of the respondents and the perceived amount of training in the area of "Extension philosophy, organization, and administration" ($r_s = -0.28$, $P = 0.04$). The negative relationship suggests that as the length of tenure increased, the perceived amount of training needed by the specialists decreased. Further analysis of the data in Table 24 shows that there were no significant relationships at the 0.05 level between various degrees held, Extension Corps experience, major fields of study, and the perceived amount of training needed by the specialists in selected Provinces of Iran in the areas of professional education training.
### TABLE 24

RELATIONSHIP BETWEEN SPECIFIC AREAS OF TRAINING NEEDED BY EXTENSION SPECIALISTS WITH AGE, TENURE, DEGREE, EXTENSION CORPS EXPERIENCE AND MAJOR

<table>
<thead>
<tr>
<th>Training Area</th>
<th>Spearman-Rank-Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age</td>
</tr>
<tr>
<td>Extension Philosophy, Organization &amp; Admin.</td>
<td>-0.23</td>
</tr>
<tr>
<td>Program Planning</td>
<td>-0.08</td>
</tr>
<tr>
<td>Teaching-Learning</td>
<td>-0.14</td>
</tr>
<tr>
<td>Evaluation</td>
<td>-0.11</td>
</tr>
<tr>
<td>Human Development and Social Knowledge</td>
<td>-0.13</td>
</tr>
<tr>
<td>Communication</td>
<td>0.05</td>
</tr>
<tr>
<td>Total</td>
<td>-0.16</td>
</tr>
</tbody>
</table>

N = 35

* = Significant
Spearman-Rank-Correlation Coefficients were calculated to investigate the relationship between the perceived amount of training as needed in specific areas by the agents and selected characteristics of the Extension agents. The finding in Table 25 revealed that there was a positive relationship between the age of the respondents and the amount of training in the area of "Extension philosophy, organization, and administration" at the 0.05 level ($r_s = 0.18$, $P = 0.05$). The positive relationship suggests that as the age of the agents increased, the perceived amount of training needed increased. As revealed in Table 25, there were negative relationships between the variable degrees held and the amount of training needed in the area of "Extension philosophy, organization, and administration" at the 0.05 level ($r_s = -0.19$, $P = 0.05$), between the variable degrees held and the perceived amount of training needed in the area of "evaluation" at the 0.002 level ($r_s = -0.33$, $P = 0.002$). The negative relationships show that as the level of formal education increased, the amount of
TABLE 25

RELATIONSHIP BETWEEN THE PERCEIVED AMOUNT OF TRAINING AS NEEDED IN SPECIFIC AREAS BY THE EXTENSION AGENTS WITH AGE, TENURE, DEGREE, EXTENSION CORPS EXPERIENCE, AND MAJOR

<table>
<thead>
<tr>
<th>Training Area</th>
<th>Age</th>
<th>P</th>
<th>Tenure</th>
<th>P</th>
<th>Deg.</th>
<th>P</th>
<th>Exp.</th>
<th>P</th>
<th>Major</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension Philosophy, Organization &amp; Admin.</td>
<td>0.18</td>
<td>.05*</td>
<td>0.05</td>
<td>.31</td>
<td>-0.19</td>
<td>.05*</td>
<td>0.06</td>
<td>.29</td>
<td>0.16</td>
<td>.08</td>
</tr>
<tr>
<td>Program Planning</td>
<td>-0.10</td>
<td>.18</td>
<td>-0.13</td>
<td>.13</td>
<td>-0.09</td>
<td>.20</td>
<td>0.006</td>
<td>.47</td>
<td>0.05</td>
<td>.31</td>
</tr>
<tr>
<td>Teaching-Learning</td>
<td>-0.02</td>
<td>.41</td>
<td>-0.04</td>
<td>.34</td>
<td>-0.01</td>
<td>.44</td>
<td>-0.15</td>
<td>.09</td>
<td>0.16</td>
<td>.08</td>
</tr>
<tr>
<td>Evaluation</td>
<td>-0.07</td>
<td>.26</td>
<td>-0.005</td>
<td>.48</td>
<td>-0.33</td>
<td>.002*</td>
<td>0.004</td>
<td>.48</td>
<td>-0.09</td>
<td>.22</td>
</tr>
<tr>
<td>Human Development and Social Knowledge</td>
<td>0.08</td>
<td>.23</td>
<td>0.004</td>
<td>.48</td>
<td>-0.07</td>
<td>.25</td>
<td>-0.01</td>
<td>.45</td>
<td>-0.12</td>
<td>.14</td>
</tr>
<tr>
<td>Communication</td>
<td>0.04</td>
<td>.36</td>
<td>-0.009</td>
<td>.46</td>
<td>-0.05</td>
<td>.31</td>
<td>0.08</td>
<td>.23</td>
<td>0.15</td>
<td>.08</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0.08</td>
<td>.22</td>
<td>-0.02</td>
<td>.43</td>
<td>-0.24</td>
<td>.06</td>
<td>0.02</td>
<td>.41</td>
<td>0.09</td>
<td>.21</td>
</tr>
</tbody>
</table>

N = 72

* = Significant
professional education training needed by the agents decreased. There was no significant relationship at the 0.05 level between tenure, Extension Corps experience, major field of study and the perceived amount of training in specific areas of training needed by the agents.

**Relationship Between the Perceived Amount of Training Needed by All of the Respondents (Specialists and Agents) in Specific Areas of Training and Age, Tenure, Degree, Extension Corps Experience, and Major Field of Study**

The Kendall-Tau Correlation Coefficients were computed to determine the degree of association between age, tenure, degree, Extension Corps experience, major field of study and the perceived amount of training in specific areas of training as needed by the Extension specialists and agents. The findings in Table 26 revealed that there was a negative relationship between the level of formal education (degree) and the perceived amount of training needed in the area of "Extension philosophy, organization, and administration" (τ (tau) = -0.20, \( P = 0.004 \)). Also there was a negative relationship between the level of formal education (degree) and the perceived amount of training needed by the respondents in the area of "evaluation" at the 0.01 level (τ = -0.17,
TABLE 26

RELATIONSHIP BETWEEN THE PERCEIVED AMOUNT OF TRAINING NEEDED BY ALL OF THE SPECIALISTS AND AGENTS IN SPECIFIC AREAS OF TRAINING AND AGE, TENURE, DEGREE, EXTENSION CORPS EXPERIENCE, AND MAJOR FIELD OF STUDY

<table>
<thead>
<tr>
<th>Training Area</th>
<th>Kendall Correlation Coefficients</th>
<th>Ext. Corps Exp.</th>
<th>P</th>
<th>Major</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension Philosophy,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization &amp; Admin.</td>
<td>-0.07</td>
<td>0.13</td>
<td>-0.04</td>
<td>-0.20</td>
<td>0.004*</td>
</tr>
<tr>
<td>Program Planning</td>
<td>-0.03</td>
<td>0.32</td>
<td>-0.08</td>
<td>0.14</td>
<td>0.32</td>
</tr>
<tr>
<td>Teaching-Learning Process</td>
<td>-0.10</td>
<td>0.06</td>
<td>-0.02</td>
<td>0.35</td>
<td>-0.02</td>
</tr>
<tr>
<td>Evaluation</td>
<td>-0.07</td>
<td>0.15</td>
<td>0.006</td>
<td>0.46</td>
<td>-0.17</td>
</tr>
<tr>
<td>Human Development and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Knowledge</td>
<td>-0.03</td>
<td>0.28</td>
<td>-0.03</td>
<td>0.30</td>
<td>-0.07</td>
</tr>
<tr>
<td>Communication</td>
<td>-0.02</td>
<td>0.38</td>
<td>0.03</td>
<td>0.31</td>
<td>-0.07</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>-0.06</strong></td>
<td><strong>0.15</strong></td>
<td><strong>-0.04</strong></td>
<td><strong>0.28</strong></td>
<td><strong>-0.13</strong></td>
</tr>
</tbody>
</table>

*N = 107

* = Significant
The negative relationships suggest that as the level of formal education increased, the perceived amount of training needed by the respondents decreased. There were no statistically significant relationships at the 0.05 level between variables age, tenure, Extension Corps experience, major field of study and the perceived amount of training needed by the Extension specialists and agents in the areas of professional education training in this study. As shown by the data in this part of the study (Tables 24, 25, and 26), generally there was a weak association between selected characteristics of the respondents and the perceived amount of training needed.
CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The Problem

There is increased emphasis on Extension programs in Iran. This places an urgency to improve the training of the Extension specialists and agents who are responsible for performing the teaching-learning process, program planning, leadership, evaluation, communication and subject matter to meet today's challenges in Iran.

The basic purpose of this study was to identify and describe the perceived professional education training needs of the Extension specialists and agents in selected Provinces of Iran. Training needs were described based on role expectation of the respondents as they related to the following areas:

1) Extension philosophy, organization, and administration
2) Program planning
3) Teaching-learning process
4) Evaluation
5) Human development and social knowledge
Specific Objectives

The specific objectives of the study were:

1) To describe the following selected characteristics of the Extension specialists and agents in selected Provinces of Iran:
   a) Age
   b) Tenure or years of experience
   c) Degrees held or level of formal education
   d) Extension Corps experience
   e) Major field of study or preservice education

2) To determine the perceived professional education training needs of the Extension specialists in selected Provinces of Iran.

3) To identify the perceived professional education training needs of the Extension agents in selected Provinces of Iran.

4) To identify the order of importance of the training items as perceived by the respondents in each area of training.

5) To identify the order of importance of the professional education training areas as perceived by the specialists and agents.
6) To compare perceived professional education training needs of the Extension specialists and agents by age, tenure, degree, Extension Corps experience and the major field of study.

7) To investigate the relationship between the perceived amount of training needed in specific areas of training by the Extension specialists and age, tenure, degree, Extension Corps experience and the major field of study.

8) To investigate the relationship between the perceived amount of training needed in specific areas of training by the Extension agents and age, tenure, degree, Extension Corps experience and the major field of study.

9) To investigate the relationship between the perceived amount of training needed in specific areas of training by the respondents and age, tenure, degree, Extension Corps experience and the major field of study.

Research Methodology

The design for this study was a combination of descriptive survey and correlational research which was classified as ex post facto research as defined by
Campbell and Stanley (1963). The dependent variables in this study were:

1) Professional education training needs of the Extension specialists as perceived by specialists.

2) Professional education training needs of the Extension agents as perceived by agents.

The independent variables in this study were the following characteristics of specialists and agents:

1) Age
2) Tenure
3) Degrees held
4) Extension Corps experience
5) Major field of study

**Instrumentation**

The research instrument used in this study was a two part questionnaire. Part I of the questionnaire was composed of questions pertaining to personal data concerning age, tenure, degrees held, Extension Corps experience, major and situational data of the research subjects for both group of respondents.

Part II of the questionnaire was designed to identify and describe the professional education training needs of the Extension specialists and agents in selected
Provinces of Iran. This part of the questionnaire involved 73 training items in six professional education training areas. In developing the instrument for this study, instruments utilized in similar studies were obtained and modified to achieve the objectives of the study. A five-point scale was used from 0 to 4 (0 = no training needed, 4 = very much training needed).

The instrument for this research was reviewed by the author's research graduate committee. In addition a jury of experts from the Ministry of Agriculture and Natural Resources in Iran were asked to assist in translating and evaluating the instrument. As a result of the evaluation only one item was deleted. The items relating to each area of training were randomly assigned by using a table of random numbers to reduce the possibility of bias due to the item position on the questionnaire.

Pilot Test

The researcher personally pretested the questionnaire to be used with a group of Extension specialists and agents who were employed by the Extension Service in Kermanshahan Province and Saheli Province in Iran.

After reviewing the questionnaire with a group of
experts from the Ministry of Agriculture and Natural Resources, only one item was eliminated. The remaining 72 items on the questionnaire were completed by 30 individuals in the above-named Provinces who had the same characteristics as the target population.

A total of 24 or 80 percent of the questionnaires was properly completed and six questionnaires were not adequately completed. Test results were subjected to an Item Analysis. The Kuder and Richardson's equation number eight for scale reliability was performed. As a result of the analysis three more items were deleted. The reliability coefficient of the instrument was determined to be .85.

**Population**

The target population of this study was selected from four Provinces based on the recommendation of the Ministry of Agriculture and Natural Resources. These Provinces were not selected randomly. The target population of this study included 128 Extension specialists and agents currently employed by the Extension Service. The sample was composed of forty or a census of Extension specialists, and eighty-eight or a 50 percent sample of agents within selected provinces.
Data Collection Procedure

The data for this study were collected by personal interview method and a mail questionnaire during the summer of 1978. Thirty-five or 87.5 percent of the Extension specialists were interviewed by the researcher and the research instrument was sent with a cover letter asking the agent's cooperation in identifying his professional education training need. This letter was signed by the Chief Director of Extension Service in Iran. A total of 72 questionnaires were returned by the agents which was an 81.8 percent response. Data from 107 questionnaires were coded for computer application and computer analysis at the Instructional Research Computer Center at The Ohio State University.

Analysis of Data

The data for this study were taken from 107 questionnaires. Responses to the professional education training needs were rated on a five-point scale. Professional education training needs were assigned values of 0 to 4 with "no training needed" having a value of zero and "very much training needed" having a value of four.

The data were analyzed using frequencies, measures
of central tendency, measures of variations, and measures of relationships. Rank, mean weighted scores, and standard deviations were calculated for each training item and each training area.

The Mann-Whitney U Test, an alternative nonparametric test for the t-test for only two groups and the Kruskall-Wallis Test, an alternative nonparametric test for one way analysis of variance for more than two groups, were performed to test the difference between the perceived amount of training needed by the respondents with age, tenure, degrees held, Extension Corps experience, and the major field of study.

Spearman-Rank order correlation coefficient was utilized to determine the degree of relationship between variables. Following are the procedures used in investigating the relationships between variables:
1) An alpha level of .05 was utilized to test the significance of all associations.
2) The scale of measurement for each independent variable was considered as ordinal.
3) The Statistical Package for the Social Sciences (SPSS) subprogram for: Spearman-Rank Correlation Coefficient; Kendall-Tau Correlation Coefficient; The Mann-Whitney
U Test; and the Kruskall-Wallis Test were used.

**Summary of Findings**

The findings of this study were composed of three parts:

1) A description of the following selected characteristics of the Extension specialists and agents in selected Provinces of Iran: age, tenure, degree, Extension Corps experience and the major field of study.

2) Identification of the perceived professional education training needs of the Extension specialists and agents in each of the six training areas of: a) Extension philosophy, organization, and administration; b) program planning; c) teaching-learning process; d) evaluation; e) human development and social knowledge; and f) communication.

3) Investigation of the relationship between the perceived amount of training needed in the specific areas of training by the respondents and age, tenure, degree, Extension Corps experience and the major field of study.
Characteristics of Respondents

Age

The age of the respondents ranged from 23 to 44 years. Ten or 28.6 percent of the specialists were 23 to 29 years old. Nineteen or 54.3 percent were 30 to 39 years old, only six or 17.1 percent of the specialists were 40 to 44 years old. The study also indicated that forty-three or 59.7 percent of the agents were 23 to 29 years old. Twenty-eight or 38.9 percent of the agents were 30 to 39 years old. Only one or 1.4 percent of the Extension agents was 40 to 44 years old. The mean age was 30.33 and the standard deviation was 4.61.

Tenure

Two or 5.7 percent of the Extension specialists had less than one year of experience in Extension. Eighteen or 51.4 percent of the specialists had 1 - 5 years of tenure in the Extension Service. Twelve or 34.3 percent of the specialists had 5 - 10 years of tenure. Three or 8.6 percent of the specialists had more than 10 years of experience in Extension. Four or 5.6 percent of the agents had less than one year of tenure. Forty-five or 62.5 percent of the Extension agents had 1 - 5 years of experience within the Extension
Service. Twenty or 27.8 percent of the agents had 5 - 10 years of Extension experience. Three or 4.1 percent of the agents had more than 10 years of tenure in Extension work. The mean tenure was 2.35 and the standard deviation was 0.67.

Level of Formal Education

Findings of this study revealed that sixty-three or 87.5 percent of the Extension agents were high school graduates specialized in different areas of preservice education such as Agronomy, Animal Science, Horticulture, Irrigation and General Agriculture. Nine or 12.5 percent of the agents had more than high school and less than a Bachelor's degree.

Further analysis of the data in Table 4 indicated that twenty-six or 74.3 percent of the Extension specialists had Bachelor's degrees. Nine or 25.7 percent of the specialists had Master's degrees.

Extension Corps Experience

Sixteen or 45.7 percent of the specialists had Extension Corps experience. Nineteen or 54.3 percent of the specialists in selected Provinces of Iran did not have Extension Corps experience. Thirty-eight or 52.8 percent of the agents had Extension Corps experience.
Thirty-four or 47.2 percent of the Extension agents did not have Extension Corps experience.

Areas of Preservice Education

Four or 11.4 percent of the specialists that responded to the questionnaire received their highest academic degree in Agronomy. Four or 11.4 percent of the specialists' highest academic degrees were in Agricultural Economics. Three or 8.7 percent of the specialists had degrees in Agricultural Education. Five or 14.3 percent of the specialists received their degree in Horticulture. Only one percent of the Extension specialists earned their degrees in Irrigation. Two or 5.7 percent of the specialists' highest academic degrees were in Food Technology. Three or 8.7 percent of specialists in selected Provinces of Iran had degrees in Soil Science. Six or 17.1 percent of the Extension specialists had academic degrees in Plant Pathology. Data concerning the major field of study of the agents indicated that eighteen or 25 percent of the agents in selected Provinces of Iran had degrees in Agronomy. Seven or 9.7 percent of the agents' highest degrees were in Animal Science. Five or 6.9 percent of the Extension agents had degrees in Horticulture. Three or 4 percent of the agents had academic degrees
in Irrigation. Only one agent had a degree in Soil Science. Thirty-eight or 53 percent of the agents had degrees in General Agriculture. No agent's preservice education was in the areas of Agricultural Economics, Agricultural Education, Agricultural Engineering, Food Technology, or Plant Pathology.

**Perceived Professional Education Needs of the Extension Specialists**

*Extension Philosophy, Organization, and Administration*

The mean score for the 13 training items involved in this area was 2.02 with a standard deviation of 1.17 (2 = some training needed) which indicated that the Extension specialists in the selected Provinces of Iran need some training in the area of "Extension philosophy, organization, and administration." The study indicated that the Extension specialists need considerable professional education help in: knowledge and understanding of Extension policies in Iran; knowledge of the Extension organization at the national level; understanding the objectives of the Extension Service in Iran; understanding Extension procedures on promotion, salary, insurance and retirement.
Program Planning

The grand mean for 12 training items involved in this area was 2.12 (2 = some training needed) with a standard deviation of 1.18. The Extension specialists indicated that they needed more professional education training in developing a short and long range Extension program; developing evaluation procedures into plans of work; organizing and working with effective program planning committees; getting the participation of lay leaders and professional groups in the program planning process; and other training items involved in the area of "program planning."

Teaching-Learning Process

The overall mean score of professional education needs for 12 training items involved in the area of teaching-learning process was 1.98 (2 = some training needed). The items in which specialists needed most help were: understanding the principles and techniques of counseling; knowledge of the principles and procedures in teaching adults; knowledge of the use of problem solving methods; understanding the principles of learning and teaching; understanding of how the young and adults learn; knowledge of different teaching methods and knowledge of the problems of rural education. The
The grand mean professional education needs for 8 training items involved in the area of evaluation was 2.03 (2 = some training needed) with a standard deviation of 1.18. In this part the training items in which professional education assistance was most needed were: understanding ways of designing evaluation projects; ability to evaluate Extension programs; understanding research methodology and knowledge of research areas in Extension education.

Human Development and Social Knowledge

Among 16 training items in this area, those in which professional education help was needed most by the Extension specialists in the area of human development and social knowledge were: social consequences in changing the type of farming; knowledge of identifying local and informal leadership; ability to use local leadership; knowledge of factors affecting the way of living and family relations; ability to deal with low income families and lagged farmers; knowledge of factors that contribute to rural migration and its consequences, and understanding the influence of technology on farm
families. The grand mean score for all items in this area was 1.91 with a standard deviation of 1.14.

Communication

The grand mean value of the perceived professional education needs of the Extension specialists in proficiency performance of eight items in the training area of "communication" was 2.04 (2 = some training needed). Among eight items involved in this area: making public speaking more effective; effective use of television and radio in Extension; ability and skills to organize tours, field trips, farm and home visits and ability to use exhibits, slides, pictures in Extension were found to be the most needed training items involved in this area. The overall standard deviation was 1.02.

Perceived Professional Education Needs of the Extension Agents

Extension Philosophy, Organization, and Administration

The grand mean for 13 training items involved in the area of "Extension philosophy, organization, and administration" was 2.50 (2 = some training needed) with a standard deviation of 0.95. The greatest perceived needs of the Extension agents were found in:
understanding of the objectives of the Extension Service in Iran; knowledge of the organization at the national level; knowledge and understanding of Extension policies in Iran; understanding Extension philosophy in Iran; understanding the relationship between Extension and other agencies; and understanding Extension procedures on promotion, salary, insurance, and retirement.

**Program Planning**

The overall mean score of professional education needs of the agents for 12 training items involved in the area of "program planning" was 2.17 (2 = some training needed) with a standard deviation of .96. The items in which the Extension agents needed most help were: ability to identify the specific and general objectives; developing a short and long range program in Extension; skill and ability to develop the plan of action; developing evaluation procedures into plan of work; ability to analyze the situation; ability to use data of census and other resources; organizing and working with effective program planning committees; identifying peoples' needs, interests and priorities; getting participation of the lay leaders and professional groups in program planning processes; and knowledge of involving people in program planning.
Teaching-Learning Process

Among the 12 training items in this area, those in which professional education help was needed most in the area of "teaching-learning process" were understanding the principles of learning and teaching; knowledge of the different teaching methods; knowledge of the principles and procedures in teaching adults; understanding the principles and techniques of counseling; knowledge of the problem solving methods in Extension and knowledge of the problems of rural education. The gran mean score for twelve items in this area was 2.07 (2 = some training needed) with a standard deviation of .85.

Evaluation

The grand mean value of the perceived professional education needs of the Extension agents in proficiency performance of eight items in the area of "evaluation" was 2.26 (2 = some training needed) with a standard deviation of .94. Among eight items involved in this area: evaluating Extension programs; knowledge of the research area in Extension education; understanding research terminology; understanding ways of designing evaluation projects; ability to use research publications were found to be the most needed training items involved in this area.
Human Development and Social Knowledge

The grand mean for 16 training items involved in the area of "human development and social knowledge" was 2.03 with the standard deviation of 1.01 (2 = some training needed) which indicated that the Extension agents need some training in the area of "human development and social knowledge." The study indicated that the Extension agents needed more training about knowledge of factors affecting the way of living and family relations; knowledge of factors that contribute to rural migration and its consequences; ability to deal with knowledge of identifying local and informal leadership; understanding the influence of technology on farm families; understanding why people join groups and organizations; understanding the role of business labor, professional, civic organization in society; social consequences in changing the type of farming and the ability to use local leadership.

Communication

The grand mean score for eight training items involved in the area of "communication" was 2.12 (2 = some training needed) with a standard deviation of .95. The Extension agents in selected Provinces of Iran
indicated that they needed more professional education training in making public speaking more effective; using exhibits slides and pictures in Extension; ability and skill to organize tours, field trips, and farm and home visits; understanding the basic principles of communication, and effective use of television and radio in Extension.

Perceived Professional Education Needs of the Respondents in Six Areas of Training

The grand mean score indicating the professional education needs of the Extension specialists ranged from 2.12 to 1.91 (2 = some training needed). The highest mean score was indicated for the area of "program planning" which means the specialists needed more professional education training in this area than any other areas in this study. The training areas of "communication," "evaluation," "Extension philosophy," "teaching-learning process," and "human development and social knowledge" were ranked as the second, third, fourth, fifth and sixth areas in which specialists needed professional education training. The Extension agents rated the training areas somewhat differently from the
Extension specialists. In general, agents tended to rate the need for training higher than specialists.

The grand mean score indicating the professional education needs of the Extension agents ranged from 2.50 to 2.03 (2 = some training needed). The highest mean score was indicated for the area of "Extension philosophy, organization, and administration" which means the agents needed more training in this area than any other areas in this study. The training areas of "evaluation," "program planning," "communication," "teaching-learning process," and "human development and social knowledge" were ranked as the second, third, fourth, fifth and sixth areas in which the agents needed professional education training. Further analysis of the data showed that the specialists and agents ranked two areas of "teaching-learning process" and "human development and social knowledge" very similarly.

Differential Comparison of the Perceived Amount of Professional Education Training Needed by the Extension Specialists and Agents with Tenure, Degree, and Major Field of Study

The Kruskall-Wallis-One Way Analysis of Variance was performed to compare six areas of professional
education training needs as perceived by the Extension specialists and agents on their mean ranks of tenure, degree and major field of study (no statistical hypothesis was developed). The result of applying this statistical technique indicated that: 1) there were significant differences at 0.02 level between four levels of formal education (degrees), different major field of study and the amount of training needed in the area of "Extension philosophy, organization, and administration"; 2) there was a significant difference between the respondent's length of tenure and the amount of training needed in the area of "program planning" at the 0.04 level; 3) there was a significant difference at the 0.02 level between different lengths of tenure and the amount of training needed in the perceived professional education training area of "teaching-learning process"; 4) there was a significant difference at the 0.02 level between the levels of formal education of the respondents and the amount of training needed in the area of "evaluation"; 5) there was also significant difference at the 0.03 level between eleven major fields of study and the amount of training needed in the area of "human development and social knowledge" by the specialists and the agents in selected Provinces of Iran; and 6) there was
not any significant difference at the 0.05 level between the amount of training needed in the area of "communication" and variables: tenure, degree, and the major field of study.

**Differential Comparison of the Perceived Professional Education Training Needs of the Extension Specialists and Agents by Tenure**

The result of utilizing the Mann-Whitney U Test indicated that: 1) there was a significant difference between respondents who had less than one year of tenure and those who had 1 - 5 years of tenure for the amount of training needed in the area of "program planning" at the 0.04 level; 2) there was a significant difference at the 0.02 level between those who had 5 - 10 years and those who had more than 10 years of experience for the amount of training needed in the area of "program planning"; 3) there was a significant difference between respondents who had less than one year of experience and those who had 5 - 10 years of tenure for the amount of training needed in the area of "teaching-learning process" at the 0.02 level; 4) there was a significant difference between those respondents who had 1 - 5 years of tenure and those who had more than 10 years of tenure in Extension for
the amount of training needed in the area of "teaching-learning process" at the 0.04 level; 5) there was a significant difference at the 0.005 level between respondents who had 5 - 10 years of experience and those who had more than 10 years of tenure for the amount of training needed in the area of "teaching-learning process; 6) in the area of "communication" there was a significant difference at the 0.04 level between respondents who had 1 - 5 years of experience and those who had more than 10 years for the amount of training needed; and 7) also, there was a significant difference at the 0.03 level between respondents who had 5 - 10 years of tenure and those who had more than 10 years of experience for the amount of training needed in the area of "communication."

Differential Comparison of the Perceived Professional Education Training Needs of the Extension Specialists and Agents by Degree

The Mann-Whitney U Test was utilized to test for a significant difference at the 0.05 level between the mean value of the degrees held by respondents and the amount of training needed in each area of training. As a result of applying this statistical technique, it was found that:
1) there was a significant difference between respondents who were high school graduates and those who had an associate degree in the amount of training perceived as needed in the area of "Extension philosophy, organization, and administration" at the 0.006 level; 2) there was a significant difference at the 0.04 level between respondents who were high school graduates and respondents who had associate degrees in the amount of training needed in the area of "evaluation"; and 3) also there was a significant difference at the 0.005 level between respondents who had high school certificates and those who had Master's degrees in the amount of training needed in the area of "evaluation."

Differential Comparison of the Overall Professional Education Training Needs of the Extension Specialists and Agents by Major Fields of Study

The result of utilizing the Mann-Whitney U Test indicated that: 1) there was a significant difference between respondents who had Agronomy as a major field of study and those who had Soil Science as a major in the amount of training needed in the overall professional education training areas at the 0.003 level; 2) there was a significant difference at the 0.009 level between
those respondents who had Animal Science as a major and those who had Soil Science as a major field of study in the amount of training needed by the respondents in the overall areas of training; 3) there was a significant difference between respondents who had Agricultural Engineering as a major and those respondents who had Soil Science as a major field of study in the amount of training in the overall professional education training areas at the 0.01 level; 4) there was significant difference at the 0.009 level between respondents who had Horticulture as a major and those who had Soil Science as a major in the amount of training needed by them in the overall areas of training in this study; 5) there was a significant difference between those who had Irrigation as a major field and those who had Soil Science as a major field of study in the perceived amount of training at the 0.02 level; 6) there was a significant difference at the 0.05 level between those who had a degree in Food Technology and those respondents who had Soil Science as a major field of study in the amount of training in the overall areas of professional education training; 7) there was significant difference between respondents who had Soil Science as a major field of study and those who had Plant Pathology as a major in the perceived amount of training needed in all of the
areas of professional education training at the 0.003 level; and 8) there was significant difference at the 0.001 level between respondents who had Soil Science as a major and those who had general agriculture as a major field of study in the amount of training needed in overall areas of training in this study. The differential comparison of the perceived professional education training needs of the Extension specialists and agents by different major fields of study is shown in Table 27 (see Appendix B).

Relationship Between the Variables in the Study

Relationship Between the Perceived Amount of Training Needed in Specific Areas, by the Extension Specialists and Age, Tenure, Degree, Extension Corps Experience, and Major Fields Of Study

The result of applying Spearman-Rank Order Correlation Coefficient indicated that: 1) there was a negative correlation between age and the perceived amount of training in the area of "Extension philosophy, organization, and administration" at the 0.05 level ($r_s = -0.23$, $P = 0.05$). Therefore, it was concluded that as age increased, the perceived amount of training needed decreased in this area; 2) there was a negative relationship at the 0.04 level between tenure of the respondents
and the perceived amount of training needed in the area of "Extension philosophy, organization, and administration" ($r_s = -0.28, P = 0.04$). This negative relationship suggests that as the length of tenure increased, the perceived amount of training needed by the specialists decreased. As revealed by the data in this study, there were no significant relationships at the 0.05 level between variables: degree, Extension Corps experience, major field of study and the perceived amount of training needed by the Extension specialists in selected Provinces of Iran in the areas of professional education training.

Relationship Between the Perceived Amount of Training Needed in Specific Areas by the Extension Agents and age, tenure, degree, Extension Corps Experience, and Major Fields of Study

1) The relationship between the age of the agents and the perceived amount of training in the area of "Extension philosophy, organization, and administration" was significant at the 0.05 level ($r_s = 0.18, P = 0.05$). The positive relationship suggests that as the age of the agents increased the perceived amount of training needed increased.
2) There were negative relationships between the variable degrees held and the perceived amount of training needed in the area of "Extension philosophy, organization and administration" at the 0.05 level ($r_{s} = -0.19$, $P = 0.05$); between the variable degrees held and the perceived amount of training needed in the area of "evaluation" at the 0.002 level ($r = -0.33$, $P = 0.002$). The negative relationships show that as the level of formal education increased, the perceived amount of professional education training needed by the Extension agents decreased.

3) There were no relationship significant at the 0.05 level between tenure, Extension Corps experience, major field of study and the perceived amount of training in specific areas of training needed by the agents.

Relationship Between the Perceived Amount of Training Needed by All of the Respondents (Specialists and Agents) in Specific Areas of Training and Age, Tenure, Degree, Extension Corps Experience, and Major Field of Study

The result of utilizing the Kendall-Tau Correlation Coefficient indicated that there was a negative
relationship between the level of formal education (degrees held) and the perceived amount of training needed in the area of "Extension philosophy, organization, and administration" ($\tau$ tau) = -0.20, $p = 0.004$). Also, there was a negative relationship between the level of formal education and the perceived amount of training needed by the respondents in the area of "evaluation" at the 0.01 level ($\tau = 0.17$, $P = 0.01$). The negative relationships suggest that as the level of formal education increased, the perceived amount of training needed by the respondents decreased. Further analysis of the data revealed that there were no statistically significant relationships at the 0.05 level between variables: age, tenure, Extension Corps experience, major field of study, and the perceived amount of training needed by the Extension specialists and agents in the areas of professional education training in this study. As shown by the data in this part of the study (Tables 24, 25, and 26), generally there was a weak association between selected characteristics of the respondents and the perceived amount of training needed.

Conclusions

The following conclusions were based on the interpretation of the data presented in the study:
1) Overall, the Extension agents expressed a need for more professional education training in all training areas than did the Extension specialists.

2) Generally, the Extension specialists and agents expressed some need for professional education training in performing the training items involved in six areas of training in this study.

3) Among the six professional education training areas studied in this research, the training area of "program planning" was the area perceived by the Extension specialists as the one in which they needed the greatest amount of training.

4) Among the six professional education training areas studied in this research, the training area of "Extension philosophy, organization, and administration" was the area perceived by the Extension agents as the one in which they needed the greatest amount of training.

5) Both specialists' and agents' perceptions of the amount of professional education training needed in the areas of "Extension philosophy, organization, and administration" and
"evaluation" decreased as the level of formal education increased.

6) The Extension specialist's perception of the amount of professional education training needed in the area of "Extension philosophy, organization, and administration" decreased as age increased.

7) The Extension specialist's perception of the amount of professional education training needed in the area of "Extension philosophy, organization, and administration" decreased as the length of tenure increased.

8) The Extension agent's perception of the amount of professional education training needed in the area of "Extension philosophy, organization, and administration" increased as the age increased.

9) The Extension agent's perception of the amount of professional education training needed in the areas of "Extension philosophy, organization, and administration" and "evaluation" decreased as the level of formal education increased.
10. There were significant differences between respondents (specialists and agents) who had less than 1 year of tenure and those who had 5 - 10 years of tenure; between those respondents who had 5 - 10 years of tenure; and those who had more than 10 years of tenure in the amount of professional education training perceived as needed in the area of "program planning."

11. There were significant differences between those respondents who had less than 1 year of tenure as opposed to those who had more than 10 years of tenure; between those who had 1 - 5 years of tenure and those who had more than 10 years; between those who had 5 - 10 years of tenure as opposed to those who had more than 10 years of tenure in the amount of training perceived as needed in the area of "teaching-learning process."

12) There were significant differences between respondents who had 1 - 5 years of tenure and those who had more than 10 years of tenure; between those who had 5 - 10 years of tenure and those who had more than 10
years of tenure in the amount of training perceived as needed in the area of "communication."

13) There was a significant difference between respondents who were high school graduates and those who had an associate degree in the amount of training perceived as needed in the area of "Extension philosophy, organization and administration."

14) There were significant differences between respondents who were high school graduates and those who had an associate degree; between those who were high school graduates and those who had Master's degrees in the amount of training perceived as needed in the area of "evaluation."

**Recommendations**

The following recommendations are made based upon the results of this study:

1) Administrative authorities in the Extension Service in Iran should continue to develop an intensive inservice training program in a way that the Extension specialists and agents will receive increasingly more effective
educational assistance concerning their professional needs in all six training areas with particular emphasis on the areas of "program planning" and "Extension philosophy, organization, and administration."

2) More professional education training should be given to the younger Extension specialists and agents in all specific areas of training.

3) More professional education training should be given to the older Extension agents in the area of "Extension philosophy, organization, and administration."

4) Some professional education courses should be offered by the Colleges of Agriculture during preservice education to improve the professional competency and to increase the ability of the Extension specialists and agents in performing their role proficiently.

5) The information on the professional education training needs of the Extension specialists and agents determined by this study should be made available to the personnel responsible for the training of the specialists and agents in the selected Provinces of Iran.
6) Further research should be conducted in other Provinces of Iran to determine the differences between perceived professional education training needs of the Extension specialists and agents.
APPENDIX A

QUESTIONNAIRE
I am Masood Sabihi, a graduate student in Extension Education at The Ohio State University.

I am conducting a study on the "perceived professional education training needs of the Extension specialists and agents in selected Provinces of Iran." The respondents in this study will include 50 percent random sample of all the Extension agents and a census of the Extension specialists currently employed by the Extension Service.

You are one of forty Extension specialists that I am requesting to assist me in this study by completing the enclosed questionnaire referring to the professional education training that you might need.

Please respond to the training items in this section as to the degree of additional training needed. The data collected in this study will be analyzed and information obtained will be made available to the staff of the Extension Service. No names of any respondent will appear in any material to be published as a result of this study.

Thank you for your cooperation.

Sincerely yours,

Masood Sabihi

MS/bls

Enclosure
I am Masood Sabihi, a graduate student in Extension Education at The Ohio State University.

I am conducting a study on the "perceived professional education training needs of the Extension specialists and agents in selected Provinces of Iran." The respondents in this study will include 50 percent random sample of all the Extension agents and a census of the Extension specialists currently employed by the Extension Service.

You are one of eighty-eight Extension agents that I am requesting to assist me in this study by completing the enclosed questionnaire referring to the professional education training that you might need.

Please respond to the training items in this section as to the degree of additional training needed. The data collected in this study will be analyzed and information obtained will be made available to the staff of the Extension Service. No names of any agent will appear in any material to be published as a result of this study.

Please complete the enclosed questionnaire and return it to me in the self-addressed, stamped envelope. Thank you for your cooperation.

Sincerely yours,

Masood Sabihi

MS/bls

Enclosure
QUESTIONNAIRE

PERCEIVED PROFESSIONAL EDUCATION TRAINING NEEDS OF
THE EXTENSION SPECIALISTS AND AGENTS IN
SELECTED PROVINCES OF IRAN

PART I

Please Answer All Questions

1. What is your age? ________

2. How many years have you served in the Extension Service? ________

3. Please indicate the highest academic degree you have:
   ___ (1) High School Certificate
   ___ (2) More than high school, less than Bachelor's
   ___ (3) Bachelor's Degree
   ___ (4) Master's Degree

4. Have you had Extension Corps experience and training?
   ___ Yes
   ___ No

5. If yes, how long ______ months

6. What was your major field of study for your highest degree?
   ___ (1) Agronomy
   ___ (2) Animal Science
   ___ (3) Agr. Economics
   ___ (4) Agr. Education and Extension
   ___ (5) Agr. Engineering (Machinery)
   ___ (6) Horticulture
PART II

In the following you will find a series of training areas in which you as an Extension Specialist or Extension Director might feel the need for some professional educational training.

Please indicate how much training is needed by Extension specialists in the areas listed below by circling the number in the appropriate column to the right of each area listed.

You must circle only one number for each area of training.

The following rating scale is to be used for defining your feelings about professional education training needs of Extension specialists in Iran.

4 = Very Much Training Needed
3 = Much Training Needed
2 = Some Training Needed
1 = Little Training Needed
0 = No Training Needed

___ (7) Irrigation
___ (8) Food Technology
___ (9) Soil Science
___ (10) Plant Pathology and Entomology
___ (11) General Agriculture

7. Indicate the number of years of your life spent on farm _____

8. Have you lived in a rural area? ___ Yes ___ No
A. Extension Philosophy, Organization, and Administration

<table>
<thead>
<tr>
<th>Training Items</th>
<th>Very Much</th>
<th>Much</th>
<th>Some</th>
<th>Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Understanding Extension Philosophy</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2-Knowledge of the organization of the Extension at the Provincial level</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3-Understanding the director's role at the Provincial level</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4-Understanding the role of Extension in the development of people</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5-Knowledge and understanding of the Extension policies in Iran</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>6-Knowledge of the organization at the national level</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>7-Understanding the objectives of Extension Service in Iran</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8-Understanding of the specialists role at the Provincial level</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9-Understanding the Extension History in Iran</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>10-Knowledge of office management procedures</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>11-Understanding the relationship between Extension and other agencies</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>12-Understanding Extension procedures on promotion, salary, insurance, and retirement</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>13-Understanding the inter-relationship between various levels of Extension Staff</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Training Items</td>
<td>Very</td>
<td>Much</td>
<td>Much</td>
<td>Some</td>
<td>Little</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>1-Skill and Ability to develop the plan of action</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2-Organizing and working with effective program planning committees</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3-Developing evaluation procedures into plans of work</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4-Ability to use data of Census and other sources</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5-Using resources personnel in program planning and Extension program</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>6-Knowledge of involving people in program planning process</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>7-Identifying people's needs, interests and priorities</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8-Ability to identify the specific and general objectives</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9-Ability to analyze the situation</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>10-Developing a short and long range Extension program</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>11-Giving people satisfaction from the Extension program</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>12-Getting the participation of the lay-leaders and professional groups in the program planning</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
C. Education, Teaching-Learning Process

<table>
<thead>
<tr>
<th>Training Items</th>
<th>Training Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Understanding the principles of learning and teaching</td>
<td>4 3 2 1 0</td>
</tr>
<tr>
<td>2-Knowledge of the use of problem solving</td>
<td>4 3 2 1 0</td>
</tr>
<tr>
<td>3-Knowledge of the principles and procedures in teaching adults</td>
<td>4 3 2 1 0</td>
</tr>
<tr>
<td>4-Knowledge of the use of problem solving method</td>
<td>4 3 2 1 0</td>
</tr>
<tr>
<td>5-Ability to motivate people</td>
<td>4 3 2 1 0</td>
</tr>
<tr>
<td>6-Understanding the process of logical reasoning and thinking</td>
<td>4 3 2 1 0</td>
</tr>
<tr>
<td>7-Understanding of how the young and adults learn</td>
<td>4 3 2 1 0</td>
</tr>
<tr>
<td>8-Skill in working effectively with committee of farmers</td>
<td>4 3 2 1 0</td>
</tr>
<tr>
<td>9-Knowledge of different teaching methods</td>
<td>4 3 2 1 0</td>
</tr>
<tr>
<td>10-Understanding the principles and techniques of counseling</td>
<td>4 3 2 1 0</td>
</tr>
<tr>
<td>11-Understanding the development of individual patterns of behavior</td>
<td>4 3 2 1 0</td>
</tr>
<tr>
<td>12-Knowledge of the problems of rural education</td>
<td>4 3 2 1 0</td>
</tr>
</tbody>
</table>
## D. Evaluation

<table>
<thead>
<tr>
<th>Training Items</th>
<th>Very Much</th>
<th>Much</th>
<th>Some</th>
<th>Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Ability to evaluate Extension programs</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2-Understanding ways of designing evaluation projects</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3-Knowledge of criteria for evaluating the work of Extension agents</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4-Understanding research terminology</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5-Knowledge of research area in Extension education</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>6-Ability to use research publications</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>7-Making applications of research findings in assisting people of the region</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8-Ability to devise and conduct surveys</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
### E. Human Development and Social Knowledge

<table>
<thead>
<tr>
<th>Training Items</th>
<th>Very</th>
<th>Much</th>
<th>Much</th>
<th>Some</th>
<th>Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Understanding of community development needs</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2-Ability to identify the problems of community</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3-Understanding group interaction</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4-Understanding the different levels of class in society</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5-Understanding the individual behavior in a group</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>6-Knowledge of the different kinds of adopters in the community</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>7-Social consequences in changing the type of farming</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>8-Ability to use local leadership</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>9-Understanding the role of business, labor, professional, civic organization in society</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>10-Knowledge of identifying local and informal leadership</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>11-Knowledge of factors affecting way of living and family relations</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>12-Knowledge of factors that contribute to rural migration and its consequences</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>13-Ability to deal with low income families and lagged farmers</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>14-Understanding why people join groups and organizations</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>15-Understanding the influence of mass communication in society</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>16-Understanding the influence of technology on farm families</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
### F. Communication

<table>
<thead>
<tr>
<th>Training Items</th>
<th>Very</th>
<th>Much</th>
<th>Much</th>
<th>Some</th>
<th>Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Understanding the basic principles of communication</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2-Making public speaking more effective</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3-Ability and skill to give demonstration</td>
<td>4</td>
<td>3</td>
<td>?</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4-Ability to lead a meeting and discussion</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5-Skills and ability to use visual aids</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>6-Effective use of television and radio in Extension</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>7-Ability to use exhibits, slides, pictures in Extension</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>8-Ability and skill to organize tours, field trips, and farm and home visits</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 27

**COMPARISON OF THE PERCEIVED PROFESSIONAL EDUCATION TRAINING NEEDS OF THE EXTENSION SPECIALISTS AND AGENTS BY MAJOR FIELD OF STUDY**

<table>
<thead>
<tr>
<th>Major</th>
<th>Extension Philosophy Sig</th>
<th>Program Planning Sig</th>
<th>Teaching Learning Sig</th>
<th>Evaluation Sig</th>
<th>Human Development Sig</th>
<th>Communication Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agronomy &amp; Animal Science</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agronomy &amp; Agr. Engineering</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agronomy &amp; Food Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.03</td>
</tr>
<tr>
<td>Agronomy &amp; Soil Science</td>
<td>0.008</td>
<td>0.01</td>
<td>0.01</td>
<td>0.006</td>
<td>0.004</td>
<td></td>
</tr>
<tr>
<td>Agronomy &amp; General Agr.</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.006</td>
<td>0.004</td>
<td>0.05</td>
</tr>
<tr>
<td>Animal Science &amp; Soil Science</td>
<td>0.01</td>
<td>0.03</td>
<td>0.01</td>
<td>0.01</td>
<td>0.009</td>
<td></td>
</tr>
<tr>
<td>Agr. Education &amp; Soil Science</td>
<td>0.03</td>
<td>0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agr. Engineering &amp; Soil Science</td>
<td>0.01</td>
<td>0.02</td>
<td>0.04</td>
<td>0.04</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Horticulture &amp; Soil Science</td>
<td>0.01</td>
<td>0.01</td>
<td>0.006</td>
<td>0.02</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Irrigation &amp; Soil Science</td>
<td>0.02</td>
<td>0.04</td>
<td>0.03</td>
<td>0.001</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Irrigation &amp; Plant Pathology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.04</td>
</tr>
<tr>
<td>Irrigation &amp; General Agr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.05</td>
</tr>
<tr>
<td>Food Technology &amp; General Agr.</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.02</td>
</tr>
<tr>
<td>Soil Science &amp; Plant Pathology</td>
<td>0.01</td>
<td>0.03</td>
<td>0.05</td>
<td>0.02</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Soil Science &amp; General Agr.</td>
<td>0.002</td>
<td>0.004</td>
<td>0.001</td>
<td>0.006</td>
<td>0.002</td>
<td>0.05</td>
</tr>
</tbody>
</table>

2-Tailed Test, p.
BIBLIOGRAPHY


Penders, J. M. A. "Conclusion of the XIIth Training Center," Lecture given at the International Agriculture Center, Wageningen, Holland, August 1963.


