

A STUDY OF THE ROLE AND PROBLEMS OF  
AGRICULTURAL INFORMATION SERVICES IN THE NORTHERN STATES OF NIGERIA

by

IBRAHIM U. HADEJIA

B. S., Fort Hays State University, 1980

---

A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Agricultural Education  
College of Education

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

1981

Approved by:

  
Major Professor

SPEC  
COLL  
LD  
2668  
J4  
1981  
H33  
C.2

A11200 068203

ii

#### ACKNOWLEDGEMENT

The writer wishes to express his gratitude to his major advisor, professor J. J. Albracht of the Department of Adult and Occupational Education in the college of Education, for his advice, assistance and guidance during the preparation of this manuscript.

Special thanks are also due to Dr. Welton and Dr. J. A. Hobbs, members of the advisory committee, and Dr. Ralph Field, the Head of the Department of Adult and Occupational Education in the College of Education, Kansas State University.

Profound appreciation and thanks are also due to the Kano State Scholarship Board for granting the researcher this rare opportunity to study for his Masters at Kansas State University.

Finally to Nancy, the writer says, "Thank you" for the effort and time in typing this manuscript.

**THIS BOOK  
CONTAINS  
NUMEROUS PAGES  
WITH MULTIPLE  
PENCIL AND/OR  
PEN MARKS  
THROUGHOUT THE  
TEXT.**

**THIS IS THE BEST  
IMAGE AVAILABLE.**

## TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION.....	1
Statement of the Problem.....	7
Objectives of the Study.....	7
Definition of Terms.....	8
Importance of the Study.....	10
Limitations of the Study.....	11
Research Hypotheses.....	11
II. REVIEW OF RELATED LITERATURE.....	12
Meaning and Scope of Agricultural Information Service.....	12
Adoption of New Ideas and Practices.....	26
Extension Teaching Methods.....	32
III. METHODS AND PROCEDURE.....	36
Population.....	36
Development of the Instrument.....	36
Data Collection.....	37
Statistical Treatment.....	37
IV. FINDINGS AND RESULTS.....	42
Returns.....	42
Analysis of Variance.....	54
Personal Information.....	56
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS.....	59
Summary.....	59
Conclusions.....	60
Recommendations.....	60
BILBIOGRAPHY.....	63
APPENDIX	
Letter of Transmittal.....	66
Questionnaire.....	67



## LIST OF TABLES

Table	Page
1. Percent distribution of citations of information sources used in four stages of adopting three recommended farm practices by 175 farm operations, Lawrence County, Pennsylvania, 1957.....	27
2. Rank Order of Information Sources by Stages in the Adoption process.....	28
3. Extension Teaching Methods and Devices in Group Education.....	33
4. Percent of farm operators classified by sources of farm information used and by number of mentions received as a farm practice decision influence, Ozark Community.....	34
5. Importance of Functions of Agricultural Information Services in the Opinion of Extension Personnel.....	44
6. Level of Responses to the Requirements of Agricultural Information Services in the Opinion of Extension Personnel.....	46
7. Opinion of Extension Personnel on the Departmental Activities of the Agricultural Information Services.....	48
8. Appropriate Departments of Agricultural Information Services in the Opinion of Extension Personnel.....	50
9. Opinion of Extension Personnel on the Problems Affecting Agricultural Information Services.....	53
10. Analysis of Variance for Difference Scores by Rank of Respondents.	54
11. Analysis of Variance for Difference Scores by Sex of Respondents..	55
12. Analysis of Variance for Difference Scores by Years of Experience of Respondents.....	55

## LIST OF FIGURES

Figure	Page
1. Extension Organization in Kano State Agricultural Extension Service.....	4
2. A Typical Organizational Structure of a Ministry of Agriculture in the Northern States of Nigeria.....	17
3. The Process of Acceptance of Farm Practices and Factors Influencing That Process.....	35

## CHAPTER I

### INTRODUCTION

Agricultural information as a functional discipline is a comparatively new concept in the Ministry of Agriculture and Natural Resources in Nigeria. The agricultural information for Northern Nigeria was created in 1961. The Northern Region includes ten which were created (established) in 1967.

The success of agricultural information in the Northern States of Nigeria, and the subsequent agricultural development depends on the effective communication between the extension service, research the agricultural information staff, and the farmers.

George T. Vardaman (17) stated that effective communication is essential for the professional person in doing his day-to-day work. The professional person's activities involve processing information, whether as a sender (speaking or writing) or as a receiver (listening or reading). Intrapersonal ("talking" to himself) and interpersonal (communicating with others), is very important. The experienced professional person recognizes that effective communication requires patience, planning, and skill in execution.

Effective communication is an interchange which results in workable understanding and agreement between sender and receiver. The extension worker is the central figure in the transfer of agricultural information from the research findings to the farmer. The Extension worker must, therefore, equip himself with techniques that are relevant and appropriate, in order to convince the farmer to accept and adopt new farming ideas and practices.

In the United States agricultural information has a very important

and historical background. According to Prawl et al. (18), the Smith Lever Cooperative Extension Act of 1914 gave birth to the establishment of agricultural extension education.

The Smith Lever Act provided for aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture and home economics. The act also encouraged agriculture and Home Economics programs in the colleges in each state. The land-grant act of 1862, and the Morrill Endowment Act of 1890 encouraged the agricultural extension service to cooperate with the United States Department of Agriculture.

Cooperative Agricultural Extension Service consisted of giving of instructions and practical demonstrations in agriculture and home economics. College courses were developed to impart information to students through field demonstrations and publications.

For agricultural information to have an impact on both the extension worker and the farmer, there must be mutual respect and understanding between agricultural information staff members, the extension worker and the farmers. There must be a close identity of the Extension worker with the rural people.

The importance of the respect and understanding between the extension worker and the farmer has been referred to by leaders from many countries.

Lionberger (6, 7) has quoted A. H. Maunder, Chief Agricultural Institutions and Services FAO, saying that the personal and social relationship between extension workers and the farm people must be one of mutual trust and confidence. Good technical training of the extension worker also contributes to desirable personal relationships with the farmers, since they expect him to know the scientific fundamentals of agriculture.

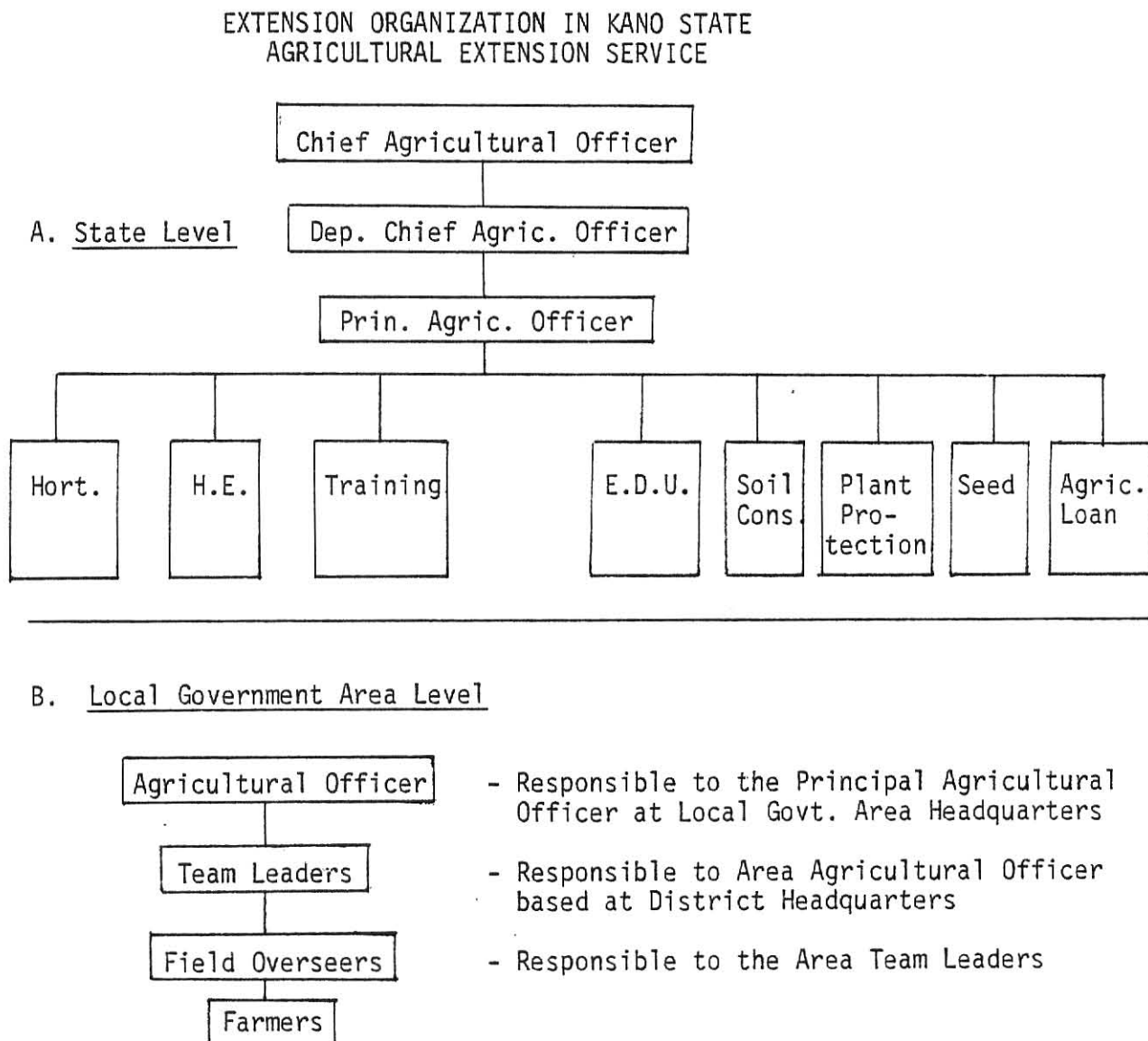
According to Okereke (11), Agricultural Information Service is an arm of the agricultural Extension Service (see Figure I on page 4). The responsibility to collect, interpret, adapt and disseminate modern agricultural knowledge, practices and techniques to the farmers is important to the Extension Information staff.

Agricultural Extension Service complements activities of the agricultural information units through the application of various methods and techniques, in order to convince farmers to accept and adopt new farming ideas and practices. According to Kelsey and Hearne (5), the use of demonstrations is a very effective extension teaching methods to improve productivity. Kelsey stated:

"Demonstrations should be done by rural people using materials which they have or can obtain readily in practical situations." Dr. A. C. True, one of the early extension workers in the United States said: "Farmers generally would not change their practice from observing what could be done on a farm operated at public expense. There must, therefore, be demonstration carried on by farmers themselves on their own farms and under ordinary farm conditions."

In their daily efforts to convince farmers to accept and adopt new farming ideas and practices, the agricultural extension service and information staff use various teaching methods. Kelsey and Hearne (5) emphasized that as the number of methods of exposure to extension information increases from one (method) to nine, the number of farm families changing behavior increases from 35 to 98 percent. In general, the more ways through which people are exposed to extension information such as meetings, demonstrations, bulletins, news stories, radio talk, and personal visits, the larger their acceptance of recommended practices.

Figure I



Source: Marcorvey, James S. Agricultural Extension Organization in Kano State of Nigeria. (March 1970)

The adoption process describes how farmers accept and adopt new ideas, products and practices. The process involves five stages: awareness, interest, evaluation, trial, and adoption. At the adoption stage, a farmer decides that the new idea, product, or practice is good enough for full scale and continued use.

According to Aurbach and Marsh (3), the above stages do not necessarily represent discrete or distinctly separate stages in the individual adoption process. Rather, the stages represent a relatively useful and continuous sequence of action, events, and influences that intervene between the initial knowledge about an idea, product, or practice, and the actual adoption.

In the Northern States of Nigeria, the agricultural technicians are trained at various levels in the agricultural sciences and extension methods. Some extension workers receive limited in-service training. The correspondence with these Extension workers from the Extension Headquarters consists of administrative directives. Owing to the ever-changing farming technology, the knowledge which is carried to the field soon becomes severely limited in the amounts and relevance.

Meanwhile, information continues to accumulate from research. Agricultural production is dynamic and constantly changing with new developments. With other changes in agriculture and industry, the extension worker is in constant need for new ideas, information, and knowledges released from research. The Extension Service provides information to farmers. The link between the Research Service and Extension Service does not exist. This accounts in part for the fact that the great deal of progress made in agricultural research in the Northern States of Nigeria, has not had a corresponding impact on the local agricultural producer. Okereke (11).

The above point underlines the importance of and the need for having an Agricultural Information Unit suitably located in the Ministry of Agriculture. The Agricultural Information Service has the specific duty of collecting, documenting, interpreting, adapting, and disseminating all available agricultural knowledge to the farmers. The Agricultural Information Service thus provides the missing vital link between Research and Extension.

According to Okereke (11), the role of the Agricultural Information unit is two fold:

- (a) To enrich the Agricultural Extension Service and make it more productive.
- (b) To educate the wider public.

The current information from research should be provided to the Extension Service. The field extension staff should be kept up to date in the latest developments in farming technology.

Modern communications techniques should be used to support the Extension Service and thereby increase the adoption of innovations by farmers. By using various audio-visual aids such as films, agricultural shows, fairs, radio and television programs, pictures displays, and simple and illustrated bulletins, complicated technical knowledge can be reduced and adapted to the understanding of the farmer, and thus increase his ability to use new and better technology. Channel for efficient feedback from the farmers to the Research Services is needed.

The second major role of Agricultural Information is to educate the general public. One of the major problems of agricultural development is lack of understanding of what it entails. Yet agricultural development depends on the understanding by personnel involved in the



agricultural development. The specialized skills of a wide variety of persons are needed for the development of agriculture.

Proper understanding of agricultural development is therefore needed not only by agricultural workers, planners, and administrators, but also by legislators, editors, merchants, bankers, educators, and the general public.

#### Statement of the Problem

The purpose of this study is to determine the role of, and the problems associated with the Agricultural Information Services in the Northern States of Nigeria. The study will determine the functions, requirements, organization, and problems associated with the Agricultural Information Services for the Northern States of Nigeria.

#### Objectives of the Study

The objectives of the study include:

- (a) To determine the importance of the various functions of the Agricultural Information Services for the Northern States of Nigeria.
- (b) To determine the requirements for the Agricultural Information Services.
- (c) To determine the organization by departments that the Agricultural Information Service should contain.
- (d) To determine the seriousness of the problems associated with the Agricultural Information Services for the Northern States of Nigeria.

### Definition of Terms

Certain terms used in this study are defined as follows:

Northern States of Nigeria: The ten states in Northern Nigeria which include Bauchi, Benue, Bornu, Gongola, Kaduna, Kano, Kwara, Niger, Plateau, and Sokoto.

Agricultural Extension Service: The link between Agricultural Research and Education on the one hand and the practicing peasant farmer and livestock owner on the other.

Extension Worker: Personnel employed by the various state governments, local governments or private sectors in the Northern States of Nigeria, and trained for the purpose of disseminating Agricultural Research findings and recommendations to the farmers.

Information Staff: Same as Extension worker, but serves in the Extension Demonstration Units (E.D.U.). They are Extension Information staff members who complement and high-light the activities of village-level extension workers through publicity campaigns in the rural areas.

Agricultural Development: Process of change or transformation of traditional and subsistence agriculture into a more productive and commercialized enterprise, involving the application of science and technology to agricultural production.

Agricultural Production: A process of modernization of farming to ensure increased productivity and increased returns to the farmer.

Adoption Process: Process whereby an adult learner (farmer) accepts a new concept (farming idea, practice, or product) and **tries** it at a full-scale, and on a continuous basis.

Analysis of Variance - A statistical procedure, resulting in a statistic called the "F" ratio, tests the hypothesis of differences between two or more groups of subjects. "F" ratio tells whether the differences which separate the groups are greater than the differences which exist within the groups.

Data - The basic information collected in a study, usually expressed numerically.

Degree of Freedom - The number of ways the data are free to vary determined by sample size, or number of rows and columns as in chi square involved in determining the critical value needed to reject the null hypothesis.

Data Analysis - The application of statistical procedures to the data generated in a study in order to test the hypothesis.

Hypothesis - An informed guess about the solution to a problem or an explanation of an observed event or series of events that is tested to determine its validity.

Null Hypothesis - Statement of no difference or relationship between variables being examined to allow for the testing of the hypothesis by statistical procedure.

Population - Any set or group of things that are alike in respect to some particular characteristics. All of any specified group of objects, methods, responses, geographic areas, or persons.

Extension Agent - Change agent, extension agent and extension worker as used in this study means an official of a State or Federal Ministry of Agriculture and Natural Resources who was responsible for providing agricultural information on new farming ideas for farmers. He serves as a bridge between the researcher and the farmer.

X Communication: A process of exchange of ideas between a sender and a receiver. Communication can be intrapersonal (a person "talking" to himself), or interpersonal (a person communicating with others).

### Importance of the Study

The results of the study will be particularly beneficial for the Northern States' Ministries of Agriculture, Extension Services Divisions, in planning and executing their agricultural development programs. The results will also be useful for agricultural training institutions such as agricultural colleges at Kabba and Samaru; Farm Training Centers and Farm Institutes all over the Northern States of Nigeria.

State and National organizations that are directly related to agriculture such as National Association for Agricultural Information (N.A.F.A.I.), National Association for Agricultural Education (N.A.A.E.) and Young Farmers' Clubs will benefit generally from the results of this study.

But the results of this study will be most useful to Extension Demonstration Units (E.D.U.) located in the Ministries of Agriculture in the Northern States of Nigeria. E.D.U. is the information unit of the ministry, responsible for disseminating agricultural information to the farmers. The Agricultural Extension, Research and Liaison Services (A.E.R.L.S.) based at Samaru, Zaria, Kaduna State, will also benefit from the results of this study, because their publications are periodically sent to E.D.U. offices in the Northern States for further distribution to the Extension workers and the farmers.

Finally, the results of this study will be of great assistance to other information media in the Northern States such as Ministries of Home Affairs and Information; Radio and Television stations and the Press.

### Limitations of the Study

There are two major limitations in this study:

The population was limited to extension workers and home agents with at least two years of experience in the Northern States of Nigeria and who are currently acquiring higher education at Kansas State University and at Fort Hays State University.

Although all the states in northern Nigeria were represented, the representation was not equal. Nevertheless, due to past Nigeria's regional structure, most of the population had the experience of working in many of the present northern states. Since the northern states have nearly the same agricultural policy and programs, the results of this study could reasonably apply to all of the states.

### Research Hypotheses

Three hypotheses stated in the null form served as the basis for analyzing the results of the study:

- (1) There are no significant differences in the opinion of extension staff members by rank as to the importance of the functions, requirements, activities, and problems of Agricultural Information Services.
- (2) There are no significant differences in the opinion of extension staff members by sex as to the importance of the functions, requirements, activities, and the seriousness of the problems of Agricultural Information Services.
- (3) There are no significant differences in the opinion of extension staff members by years of extension experience as to the importance of the functions, requirements, activities, and problems of the Agricultural Information Services.

## CHAPTER II

### A REVIEW OF RELATED LITERATURE

In preparation for the study, a survey of literature was made to determine what studies applied to the stated problem of studying the role and problems of agricultural information in the Northern States of Nigeria. The related information was classified and is discussed in these categories: (1) meaning and scope of agricultural information service; (2) adoption of new ideas and practices; and (3) extension teaching methods.

#### Meaning and Scope of Agricultural Information Service

There has been some misconceptions about the role of the agricultural information unit in the Northern States of Nigeria. Some quarters outside the Ministries of Agriculture and Natural Resources regard it as an unnecessary duplication of the states' ministries of Home Affairs and Information. Some still think that it is an unnecessary privilege for the Ministries of Agriculture to have information services of their own.

These misconceptions arise from the work "information," which associates it with the function of the states' Ministries of Home Affairs and Information. The fact that it is a new concept in the organizational structure of the Ministry of Agriculture and Natural Resources also contributes to the misunderstanding.

It is important, therefore, to take note of these incorrect notions, as they tend to adversely affect the operations of the Agricultural Information Service. The existence of the Agricultural Information Service may be threatened because of the misconceptions that the agricultural

Information Service is the same as the Ministry of Home Affairs and Information.

According to Okereke (11), Agricultural Information is not the "voice of" the Ministry of Agriculture, and it is not its publicity organ. It is for instance not the job of the Agricultural Information Unit to publicize (praise or glorify) personalities and activities of the Ministry of Agricultural and Natural Resources. This is the job of the state Ministry of Home Affairs and Information of each state in the Northern States of Nigeria.

But Okereke (11) continued to say that the Agricultural Information Unit may use the state or national publicity media to high-light new break-throughs, developments and agricultural programs, with the sole purpose of making useful agricultural information available to the farmers and those engaged in agricultural business.

It is not a public relations department, but it may employ public relations principles to create and retain the confidence of the farmers, to ensure their acceptance and adoption of new farming innovations. The Agricultural Information Service uses simple reproduction techniques especially those designed to produce audio-visual aids suitable for imparting technical knowledge and skills to a largely illiterate and traditional communities.

According to Okereke (11), the Agricultural Information Service is an arm of the Extension Service (see Figure I on page 4). It has responsibility to collect, interpret, adapt, and disseminate modern agricultural knowledge, practices and techniques to the farmers and the field extension staff.

To appreciate the importance of an Agricultural Information Service, it is necessary to examine the usual organization of Government Agricultural Services in the Northern States of Nigeria.

The most common basic organization comprises:

- a. Research
- b. Training
- c. Extension

Agricultural research conducted in experimental stations both locally and internationally are geared towards discovering new and better strains of crops and livestock, and developing new and better practices and techniques needed for improved agricultural production.

The personnel required to guide and promote agricultural production - both research personnel and extension workers - are trained in the state and national agricultural schools and universities.

According to Ogunfowara (10) Extension Service is essentially an adult education program aimed at millions of farmers. It is the major vehicle of agricultural improvement and is expected to provide the link between the research and other sources of scientific knowledge, practices, and techniques on the one hand, and the farmers on the other. It is also expected to bring back farmers' problems to the research world.

Agricultural progress and modernization depends on the efficiency and effectiveness of this two-way communication. We have noted that Extension is supposed to provide a "vital link" between the research and the farmers. The question is, how efficient does it do this?

Extension Service has two major activity components - the advisory services and the material supply services. The Advisory Service entails a field organization in which a large number of technical staff are posted in the field to advise, guide and teach farmers as well as channel to them the farm inputs supplied by the Ministry of Agriculture and other agencies.

Under the material supplies services component, the Ministry of



Agriculture undertakes the procurement and supply, to the farmer, of the various modern farming inputs - fertilizers, agro-chemicals, improved seeds, and implements. Sometimes these inputs are supplied under subsidy schemes. Very often this component tends to overshadow the educational (advisory) and more permanent component.

The actual conduct of Extension Service usually takes the following form. Prospective agricultural technicians trained at various levels in agricultural sciences and extension methods are posted in the field to educate and assist farmers. Most of the correspondence coming to them from the headquarters are mainly administrative directives. Owing to the ever-changing farming technology, the stock of knowledge which they carried to the field soon becomes severely limited both in amount and relevance.

Meanwhile, information continues to accumulate from research. Agricultural production being dynamic, is constantly changing with developments in knowledge and the demands of changes in industry. The extension worker needs to be constantly fed new ideas, and information, as they are released by research.

Coming back to the basic organization, (Research, Training and Extension), we can see that there is no provision for collecting and making the research information available first to the Extension Service, and thence to the farmer. Nor does the actual conduct of the extension service make up this deficiency. That Extension "provides a vital information link between research and the farmer" has been a misleading assumption which accounts in part for the fact that the great deal of progress made in agricultural research in Nigeria in general and the Northern States in particular, has not had a corresponding impact on the local agricultural production.

It is important to have an Agricultural Information Unit suitably

located in the Ministry of Agriculture and charged with the specific duty of collecting, documenting, interpreting, and adapting all available agricultural knowledge for the use of the Extension Service. Agricultural Information Service, thus provides the missing vital link between Research and Extension.

According to Okereke (11), to perform its functions properly, the Agricultural Information Unit must satisfy some basic requirements.

(a) It must know the farmer - his attitudes, knowledge level problems, living conditions, etc. This means that it must be located within the Ministry of Agriculture and Natural Resources.

(b) It must have on its staff an adequate number of agricultural professionals, as well as experts in communication skills. This explains the need for photographers, graphic art, and audio-technicians in an Agricultural Information Unit.

(c) Its key staff members must not only possess agricultural qualifications, but must also have adequate training in modern communications principles.

(d) It must have a means of getting farmer feed back for constant reappraisal of methods.

(e) It must have facilities and equipment capable of quickly producing the message in a form suited to teach in largely illiterate and rural communities.

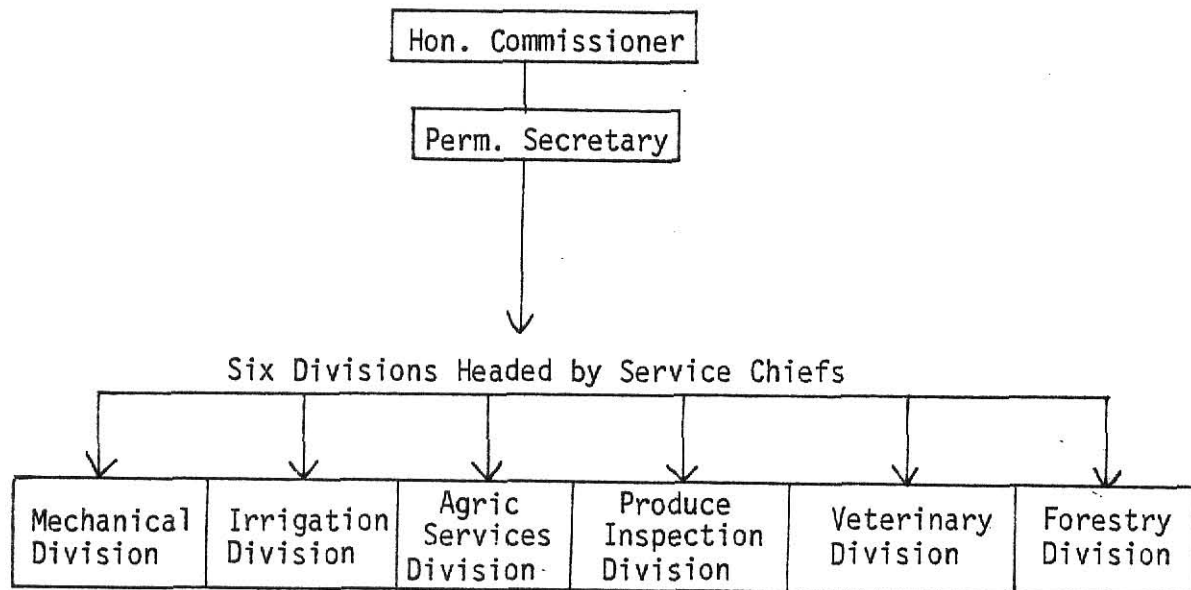
(f) It must be strategically located in the organizational structure of the Ministry of Agriculture and Natural Resources in order to freely render support services for all the Ministry's extension services. The term "Extension Services" connotes the field services of all the various divisions - Agriculture, Veterinary, Forestry, Fisheries, Irrigation, Mechanization, and Produce Inspection. (see Figure 2 on page 17)

**THIS BOOK  
CONTAINS  
NUMEROUS PAGES  
WITH THE ORIGINAL  
PRINTING BEING  
SKEWED  
DIFFERENTLY FROM  
THE TOP OF THE  
PAGE TO THE  
BOTTOM.**

**THIS IS AS RECEIVED  
FROM THE  
CUSTOMER.**

Figure 2

A TYPICAL ORGANIZATIONAL STRUCTURE  
OF A MINISTRY OF AGRICULTURE IN THE  
NORTHERN STATES OF NIGERIA



Source: Macorvey, James S. Organizational Structure of a Ministry of Agriculture and Natural Resources in the Northern Region of Nigeria. (March 1974)

### Functions and Organization

According to Okereke (11), the functions of an Agricultural Information Unit should include:

- (1) Make useful agricultural information available to the farmers and those engaged in agricultural business.
- (2) Use suitable audio and visual aids to impart technical information and skills to the extension workers and the farmers.
- (3) Utilize the results of research to prepare materials for the Agricultural Extension Services.
- (4) Educate the public on the importance of agriculture as a worthy occupation.
- (5) Employ effective public relations principles to create and retain the confidence of the farmers to ensure their acceptance and adoption of new innovation.
- (6) Produce audio-visual materials such as pictures, charts, posters, transparencies, display boards, etc. used for effective extension teaching.
- (7) Communicate the results of research findings to the extension workers.
- (8) Organize and conduct in-service training meetings for extension workers at both state and local government levels.
- (9) Organize workshops for staff-members with the active participation and supervision of staff from Samaru.
- (10) Train the extension staff on the use of modern communication aids for effective farmer education.

- (11) Conduct evaluation studies to assess the effectiveness of Extension methods and programs.
- (12) Collect document, interpret and adapt all available agricultural knowledge for the use of Extension Service.
- (13) Write scripts and produce various publications used in extension work.
- (14) Plan and execute farmer - education campaigns in cooperation with the field extension staff.
- (15) Use the available mass media outlets - radio, T.V., and Press - to educate the farmers and the general public.

Earlier in this paper, the meaning scope, organization and functions of a typical Agricultural Information Service were discussed. As organized, equipped, and located, an Agricultural Information Service has critical roles to play in agricultural development processes. These roles are of two kinds. Okereke (11) named them as:

- (a) To enrich Agricultural Extension Service and make it more productive.
- (b) To educate the wider public.

Introduction of modern agriculture into the existing semi-traditional pattern described earlier has many obvious implications. It means among other things:

- (i) Settled farming. Pastoralism must give way to mixed farming. Shifting cultivation must be replaced by a system which maintains soil fertility by modern techniques.
- (ii) Use of modern farm inputs - fertilizers, pesticides, improved seeds and stock.
- (iii) Use of scientific techniques - modern farming skills, knowledge in the proper handling of inputs, soil management, better control of the physical environment, better control of weeds, pests and diseases.
- (iv) Knowledge of farm management - application of business principles to farm enterprises.
- (v) It means above all, change of attitudes and a way of life involving sometimes an assault on strongly held concepts and traditional methods.

Copp (1) commented on the problem of changing the attitudes of the traditional farmers. He cited the problems involved in the changing from the traditional to the modern farming systems:

"All people are to some degree" set in their ways "and to a degree incapable of perceiving pertinent relationships in new situations, of analyzing them in terms of adjustment alternatives, and of making satisfactory adjustments to them. Nevertheless, people vary greatly in this respect. The farmer who is inclined to mental rigidity tends to resort to the traditional formula of hard work, persistence, and thrift in matters of farm management. A mentally flexible person, on the other hand, is capable of perceiving significant elements in novel situations, of dealing with them mentally, and of making adjustments to them. "The latter would most certainly be associated with high adoption rates."

In view of the above complicated nature of human attitudes towards farming, it is thus easy to see the great task involved in formulating and executing a modernizing program, involving millions of largely illiterate, scatter, custom-bound farmers engaged in a semi-traditional agriculture. Such a scheme must be a massive program of adult education directed to improving the farmer, his family, the farm business, and the society in which the farmer operates. According to Okereke (11), extension work can be improved as follows:

(a) "Make available for the use of extension service, existing and current information from research. It has often been pointed out that there exist in this country masses of agricultural knowledge accumulated over the years by research, which if supplied by the farmers, could raise the present level of agricultural production several fold. Agricultural Information Service should, therefore, go all out to abstract, review, adapt, and present all available information at the level and form the farmers can use it.

(b) Constantly keep the field extension staff up to date in the latest developments in the farming technology. Ogunfowara (1) recently found out that some of the weaknesses of the Extension Service of the Western State of Nigeria are poor quality of extension staff, insufficient in-service training, and insufficient number of extension staff. This situation is not limited to the Western States alone."

According to F.A.O. report on Agricultural Development in Nigeria, 1965-1980 (4) the least tolerable ratio in African countries of trained extension staff to farm families is 1:1000 as against 1:400-500 in advanced countries. The report states that in Nigeria "even with the large proportion of relatively untrained staff at present being used, the existing ratio is at least 1:5000 in places."



A major characteristic of agriculture is its ever-changing technology. Opportunities for inservice training are most likely to increase sufficiently in the immediate future, and the extension staff - farmer ratio will take some time to be narrowed to effective levels in the immediate future.

The only solution to the problems of poor quality staff and an insufficient number of extension staff members appears to rest on the ability of the Agricultural Information Service to procure, print, and circulate to field staff in the form of bulletins and newsletters, the new agricultural information and technology as it is released by research and other sources.

(c) Produce teaching aids for use of Extension Service in both formal and inservice training.

(d) Document all important projects and programs for purposes of continuity. Records of many useful projects and research results are known to be lost in this country especially during the colonial era, in files which were either carried away by the persons in charge of such projects, or lost in closed and inaccessible files or even burned to "clean the offices."

It is a major function of Agricultural Information to document and put into print all government agricultural projects. Once in print, the information should have a respectable storage place in offices and libraries.

(e) Establish a channel for efficient feed back from the farmers to research. For research results to be useful to the farmers they must bear directly on the problems and felt needs of the farmers. This depends on how efficiently the problems of the farmers are communicated to research

(f) Carry on simple communication research. This is a most important function especially as it is usually left out in the research programs of experiment stations. A department of Agricultural Information Service carrying on this research should be staffed with agricultural graduates trained in statistics and social research techniques. Its major areas of research should include:

(i) Extension Education and Innovations.

By use of various audio-visual aids - films, agricultural shows, fairs, radio and television programs, pictures, displays, simple and illustrated bulletins, complicated technical knowledge can be reduced and adapted to the understanding of the farmers and thus increase their ability to use new and better technology.

Finally, the Agricultural Information should directly get involved in extension work. As our agriculture progresses, the Governments of the Northern States of Nigeria are bound to shed the responsibility for the supply of material inputs to the farmers. Such services are, as in advanced countries provided by private agencies. What will then remain of the Extension Service will be the advisory component.

Similarly, as more and more of our farmers become educated, they begin to obtain information directly from mass media - printed publications, radio, press, and audio-visuals. They depend less and less on farmer level workers, who at present are low grade workers with limited knowledge and ability. Copp (1) (see table 2 on page 28) illustrates the manner in which source use varies with the type of practice, comparing the source of information used for spittle bug control, the use of grass silage, and the use of hay finisher by a select sample of Pennsylvania farmers.

The effective use of the Extension Information Service can increase the number of farm families one extension worker can assist! Thus, in the United States, according to Kelsey and Hearne (5):

"the Extension Agent is the fulcrum of the Extension Service. He is located at the County Headquarters and obtains information materials from the State Agricultural Information Center based at the Land Grant College.

He works with all the farmers in the county in cooperation with the other agents - Home Economics and 4-H Club agents. He uses circular letters, printed publications, radio, press publications, county fairs, farmer meetings, and home calls, to circulate information to the farmers."

The second major role of Agricultural Information is public education. One of the major problems of agricultural development, according to Okereke (11), is the lack of understanding of what it actually entails. Yet agricultural development depends on the understanding of agricultural development itself as well as on the specialized skills of a wide variety of persons in the country attempting to develop its agriculture.

Politicians for instance, have a profound influence on the rate of agricultural development. But many of them do not understand what is necessary for agricultural development or even why agricultural development is important to the country as a whole.

In recent times, public attention has been focussed on the need for faster agricultural development in Nigeria. Blame has been apportioned for its slow development on the farmer and the Ministries of Agriculture. According to Norman (19):

"increasing agricultural production always requires substantial investment in rural roads, storage and marketing facilities, and a variety of government services serving agriculture. Urban people are more aware of the need for industrial investment to increase employment opportunities in the cities. Unless urban people are told, they are not

likely to realize how agricultural development increases the markets for industrial products."

Many of them are unaware that certain kinds of industries - especially those that provide equipment and supplies needed by farmers, and those that process agricultural products - are more important than certain kinds of industrial projects. Again, whereas farmers may need higher prices for their products in order to make adequate investments to increase production, people in the cities including policy makers are usually interested in paying lower prices for food.

Agricultural Information should play a major role by fostering the importance of agriculture. This can be done by the use of news stories and feature articles in the press and magazines, radio, news reels, television programs, lectures, and seminars. Public education on agricultural development is important and the Agricultural Information Units not only of the Northern States of Nigeria, but also in the whole Federation, should make concerted efforts in order to produce a considerable impact.

#### Adoption of New Ideas and Practices

People, according to Wilkening (20), ordinarily do not accept new ideas or practices immediately upon hearing about them. The time from initial knowledge to final acceptance may range from a few days to many years. Also, a decision to change is ordinarily the product of a sequence of events and influences operating through time rather than an abrupt metamorphosis. This action is devoted to the concept of stages in the adoption process and the influences which operate in relation thereto. Agricultural extension and information staff - should therefore be cautious, and vigilant in observing these stages in the adoption process.

Antecedence to the use of stages for studying the individual adoption process are found in the work of Dewey Mead, Johnson and others. Ryan and Gross (14, 15) who asked farmers to indicate where they learned about hybrid seed corn and the sources of information that were most useful in helping them decide to try it were perhaps first to use a stage concept to study the adoption of a farm practice.

In a North Carolina study, Wilkening (21) sought sources of first contact, contacts for most information, and most influential contacts. Later, four stages which were labeled (a) initial knowledge, (b) acceptance of the practice as a good idea, (c) acceptance on a trial basis, and (d) adoption of practice on own farm, were used. A committee of rural sociologists (16) consequently added a fifth stage to the sequence.

The five were then referred to as awareness, interest, evaluation, trial, and adoption (see table 1 on page 27).

Awareness - At the awareness stage, a person first learns about a new idea, product, or practice. He has only general information about it. He knows little or nothing about any special qualities, its potential usefulness, or how it would likely work for him (16).

Table 1 Percent distribution of citations of information sources used in four stages of adopting three recommended farm practices by 175 farm operators, Lawrence County, Pennsylvania, 1957.

Stage	Information Source	Spittle bug control	Grass silage	Hay finisher
Awareness	Farm magazines	30.7	35.5	33.1
	Radio	5.2	2.5	2.3
	Printed extension	36.2	17.4	20.9
	Oral extension	10.5	13.8	11.2
	Peer influence	14.3	27.9	25.1
	Commercial media	1.4	0.4	3.7
	Classroom	1.4	2.5	3.2
	Other	0.3	0.0	0.6
	TOTAL	100.0	100.0	100.0
Interest	Farm Magazines	22.5	19.3	17.0
	Radio	2.3	1.8	0.0
	Printed extension	14.0	14.9	13.2
	Oral extension	24.8	26.3	24.5
	Peer influence	34.1	32.5	37.7
	Commercial media	0.8	1.8	5.7
	Classroom	1.6	0.9	1.9
	Other	0.0	2.6	0.0
	TOTAL	100.0	100.0	100.0
Acceptance	Farm magazines	9.0	22.0	27.3
	Radio	0.0	0.0	0.0
	Printed extension	16.4	10.0	18.2
	Oral extension	26.9	20.0	22.7
	Peer influence	44.8	46.0	27.3
	Commercial media	1.5	2.0	4.5
	Classroom	1.5	0.0	0.0
	Other	0.0	0.0	0.0
	TOTAL	100.0	100.0	100.0
Trial	Farm magazines	4.9	14.8	12.5
	Radio	0.0	0.0	0.0
	Printed extension	52.5	33.3	29.2
	Oral extension	16.4	23.5	12.5
	Peer influence	6.6	25.9	29.2
	Commercial media	16.4	2.5	16.7
	Classroom	3.3	0.0	0.0
	Other	0.0	0.0	0.0
	TOTAL	100.0	100.0	100.0

Source: Copp, J. H., Sill, M. L. and Brown, E. J., "The Function of Information Sources in the Farm Practice Adoption Process," Rural Sociology, 23, (June 1958), pp.150-51.

**THIS BOOK  
CONTAINS  
NUMEROUS PAGES  
WITH DIAGRAMS  
THAT ARE CROOKED  
COMPARED TO THE  
REST OF THE  
INFORMATION ON  
THE PAGE.**

**THIS IS AS  
RECEIVED FROM  
CUSTOMER.**

Table 2 Rank order of information sources by stages in the adoption process.

STAGES IN THE ADOPTION PROCESS				
AWARENESS Learns about a new idea for practice	INTEREST Gets more information about it	EVALUATION Tries it out mentally	TRIAL Uses or tries a little	ADOPTION Accepts it for full-scale and continued use
1. Mass media - radio, TV, newspapers, magazines	1. Mass media	1. Friends and neighbors	1. Friends and neighbors	Personal experience is the most important factor in continued use of an idea
2. Friends and neighbors - mostly other farmers	2. Friends and neighbors	2. Agricultural agencies	2. Agricultural agencies	1. Friends and neighbors
3. Agricultural agencies, extension, vo-ag etc.	3. Agricultural agencies	3. Dealers and salesmen	3. Dealers and salesmen	2. Agricultural agencies
4. Dealers and salesmen	4. Dealers and salesmen	4. Mass media	4. Mass media	3. Mass media 4. Dealers and salesmen

Source: Copp, J. H., Sill, M. L., and Brown, E. J., "The Function of Information Sources in the Farm Practice Adoption Process," Rural Sociology, 23, (June 1958), pp. 150-51



Interest - At this stage, the farmer develops an interest in the new things that he has learned. He is not satisfied with mere knowledge of its existence. He wants more detailed information about what it is, how it will work, and what it will do. He is willing to listen, read and learn more about it, and is inclined to actively see the information desired. It makes little or no difference whether we call this the information or the interest stage. The personal need of the individual making the decision remains much the same.

Evaluation - At the evaluation stage, a person weighs the information and evidence accumulated in the previous stages in order to decide whether the new idea, product, or practice is basically good, and whether it is good for him. In a sense, he reasons through the pros and cons mentally, and applies them to his own situation. Perhaps this stage could be referred to as the "mental trial stage." To be sure, evaluation is involved at all stages of the adoption process, but it is at this stage that it is most in evidence, most crucial, and perhaps most needed.

Robert Cort (13) has this to say about getting ideas across to people:

"Getting ideas across is the paramount problems of a host of people of the executive writing memos, or leading a conference, or the supervisor giving orders, of the job trainer, the salesman, the advertiser, the educator, the lawyer, the reporter, etc. In fact, anybody who must rely on the written or spoken word to achieve results is effective only to the extent that his ideas enter, influence, and stick in the mind of the recipient or learner.

The average human mind resists change, resists new habits, new ideas. Usually, it will accept novelty only when it is utterly convinced. The status quo is quite comfortable, thank you, so go peddle your ideas somewhere else.

The problem is often complicated by the fact that, while the idea-sender understands perfectly what he is trying to get across, he is so wrapped up in, so sold on, the content of his idea that he is not concerned with the technique of transmission. As a result, he fails to put it over."

Trial - At this stage the individual is confronted with a distinctly different set of problems. He must actually put the change into practice. This means that he must learn how, when, where, how much, etc. Competent personal assistance may be required at this trial stage, in putting the innovation to use. The usual pattern of acceptance is to try a little at first, and then to make large-scale use of it if the small-scale experiment proves successful.

Adoption - At this stage a person decides that the new idea, product, or practice should be adapted for full scale and continued use.

According to Aurbach and Marsh (3), the steps in the adoption process do not necessarily represent discrete, or distinctly separate stages in the individual adoption process. Rather what these stages do represent is a useful way of describing a relatively continuous sequence of action, events, and influences that intervene between initial knowledge about an idea, product, or practice, and the actual adoption of it.

Different people perform different functions in the adoption of new ideas and practices. Lionberger (7) called these people special functionaries. He specifically mentioned them as: Innovators, Key Communicators, and the Influentials. These special functionaries are hereby briefly discussed:

Innovators - These are persons who are the first to introduce new ideas or practices, and generally have a reputation in the community for doing so. In farm practice diffusion research, they have ordinarily been defined in terms of the readiness with which they have adopted one or more new farm practices, even though the practices adapted have already been tried and tested by agricultural experiment stations and perhaps progressive farmers elsewhere.

Key Communicators - These are people who are important in the communication of information to others. They are generally often mentioned in response to questions regarding persons as sources of information used for general or specific purposes. They have been called "opinion leaders," "local leaders," "adoption leaders," "informal leaders," "communicators," or just simply "leaders."

Influentials - In this context, the term influentials refers to individuals who are alleged to have exercised a determining influence in one or more decisions of other persons. Tables 3 and 4 on pages 33 and 34 respectively, illustrate the role of influentials.

#### Extension Teaching Methods

According to Kelsey and Hearne (5), extension field studies conducted over a long period of time (years), and in many countries in the United States show that people are influenced by extension education to make changes in behavior in proportion to the number of different extension teaching methods with which they come in contact.

In their daily efforts to convince farmers to accept and adopt new farming ideas and practices, the agricultural extension and information staff are faced with a great and difficult task. It is, therefore, imperative that they employ a number of different teaching methods to accomplish their objectives.

Kelsey and Hearne (5) emphasized that as the number of methods of exposure to extension information increases from one to nine, the number of farm families changing behavior increases from 35 to 98 percent. In general, the more ways through which people are exposed to extension information-meetings, demonstrations, bulletins, news

stories, radio talks, personal visits, television programs, agricultural shows, fairs, farm and home visits, and other teaching methods - the larger their acceptance of recommended practices. (See Table 3 on page 33). This table illustrates the list of Extension teaching Techniques and Devices in Group Education.

TABLE 3  
Extension Teaching Methods and Devices in Group Education

1. Person-to-person or individual:

- Apprenticeship
- Correspondence courses
- Directed individual study
- Home visits
- Library services
- Office call
- Personal letter

2. Audio-visual devices

- Chalkboard
- Film
- Film strip
- Flameboard
- Flip chart
- Opeque projector
- Overhead projector
- Photograph and drawing
- Recording and playback device
- Slides
- Video tape
- Tele-lectures

3. Extensive methods and mass media

- Bulletin board
- Circular letter and other direct mail
- Exhibit
- Magazine
- Newspaper
- Poster
- Publications
- Radio
- Television

Source: Ralph E. Utermochlen. Group Methods and Techniques.  
"Some Additional Methods, Techniques and Devices in  
Group Education" (Manhattan: October 1976) p. 18.

Table 4 Percent of farm operators classified by source of farm information used and by number of mentions received as a farm practice decision influencer, Ozark Community

INFORMATION SOURCES USED	NUMBER OF INFLUENCE MENTIONS			
	Total	None	1 - 2	3 or more
	(%)	(%)	(%)	(%)
County agent.....	55.0	52.1	66.7	71.4
Vocational ag. teacher.....	17.7	15.6	23.1	42.9
University of Missouri.....	14.7	12.5	23.1	28.6
PMA Office.....	39.1	34.9	53.8	71.4
PCA Office.....	8.4	8.4	7.7	28.6
College bulletins.....	39.9	40.1	35.9	57.1
Adult classes.....	4.3	3.1	5.2	28.6
Farm meetings.....	42.0	39.6	46.2	85.7
Daily newspaper.....	29.8	26.0	41.0	71.4
Local newspaper.....	44.2	43.8	43.5	57.2
Magazines.....	91.2	89.6	97.4	100.0
Almanac.....	37.4	37.5	35.9	42.9
Television.....	19.3	16.7	30.7	28.6
Radio.....	89.5	89.1	92.3	85.7
Dealers.....	30.7	30.7	30.8	28.6
Dairy route men.....	25.3	24.0	30.7	28.6
MFA route men.....	10.1	8.8	12.8	28.6
Feed company representatives.....	10.5	9.9	15.4	0.0
Other farmers.....	96.6	95.8	100.0	100.0
Own children.....	32.8	32.3	35.9	28.6
Wives.....	72.7	71.9	77.0	71.4

Source: Lionberger, H. F., "Characteristics and Role of Local Influentials in the Diffusion Process, Ozark and Prairie," paper read at the Seminar of the Foundation for Research on Human Behavior on "Adoption of New Products: The Influence of Individuals and Groups," (November and December, 1958).

## PERSONAL INFLUENCES

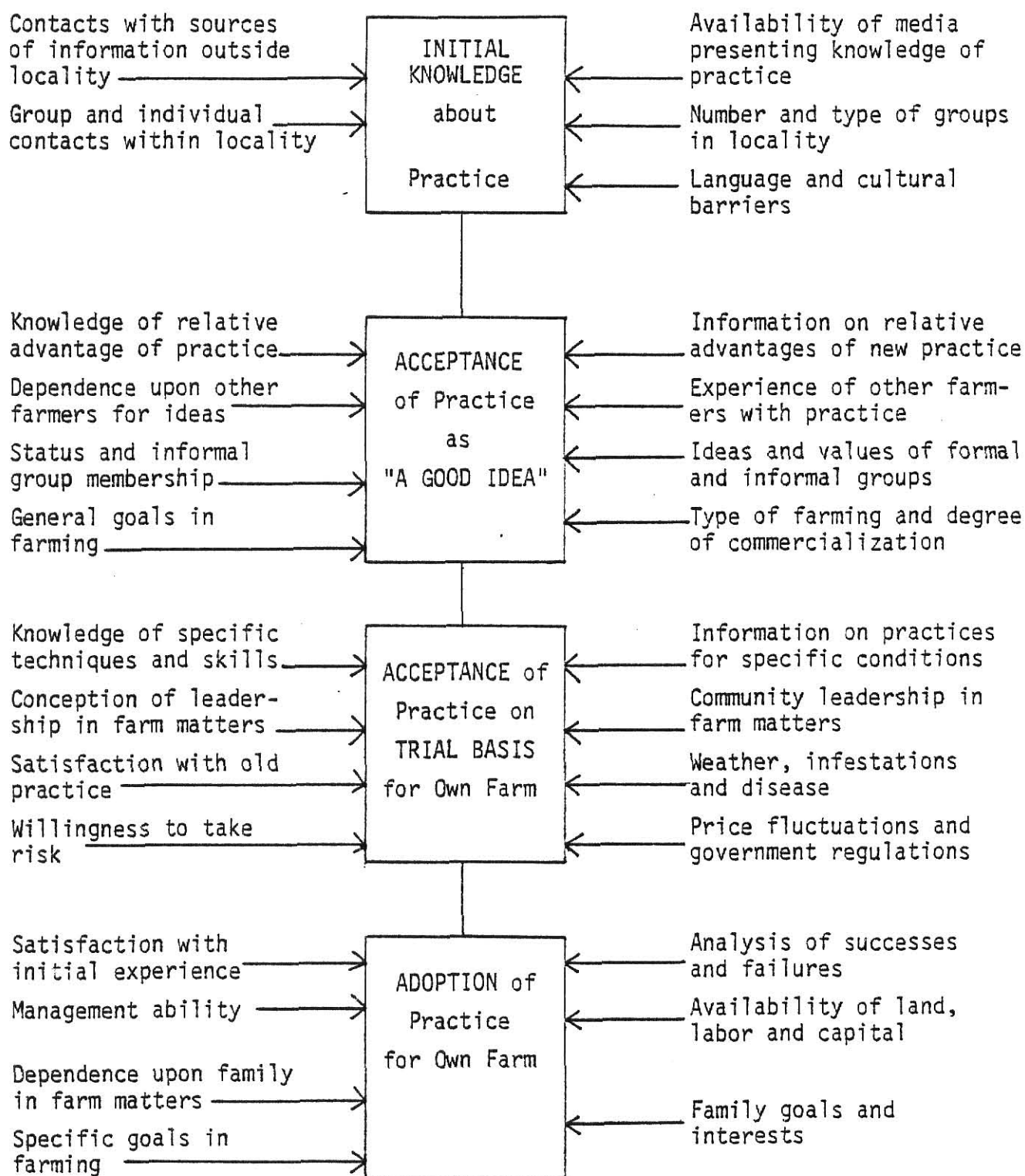
GROUP AND SITUATIONAL  
INFLUENCES

Fig. 3 The process of acceptance of farm practices and factors influencing that process

Source: Wilkening, E. A., Adoption of Improved Farm Practices as Related to Family Factors. Madison: Wisconsin Agricultural Experiment Station Research Bulletin 183, (December 1953), p. 10.

### CHAPTER III

#### METHODS AND PROCEDURE

The study was designed to determine the role and problems of Agricultural Information Services in the Northern States of Nigeria. Forty-six demographic factors within and outside the extension services were provided to the respondents. The primary aims were to determine the significance of the factors involved in Extension Information, of their priority and to determine which of the factors required attention.

#### Population

The sample for the study was selected from non-degree personnel previously employed by various Ministries of Agriculture and Natural Resources in the Northern States of Nigeria. The respondents were attending colleges at Kansas State University and Fort Hays State University. The study was limited to the extension workers and home agents with at least two years of Extension field experience. No specification was made of the areas where they worked, since the whole of the northern states was considered to be similar geographically and had the same type of governmental structure and function.

The extension workers and home agents were asked to complete a questionnaire concerning the functions, organization, and problems of agricultural information service. The research was conducted during the spring semester of 1981. Data was collected from extension workers and home agents at Kansas State University and Fort Hays State University.

#### Development of the Instrument

A nine-page questionnaire was used to gather the data for this study. The questionnaire contained 13 agricultural information functions; 11 requirements; 9 departmental activities; and 13 problem factors.



The 46 factors were the dependent variables by which the effects of the independent variables were measured. A four-degree Likert rating format ranging from "strongly agree," "agree," "disagree," and "strongly disagree," "very necessary," "necessary," "somewhat necessary," and "not necessary," "very serious," "somewhat serious," and "not serious," was used.

### Data Collection

Questionnaires with instructions were mailed to 90 Nigerian extension workers and home agents undertaking agriculture and home economics degree studies at Kansas State University and Fort Hays State University. These students were previously employed in the Extension Services in the Northern States of Nigeria. In the instructions, the researcher explained the usefulness of the study and requested the respondents to complete and return the questionnaires within four weeks. Seventy-nine of the 90 questionnaires were returned. Despite reminder letters and personal contact, none of the remaining 11 questionnaires were returned.

### Statistical Treatment

The hypothesis of the study was tested using the "F" statistics. The hypothesis stated: "There are no significant differences in the opinions of the respondents in respect of the functions and problems of Agricultural Information Services in the agricultural development of the northern states of Nigeria." Factors presented included:

#### 1. Functions of Agricultural Information Services:

- (a) Make useful agricultural information available to the farmers and those engaged in agricultural business.
- (b) Employ effective public relation principles to create and

retain the confidence of the farmers, to ensure their acceptance and adoption of innovations.

- (c) Use suitable audio and/or visual aids to impart technical information and skills to the extension workers and the farmers.
- (d) Organize workshops for staff members with the active participation and supervision of ERLS staff from Samoru (ERLS = Extension Research and Liaison Services).
- (e) Organize and conduct in-service training meetings for Extension workers at both State and Local Government Levels.
- (f) Utilize the results of research to prepare materials for the Agricultural Extension Service.
- (g) Educate the public on the importance of agriculture as a worthy occupation.
- (h) Conduct evaluation studies to assess the effectiveness of extension methods and programs.
- (i) Communicate the results of research findings to extension workers.
- (j) Collect, document, interpret, and adapt all available agricultural knowledge for the use of the Extension Service.
- (k) Write scripts and produce various publication used in extension work.
- (l) Produce audio-visual materials such as pictures, charts, posters, transparencies, display boards, etc.; used for effective extension teaching.
- (m) Train the extension staff on the use of modern communication aids for effective farmer education.

## 2. Requirements

- (a) Understand the farmers' attitudes, knowledge level, problems, and living conditions.
- (b) Have on its staff, adequate number of agricultural professionals as well as experts in communication skills.
- (c) Have facilities and equipment capable of quickly producing materials for the audience.
- (d) Be centrally located in the organizational structure of the Ministry of Agriculture and Natural Resources.
- (e) Have a means of getting farmer feedback for constant re-appraisal of methods.
- (f) Depend on state Ministries of Information for assistance and mass media outlets.
- (g) Be provided with fully equipped transportatin for farm tours and other agricultural publicity campaigns.
- (h) Be centralized and directly responsible to the Permanent Secretary of MANR for efficient and effective service to the farmers and the state.
- (i) Have close working relationship with agricultural research institutes for better coordination of research recommendations to the farmers and agro-allied industries.
- (j) Have key staff who have adequate training in modern communication principles.
- (k) Have trained and well qualified staff members to carry out their duties and responsibilities efficiently and effectively.

## 3. Departmental Activities

- (a) To produce scripts for technical and farmers' bulletins.

- (b) To prepare news articles.
- (c) Take pictures and slides.
- (d) Print, develop and duplicate audio-visual materials.
- (e) Operate mobile information vans.
- (f) Analyze the effectiveness of agricultural extension and information services.
- (g) Prepare and produce farm radio programs.
- (h) Prepare and produce television programs.
- (i) Design the layout of visual materials and publications.

4. Problems Associated with Agricultural Information Services

- (a) Lack of adequate moral and financial support from the policy makers in the MANR.
- (b) Lack of reliable and sufficient number of transports.
- (c) Lack of adequately equipped mobile cinema vans for publicity campaigns in the rural areas.
- (d) Lack of well-trained technicians to repair and service audio-visual equipment.
- (e) Delay of funding of information activities and equipment by the Finance Committee of the MANR.
- (f) Lack of accessibility to pertinent information regarding agricultural development programs.
- (g) Lack of adequate printing and publishing facilities and equipment.
- (h) Lack of darkroom facilities for printing and developing pictures of agricultural projects, fairs, field days and farmer meetings.
- (i) Lack of adequate public address systems.

- (j) Lack of affiliated local government extension information units to carry out local government extension information programs.
- (k) Lack of adequate articles for publication in the agricultural newsletters.
- (l) Lack of timely distribution of ERLS publications through the area officers to the extension workers and the farmers.
- (m) Lack of incentives to the field extension staff on the part of the administration.

## CHAPTER IV

### FINDINGS AND RESULTS

The purpose of this study was to determine the role and problems of the Agricultural Information Services in the Northern States of Nigeria, as viewed by the Extension staff members of the Ministries of Agriculture. A questionnaire was developed which contained four parts: functions, requirements, activities and problems associated with the Agricultural Information Services.

#### Returns

This study was primarily concerned with the role and problems of Agricultural Information Services. Ninety questionnaires were sent to Extension staff members from the Northern States of Nigeria. Seventy-nine questionnaires were returned, representing a percentage return of 87.7.

#### Function of Agricultural Information Services

The opinions of the Extension workers and home agents in the ten Northern States of Nigeria to the importance of various functions of the Agricultural Information Services are given in Table 5. The mean score ranged from a low of 3.38 to a high of 3.88 on a scale of 4. Means were calculated on a four point scale: "strongly agree" was given a value of four, "agree," three; "disagree," two and "strongly disagree" was given a value of one point. Therefore, even those items which received the lowest ratings were between "agree" and "strongly agree" in their ratings. None of the functions was considered "disagree" or "strongly disagree" by the Extension workers and the home agents interviewed.

The task of "making useful agricultural information available to the farmer and those engaged in agricultural business" was considered

the most important function of the Agricultural Information Services. The next most important function was "using suitable audio and/or visual aids to impart technical information and skills to the extension workers and the farmers." "Utilizing the results of research to prepare materials for the Agricultural Extension Services," "educate the public on the importance of agriculture as a worthy occupation," and "employ effective public relations principles to create and retain the confidence of the farmer to ensure their acceptance and adoption of new innovations," were next in importance. These five functions, all of which had a mean of 3.66 or higher on a 4 point scale, indicated the importance that extension workers and the home agents placed on making useful agricultural information available to the farmers and those engaged in agricultural business.

The four lowest rated functions were: "training the extension staff members in the use of modern communication aid for effective farmer education," "conducting evaluation studies to assess the effectiveness of extension methods and programs," "collecting documenting, interpreting, adapting all available agricultural knowledge for the use of the Extension Service," and "writing scripts and producing various publications used in extension work." These functions were in the range of "agree" and "strongly agree" using a four point scale.

TABLE 5  
IMPORTANCE OF FUNCTIONS OF AGRICULTURAL INFORMATION  
SERVICES IN THE OPINION OF EXTENSION PERSONNEL

Functions of Agricultural Information Services N = 79	Weighted Mean*	Rank Order
Make useful agricultural information available to the farmers and those engaged in agricultural business	3.88	1
Use suitable audio and/or visual aids to impart technical information and skills to the extension workers and the farmers	3.75	2
Utilize the results of research to prepare materials for the Agricultural Extension Services	3.73	3
Educate the public on the importance of Agriculture as a worthy occupation	3.69	4
Employ effective public relations principles to create and retain the confidence of the farmers to ensure their acceptance and adoption of innovations	3.66	5
Produce audio visual materials such as pictures, charts, posters, transparencies and display boards used for effective extension teaching	3.62	6
Communicate the results of research findings to the extension worker	3.61	7
Organize and conduct In-Service training meetings for Extension workers at both state and local government levels	3.60	8
Organize workshops for staff members with the active participation and supervision of ERLS staff members from Samaru	3.56	9
Train the extension staff members on the use of modern communication aids for effective farmer education	3.55	10
Conduct evaluation studies to assess the effectiveness of extension methods and programs	3.52	11
Collect document, interpret and adopt all available agricultural knowledge for the use of the Extension Service	3.40	12
Write scripts and produce various publications used in Extension work	3.38	13

\*Weighted means calculated on a four point scale. One was "strongly disagree;" two, "disagree;" three, "agree;" and four, "strongly agree."



Requirements Expected of Agricultural Information  
Services in the Opinion of Extension Personnel

The information in Table 6 indicated a weighted mean score ranged from a low of 2.23 to a high of 3.86 on a scale of 4. In the opinion of the respondents, "understanding the farmers' attitudes, knowledge levels, problems, and living conditions," was considered to be the most important item followed by "to be provided with fully equipped transportation for farm tours and other agricultural publicity campaigns." "Have close working relationship with the Agricultural Research Institutes for better coordination of Research recommendations to the farmers and agro-allied industries" and "have trained and well-qualified staff members to carry out their duties and responsibilities efficiently and effectively" were next in importance. These four requirements all had a 3.68 rating and above. The Extension staff members indicated these to be the major areas of concern regarding the competences for the Agricultural Information Services in the Northern States of Nigeria.

TABLE 6  
LEVEL OF RESPONSE TO THE REQUIREMENTS OF AGRICULTURAL  
INFORMATION SERVICES IN THE OPINION OF EXTENSION PERSONNEL

Statement of Requirements N = 79	Weighted Mean*	Rank Order
Understand the farmers' attitudes, knowledge levels, problems and living condition	3.86	1
Be provided with fully equipped transportation for farm tours and other agricultural publicity campaigns	3.77	2
Have close working relationships with agricultural Research Institutes for better coordination of Research recommendations to the farmers and agro-allied industries	3.75	3
Have trained and well qualified staff members to carry out their duties and responsibilities efficiently and effectively	3.68	4
Have a means of getting farmer feedback for constant reappraisal of methods	3.62	5
Have on its staff, adequate number of agricultural professionals as well as experts in communication skills	3.61	6
Have key staff members who have adequate training in modern communication principles	3.55	7
Have facilities and equipment capable of quickly producing materials for the extension staff and the farmers	3.48	8
Be centrally located in the organizational structure of the Ministries of Agriculture and Natural Resources	3.20	9
Be centralized and directly responsible to the Permanent Secretary MANR for efficient and effective service to the farmers and the states	2.92	10
Depend on the state Ministries of Information for assistance and mass media outlets	2.23	11

\*Weighted means calculated on a four point scale. One was "strongly disagree;" two, "disagree;" three, "agree;" and four, "strongly agree."

Departmental Activities of  
Agricultural Information Services

The respondents were asked to evaluate the importance of the departmental activities in terms of the levels of "not necessary," 1 point; "somewhat necessary," 2 points; "necessary," 3 points; and "very necessary," 4 points. The opinions of the extension staff members as to the importance of the departmental activities of the Agricultural Information Services are given in Table 7. It is interesting to note that none of the activities were rated below 3 on the 4 point scale. Even the least rated activity, that of "designing the layout of visual materials and publication," scored 3.17, fell within "necessary" and "very necessary." The highest ranked items, that of "operating a mobile information vans" and "educating the extension staff members, the farmers and the general public in order to increase productivity" justified their inclusion of these items.

The first five highest ranked items included "operate mobile information vans", "analyze the effectiveness of Agricultural Extension and Information Services," "prepare and produce farm radio programs," "produce scripts for technical and farmers' bulletins," and "prepare and produce agricultural publicity campaign programs." These most important activities need the attention of the policy makers to give more priority to the Agricultural Information Services. These departmental activities were considered important in the opinion of the extension staff members.

TABLE 7  
OPINION OF EXTENSION PERSONNEL ON THE DEPARTMENTAL  
ACTIVITIES OF THE AGRICULTURAL INFORMATION SERVICES

Activities N = 79	Weighted Mean*	Rank Order
Operate mobile information vans	3.66	1
Analyze the effectiveness of Agricultural Extension and Information Services	3.60	2
Prepare and produce farm radio programs	3.44	3
Produce scripts for technical and farmers' bulletins	3.36	4.5
Prepare and produce agricultural publicity campaign programs	3.36	4.5
Print, develop and duplicate audio visual materials	3.29	6
Take pictures and slides	3.22	7
Prepare news articles	3.21	8
Design the layout of visual materials and publications	3.17	9

\*Weighted means calculated on a four point scale. One was "not necessary;" two, "somewhat necessary;" three, "necessary;" and four, "very necessary."

Appropriate Departments for the Agricultural  
Information Services in the Opinion of the Extension Personnel

The results of the study as given in Table 8 indicated that a publications department was required for producing scripts for technical and farmers' bulletins. The publications department was favored by 39 respondents or 52%, as the best department for production of scripts and also for preparing news articles as was indicated to be appropriate by 39 respondents or 52.7%. The publicity department was favored for two departmental activities: "operating mobile information vans" with 56 respondents or 76.7%; "preparing and producing farm radio programs" with 38 respondents was favored by 53.5% of the total.

A production department was needed in the Agricultural Information Complex, to take care of preparing and producing agricultural campaign programs. This was the opinion of 34 respondents or 45.9%; while 20 others or 27% suggested that this activity was more appropriate for the publicity department. The department of audio visual included three departmental activities: "printing, developing and duplicating audio visual materials" with 53 respondents or 72.6%; "taking pictures and slides" with 55 respondents or 75.3%; "designing the layout of visual materials and publications" with 42 respondents or 57.5%. The respondents also favored a department of research and evaluation to be established in the Agricultural Information Unit. Fifty-eight or 79.5% indicated the department was necessary.

TABLE 8

## APPROPRIATE DEPARTMENTS OF AGRICULTURAL INFORMATIONAL SERVICES IN THE OPINIONS OF THE EXTENSION PERSONNEL

Departmental Activities	Departments						Total No of Respondents
	Publication No. PCT	Publicity No. PCT	Production No. PCT	Aduio Visual No. PCT	Research and Evaluation No. PCT		
1 Operate mobile information vans	2   2.7%	56   76.7%	2   2.7%	12   16.4%	1   1.36%	N = 73	
2 Analyze the effectiveness of Agri-cultural Information and Extension Services	4   5.5%	4   5.5%	6   8.2%	1   1.36%	58   79.5%	N = 73	
3 Prepare and Produce Farm Radio Programs	6   8.45%	38   53.5%	14   19.7%	12   16.9%	1   1.4%	N = 71	
4.5 Produce scripts for technical and farmers' bulletins	39   52%	8   10.6%	6   8%	10   13.3%	12   16%	N = 75	
4.5 Prepare and produce agricultural campaign programs	9   12.16%	20   27%	34   45.91%	4   5.43%	7   9.46%	N = 74	
6 Print, develop and duplicate audio visual materials	6   8.2%	1   1.36%	9   12.3%	53   72.6%	4   5.5%	N = 73	
7. Take pictures and slides	2   2.7%	9   12.3%	4   5.5%	55   75.3%	3   4.1%	N = 73	
8 Prepare news articles	39   52.7%	26   35%	5   6.7%	1   1.4%	3   4%	N = 74	
9 Design the layout of visual materials and equipment	15   20.5%	4   5.5%	3   4.1%	42   57.5%	9   12.3%	N = 73	

Problems Associated with Agricultural  
Information Services in the Northern States of Nigeria

Extension staff members were asked to evaluate the importance of twelve potential problem areas facing the Agricultural Information Service. They rated each potential problem area in one of four categories: "not serious," "somewhat serious," "serious" or "very serious." The categories were weighted from one to four in that sequence.

Weighted mean scores were then calculated for each potential problem area and the items ranked from the most to the least in importance as given in Table 9.

Lack of adequately equipped mobile cinema vans for publicity campaigns in the rural areas were identified by the Extension staff members as the factor which had the most hindered the success of the Agricultural Information staff members in their work. This item was followed closely by "lack of reliable and sufficient number of transports," was rated higher than all the remaining items, emphasizing the seriousness of the problems. The weighted mean was 3.43 on the four point scale.

Based on the four point scale, a weighted mean of 3.0 or higher would class the problem as "serious" to "very serious." There were seven Agricultural Information Service problems that received this kind of rating. They were:

- 1 Lack of adequately equipped mobile cinema vans for publicity campaigns in the rural areas.
- 2 Lack of reliable and sufficient number of transports.
- 3.5 Delay of funding of information activities and equipments by the Finance Committee of MANR
- 3.5 Lack of adequate moral and financial support from the policy makers in the MANR.

- 5 Lack of well trained technicians to repair and service audio visual equipment.
- 6 Lack of well trained information staff members.
- 7 Lack of adequate printing and publishing facilities and equipment.

At the low end of the scale, none of the problems was rated "not serious," i.e. had a weighted mean score of 1.0 or lower, or "somewhat serious," a weighted mean score of 1.0 to 2.0. The three lowest rated items ranged from a weighted mean score of 2.42 to 2.64. These problem areas, ranked from lowest to the highest were:

- 1 Lack of adequate articles for publication in the agricultural newsletter.
- 2 Lack of adequate public address system.
- 3 Lack of darkroom facilities for printing and developing pictures of agricultural projects, fairs, field days, and farmer meetings.



TABLE 9  
 OPINION OF EXTENSION PERSONNEL ON THE PROBLEMS  
 AFFECTING AGRICULTURAL INFORMATION SERVICES N = 79

Agricultural Information Problems	Weighted Mean*	Rank Order
Lack of adequately equipped mobile cinema vans for publicity campaigns in the rural areas	3.43	1
Lack of reliable and sufficient number of transports	3.42	2
Delay of funding of information activities and equipment by the Finance Committee of the MANR*	3.26	3.5
Lack of adequate moral and financial support from the policy makers in the MANR	3.26	3.5
Lack of well trained technicians to repair and service audio visual equipment	3.23	5
Lack of well trained information staff members	3.12	6
Lack of adequate printing and publishing facilities and equipment	3.03	7
Lack of affiliated local government extension units to carry out local government extension information programs	2.88	8
Lack of accessibility to pertinent information regarding agricultural development programs	2.84	9
Lack of timely distribution of ERLS* publications through the area offices to the extension workers and the farmers	2.83	10
Lack of darkroom facilities for printing and developing pictures of agricultural projects, fairs, field days and farmer meetings	2.64	11
Lack of adequate public address systems	2.57	12
Lack of adequate articles for publication in the agricultural newsletters	2.42	13

\*Weighted means calculated on a four point scale. One was "not serious;" two, "somewhat serious;" three, "serious;" and four, "very serious."

\*MANR = Ministry of Agriculture and Natural Resources

\*ERLS = Extension Research and Liaison Services

### Analysis of Variance

The analysis of variance statistical tests were used to determine differences by rank, sex and years of experience of the respondents as given on Tables 10, 11 and 12. No significant differences were rendered between groups indicating agreements by the respondents for the functions, requirements, activities and problems associated with the Agricultural Information Service.

There were seven (7) females (members of the home economics) or 9 percent of the total respondents and seventy-two males or 91 percent of the total.

TABLE 10  
ANALYSIS OF VARIANCE FOR DIFFERENCE  
SCORES BY RANK OF RESPONDENTS N = 68

Source	Item	D.F. <sup>1</sup>	SS <sup>2</sup>	MS <sup>3</sup>	F <sup>4</sup>	F.Prob <sup>5</sup>	Level of Significance
Between Groups	Function	1	0.1464	0.1464	1.544	0.2184	NS
	Requirement	1	0.1210	0.1210	1.126	0.2925	NS
	Activity	1	0.1148	0.1148	0.663	0.4185	NS
	Problems	1	0.1759	0.1759	0.540	0.4650	NS

Key: 1 = Degrees of Freedom  
 2 = Sum of Squares  
 3 = Mean Squares  
 4 = F. Ratio  
 5 = Tail Probability  
 NS = No Significance

TABLE 11  
ANALYSIS OF VARIANCE FOR DIFFERENCE  
SCORES BY SEX OF RESPONDENTS N = 77

Source	Item	D.F. <sup>1</sup>	SS <sup>2</sup>	MS <sup>3</sup>	F <sup>4</sup>	F.Prob <sup>5</sup>	Level of Significance
Between Groups	Function	1	0.0638	0.0638	0.695	0.4071	NS
	Requirement	1	0.0128	0.0128	0.120	0.7298	NS
	Activity	1	0.4755	0.4755	2.553	0.1143	NS
	Problems	1	1.0405	1.0405	3.381	0.0699	NS

Key: 1 = Degrees of Freedom  
2 = Sum of Squares  
3 = Mean Squares  
4 = F. Ratio  
5 = Tail Probability

TABLE 12  
ANALYSIS OF VARIANCE FOR DIFFERENCE  
BY YEARS OF EXPERIENCE N = 75

Source	Items	D.F. <sup>1</sup>	SS <sup>2</sup>	MS <sup>3</sup>	F <sup>4</sup>	F.Prob <sup>5</sup>	Level of Significance
Between Groups	Function	1	0.0726	0.0726	0.795	0.5171	NS
	Requirements	1	0.0228	0.0228	0.130	0.8112	NS
	Activity	1	0.5757	0.5757	2.715	0.2125	NS
	Problems	1	1.1415	1.1415	3.581	0.3175	NS

Key: 1 = Degrees of Freedom  
2 = Sum of Squares  
3 = Mean Squares  
4 = F. Ratio  
5 = Tail Probability  
NS = No Significance

### Personal Information

Of the 69 respondents who indicated their rank as the blank spaces provided in the questionnaire:

- 25 were higher Agricultural/Livestock Superintendents
- 18 were Agricultural/Livestock Superintendents
- 10 were senior Agricultural/Livestock Superintendents
- 7 were Agricultural Assistants
- 3 were Agricultural Officers
- 3 were Principal Agricultural Superintendents
- 1 was Chief Agricultural Superintendent
- 2 were Principal Agricultural Officers

Ninety percent of those who filled in their rank were Agricultural Superintendents and above. This suggests that the functions, requirements, activities and problems of Agricultural Information Services in the Northern States are region-wide and involve all the ten states in the Northern Region of Nigeria.

The age of the respondents in terms of years of experience in the Extension Service ranged from 1 - 21 years, with specified experiences as follows:

- 1 - 4 years - 9.9%
- 5 - 10 years - 30.9%
- 11 - 15 years - 45%
- 16 - 20 years - 12.7%
- 21 years - 1.4%

The average year of experience is 11.4. The respondents considered the functions, requirements, activities and problems of the Agricultural Information Services to be important.

### Summary of Results

As the result of the findings of this study, a summary indicated the following:

Seventy-nine questionnaires out of ninety were returned. The respondents were extension workers and home agents from the Northern States of Nigeria, but who are currently attending colleges at Kansas State University and Fort Hays State University.

There were high ratings given to a majority of functions of Agricultural Information Services as follows: "to make useful agricultural information available to the farmer and those engaged in agricultural business," (3.88); "to use suitable audio and/or visual aids to impart technical information and skills to the extension workers and the farmers," (3.75); "to utilize the results of Research to prepare materials for the Agricultural Extension Services," (3.73); "to educate the public on the importance of agriculture as a worthy occupation," (3.69); "to employ effective public relations principle to create and retain the confidence of the farmers to ensure their acceptance and adoption of innovations" (3.66).

There were no significant differences of opinion of the extension staff members as to the problems associated with the Agricultural Information Services. The most serious confronting the Agricultural Information Services was "lack of adequately equipped mobile information vans for publicity campaigns in the rural area," (3.43) which had the highest score from the extension staff members.

Three hypotheses which were stated in the null form and which served as the basis for analyzing the results of the study were retained. These hypotheses were:

- (1) There are no significant differences in the opinion of the extension staff members by rank as to the importance of the func-

tions, requirements, activities and problems of Agricultural Information Services.

- (2) There are no significant differences in the opinion of the extension staff members by sex, as to the importance of the functions, requirements, activities, and the problems of Agricultural Information Services.
- (3) There are no significant differences in the opinion of the extension staff members by years of experiences, as to the importance of the functions, requirements, activities, and problems of Agricultural Information Service.

There was a general consensus in the opinion of the extension staff members as to the importance of the functions, requirements, activities, and problems of Agricultural Information Services in the Northern States of Nigeria. Most of the extension staff members at Kansas State University and Fort Hays State University (91 percent) were senior officers in the Extension Services. The results of the study also indicated that most of the officers are males (72 or 91 percent), and most of them have between 5 and 15 years of extension experiences.

## CHAPTER 5

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to determine the role and problems of the Agricultural Information Services in the Northern States of Nigeria. Seventy-nine Extension staff members in the Northern States of Nigeria responded to the questionnaire which included four areas. The purposes of the study included the following:

1. To determine the importance of the various functions of the Agricultural Information Services in the Northern States of Nigeria.
2. To determine the requirements for the Agricultural Information Services.
3. To determine the organization by departments that the Agricultural Information Services should contain.
4. To determine the seriousness of the problems associated with the Agricultural Information Services in the Northern States of Nigeria.

Seventy-nine questionnaires out of ninety were returned by the respondents who were Extension staff members from the Northern States of Nigeria, but now going to colleges at Kansas State University and Fort Hays State University.

Three Hypotheses which were stated in the null form served as the basis for analyzing the results of the study. The three hypotheses were: (1) "There are no significant differences in the opinion of extension staff members by rank, as to the importance of the functions, requirements, activities, and problems of Agricultural Information Services;" (2) "there are no significant differences in the opinion of the extension staff members by sex, as to the functions, requirements, activities, and problems of Agri-

cultural Information Services;" (3) "there are no significant differences in the opinion of extension staff members by years of experience, as to the functions, requirements, activities, and problems of the Agricultural Information Services."

### Conclusion

As the result of the finding of this study on the role and problems of Agricultural Information Services in the Northern States of Nigeria, the following conclusions were made:

- (1) The respondents considered the functions, requirements, activities and problems of the Agricultural Information Services to be important.
- (2) There was high agreement by the respondents for the function of the Agricultural Information Services by their rank, sex, and years of experience.
- (3) From the findings of the study, the researcher concluded that:
  - (a) the effective utilization of the Agricultural Information Service would have beneficial effects on the agricultural development of Nigeria;
  - (b) for agricultural development to occur and succeed in Nigeria, Research, Training and Extension Services must coordinate their activities and work with each other.
- (4) Most of the respondents were senior officers in the Agricultural Extension Services.
- (5) Most of the officers (91%) are men and most have between 5 and 15 years or more of extension experience.

### Recommendation

The following recommendations were made by the research as a result of the findings of this study.



1. The findings of this study should be distributed to the Ministries of Agriculture and the Agricultural Schools in each of the Northern States of Nigeria. A copy should be sent to the Agricultural Extension and Research Liaison Services.
2. The findings of this study should be used by the extension staff members for developing a curriculum for Agricultural Information Services.
3. That existing and current information from Research Institutes be made available for the use of the Extension Services.
4. That the field extension staff be kept constantly up to date in the latest development in the farming technology.
5. That Agricultural Information Service use its modern communications techniques to support Extension Services and thereby increase adoption of innovation by farmers.
6. That teaching aids be produced for the use of the Extension Service in both formal and in-service training.
7. That all important projects and programs be documented by the Agricultural Information Services for the purposes of continuity.
8. That a channel for efficient feedback from the farmers to Research be established.
9. That the Agricultural Information Services be directly involved in extension work.

The following recommendations for additional research is advanced by the author as a result of this study.

1. A study should be made to determine the impact that Research publications have on the attitude and understandings of the extension workers and the farmers.
2. A study should be made to determine the significant impact of

evaluation of extension activities.

3. A study be made to determine the level of understanding of farmers in reading visual materials provided by Extension Research and Liaison Services.
4. A study should be made to identify the motivation of farmers in accepting and adopting modern farming practices.

## BIBLIOGRAPHY

## BIBLIOGRAPHY

1. Copp, J. H. Personal and Social Factors Associated with Adoption of Recommended Farm Practices Among Cattlemen. Manhattan: Kansas Agricultural Experiment Station Bulletin 83, (September, 1956).
2. Copp, J. H., Sill, M. L., and Brown, E. J., "The Functions of Information Sources in the Farm Practice Adoption Process," Rural Sociology, 23, (June, 1958), pp. 150-51.
3. Dean A. Aurbach, H. A. and Marsh C. P. "Some Factors Related to Rationality in Decision Making Among Farm Operators," Rural Sociology (June 1958), pp. 121-35.
4. F. A-O: Agricultural Development in Nigeria, 1965-80 Rome, 1966.
5. Kelsey, L. D., and C. C. Hearne. Cooperative Extension Work. Cornell University Press, Ithaca, New York 3rd Edition, 1963.
6. Lionberger, H. F. Adoption of New Ideas and Practices. Iowa State University Press, 1960.
7. Lionberger, H. F., "Characteristics and Role of Local Influentials in the Diffusion Process, Ozark and Prairie," paper read at the Seminar of the Foundation for Research on Human Behavior on "Adoption of New Products: The Influence of Individuals and Groups," (November and December, 1958).
8. Macorvey, James S. Agricultural Extension Organization in Kano State of Nigeria, March, 1970.
9. Macorvey, J. S. Organizational Structure of a Ministry Agriculture in the Northern State of Nigeria. July, 1970.
10. Ogunfowora, O. "Agricultural Extension Services and Improved Farming Practices in Western State of Nigeria." The Quarterly Review of the Institute of Administration, University of Ife. Vol. III, No. 1 (October 1968), pp. 24-33.
11. Okereke, H. Agricultural Information - Its Role in Agricultural Development. A paper read at Seminar on Agricultural Information. Enugu: East Central State Government Printing Press, 1972.
12. Ralph, E. Utermochlen. Group Methods and Techniques. "Some Additional Methods, Techniques and Devices in Group Education" (Manhattan: October 1976), p.18.
13. Robert P. Cort. Effective Communication on the Job. "How to Get an Idea Across," New York, 1956.
14. Ryan, B. and Gross, N. Acceptance and Diffusion of Hybrid Seed Corn in Two Iowa Communities. Ames: Iowa Agricultural Experiment Station Research Bulletin 372 (January, 1958).

15. Ryan, B. and Gross, N. "The Diffusion of Hybrid Corn in Two Iowa Communities." Rural Sociology (March 1943), pp. 15-24.
  16. Subcommittee for Study of the Diffusion of Farm Practices, North Central Rural Sociological Committee. How Farm People Accept New Ideas. North Central Regional Publication No. 1 Ames: Iowa Agricultural Extension Service (November 1955).
  17. Vardaman, T. G. Effective Communication of Ideas. "Hitting the Target" (New York: Van Nostrand Reinhold Company, 1970), pp. 90-95.
  18. Warren, L. Prawl. Kansas' Right to Know - 108 Years of Extension Education. Cooperative Extension Service Kansas State University. (Manhattan: Cooperative Extension Service, October 1966).
  19. W. D. Norman. Initiating Change in Traditional Agriculture. Complexity of Agricultural Development (Zaria: Ahmadu Bello University Press, 1972), p.7.
  20. Wilkening, E. A. Acceptance of Improved Farm Practices on Three Coastal Plain Counties. Raleigh: North Carolina Agricultural Experiment Station Technical Bulletin 98 (March 1952).
  21. Wilkening, E. A. Adoption of Improved Farm Practices as Related to Family Factors. Madison: Wisconsin Agricultural Experiment Station Research Bulletin 183 (December 1953).
- 14 - 15 - 2

## APPENDIX

## QUESTIONNAIRE COVER LETTER

Ibrahim U. Hadejia  
1700 N. Manhattan  
Apt. 4 Royal Towers  
Manhattan, KS 66506

January 19, 1981

Dear Mr/Mrs:

This is to inform you that I am currently working on my Master's Thesis at Kansas State University. The primary purpose of this questionnaire is to give you the opportunity to express your opinion on the functions, requirements, type of departments and problems of Agricultural Information Services in the ministries of agriculture in the Northern States of Nigeria as they affect your duties as extension and/or home agents.

Towards this objective, I have decided to use some of you employed or who have served in the extension services of the Northern States of Nigeria and currently studying in the U.S. Universities and Agricultural Colleges as the subjects of my study. Approximately ninety (90) extension workers and home agents, including you, have been sent the questionnaire for completion and return preferably on/or before February 28, 1981.

On the basis of your answers and those of others, it is hoped that a better understanding of the roles and problems of agricultural information in agricultural development in the Northern States of Nigeria will be determined.

I must assure you that your responses will be treated in strict confidentiality, since they will only be used in mass data in writing out my thesis. Thus, no information in this way could be identifiable with any one respondent.

For any question you might have, please telephone (collect call) at this number: 913-776-0392.

Yours sincerely,

Enclosure

Ibrahim U. Hadejia

Ibrahim U. Hadejia  
1700 N. Manhattan  
Apt. 4 Royal Towers  
Manhattan, KS 66502

February 2, 1981

Dear Mr/Mrs:

Recently you received a questionnaire asking for your opinions of the role and problems of Agricultural Information Service in the Northern States of Nigeria. Your responses are extremely important. The results of the study will help to establish criteria for the planning and development of needed personnel and material resources for effective and efficient utilization of Agricultural Information Services. Enclosed is a second questionnaire form in case the first has been misplaced.

Please complete the questionnaire prior to Friday, February 9 and return it in the enclosed, self-addressed stamped envelope. Any comments concerning the questionnaire or aspects of the study are welcomed. If desire, I would be pleased to send you a summary of the study upon completion.

Thank your for your cooperation.

Yours sincerely,

Ibrahim U. Hadejia



The Role and Problems of Agricultural Information  
in Agricultural Development in the Northern  
States of Nigeria

QUESTIONNAIRE

PART A      FUNCTION OF AGRICULTURAL INFORMATION SERVICES

In order to serve the farmers and the general public in agriculture the Agricultural Information Service must perform certain functions. Please respond to the following statements by placing a check (✓) in the most appropriate column indicating your agreement or disagreement with the importance of each statement as follows:

SA    =   Strongly Agree  
A     =   Agree  
D     =   Disagree  
SD    =   Strongly Disagree

STATEMENT OF FUNCTIONS	Level of Response			
	SA	A	D	SD
The Agricultural Information Service should:				
1. Make useful agricultural information available to the farmers and those engaged in agric. business	—	—	—	—
2. Employ effective public relations principles to create and retain the confidence of the farmers, to ensure their acceptance and adoption of innovations	—	—	—	—
3. Use suitable audio and/or visual aids to impart technical information and skills to the extension workers and the farmers.	—	—	—	—
4. Organize workshops for staff-members with the active participation and supervision of ERLS staff from Samaru (ERLS = Extension Research and Liaison Services)	—	—	—	—

	SA	A	D	SD
5. Organize and conduct In-Service training meetings for Extension workers at both State and Local Government levels.	—	—	—	—
6. Utilize the results of research to prepare materials for the Agricultural Extension Service.	—	—	—	—
7. Educate the public on the importance of agriculture as a worthy occupation.	—	—	—	—
8. Conduct evaluation studies to assess the effectiveness of extension methods and programs.	—	—	—	—
9. Communicate the results of research findings to extension workers.	—	—	—	—
10. Collect, document, interpret and adapt all available agricultural knowledge for the use of the Extension Service.	—	—	—	—
11. Write scripts and produce various publications used in extension work.	—	—	—	—
12. Produce audio-visual materials such as pictures, charts, posters, transparencies, display boards etc. used for effective extension teaching.	—	—	—	—
13. Train the extension staff on the use of modern communication aids for effective farmer education.	—	—	—	—

## PART B

## REQUIREMENTS

To perform its functions properly, the Agricultural Information Service must satisfy the requirements listed below. Please respond to each requirement by placing a check (✓) in the most appropriate column, as follows:

- SA = Strongly Agree  
 A = Agree  
 D = Disagree  
 SD = Strongly Disagree

STATEMENT OF REQUIREMENTS	Level of Response			
	SA	A	D	SD
The Agricultural Information Service should:				
a. Understand the farmers' attitudes, knowledge level, problems and living conditions.	—	—	—	—
b. Have on its staff, adequate number of agricultural professionals as well as experts in communication skills.	—	—	—	—
c. Have facilities and equipment capable of quickly producing materials for the audience.	—	—	—	—
d. Be centrally located in the organizational structure of the MANR*	—	—	—	—
e. Have a means of getting farmer feedback for constant reappraisal of methods.	—	—	—	—
f. Depend on state Ministries of Information for assistance and mass media outlets.	—	—	—	—
g. Be provided with fully equipped transportation for farm tours and other agricultural publicity campaigns.	—	—	—	—
h. Be centralized and directly responsible to the Permanent Secretary of MANR for efficient and effective service to the farmers and the state	—	—	—	—

\*MANR = Ministry of Agriculture and Natural Resources

	SA	A	D	SD
i. Have close working relationship with agricultural Research Institutes for better coordination of research recommendations to the farmers and agro-allied industries.	—	—	—	—
j. Have key staff who have adequate training in modern communication principles.	—	—	—	—
k. Have trained and well qualified staff members to carry out their duties and responsibilities efficiently and effectively.	—	—	—	—





# PART D PROBLEMS ASSOCIATED WITH AGRICULTURAL INFORMATION SERVICES

Listed below are some of the problems of Agricultural Information Services. Please indicate the seriousness of each problems listed by placing a check (✓) in the most appropriate column as follows:

VS = Very Serious  
S = Serious  
SS = Somewhat Serious  
NS = Not Serious

PROBLEM STATEMENT	Seriousness of the Problem			
	VS	S	SS	NS
1. Lack of adequate moral and financial support from the policy makers in the MANR*	—	—	—	—
2. Lack of reliable and sufficient number of transports.	—	—	—	—
3. Lack of adequately equipped mobile cinema vans for publicity campaigns in the rural areas.	—	—	—	—
4. Lack of well-trained information staff members.	—	—	—	—
5. Lack of well-trained technicians to repair and service audio-visual equipment.	—	—	—	—
6. Delay of funding of information activities and equipment by the Finance Committee of the MANR.	—	—	—	—
7. Lack of accessibility to pertinent information regarding agricultural development programs	—	—	—	—
8. Lack of adequate printing and publishing facilities and equipment.	—	—	—	—

\*MANR = Ministry of Agriculture and Natural Resources

	VS	S	SS	NS
9. Lack of darkroom facilities for printing and developing pictures of agricultural projects, fairs, field days and farmer meetings.	—	—	—	—
10. Lack of adequate public address systems.	—	—	—	—
11. Lack of affiliated local government extension units to carry out local government extension information programs.	—	—	—	—
12. Lack of adequate articles for publication in the agricultural Newsletters.	—	—	—	—
13. Lack of timely distribution of ERLS publications through the area officers to the extension workers and the farmers.	—	—	—	—



Other Comments

A. PERSONAL INFORMATION

- (1) Your age \_\_\_\_\_ years;      (2) Sex \_\_\_\_\_
- (3) Years of experience in Extension Service \_\_\_\_\_ years;
- (4) Your rank during the Service period \_\_\_\_\_

B. What are your comments if any about the validity (relevance) or otherwise of these questionnaires?

---

---

---

---

A STUDY OF THE ROLE AND PROBLEMS OF THE AGRICULTURAL  
INFORMATION SERVICES IN THE NORTHERN STATES OF NIGERIA

by

IBRAHIM USMAN HADEJIA

B.S., Fort Hays State University, 1980

---

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Agricultural Education  
College of Education

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

1981

The purpose of this study was to investigate the role and problems of the Agricultural Information Services of the Extension Services in the Northern States of Nigeria. The primary aims were to determine the importance of forty-six functions, requirements, departmental activities, and problems in the order of priority, and to determine which needed attention. The respondents for the study were limited to seventy-nine persons previously employed by various state ministries of agriculture in the Northern States of Nigeria but presently going to colleges at Kansas State University and Fort Hays State University.

A nine-page questionnaire was used to collect the data in the study. The questionnaire contained the forty-six items relevant to the functions, requirements, departmental activities, and problems of the Agricultural Information Services. These items included: 13 functions; 11 requirements; 9 departmental activities; and 13 problems associated with the Agricultural Information Services.

A Lickert rating format ranging from "strongly agree," "agree," "disagree," and "strongly disagree" was used for functions and requirements; "very necessary," "necessary," "somewhat necessary," and "not necessary" was used for activities; and "very serious," "serious," "somewhat serious," and "not serious" was used for problems in determining the rating for each item. A "strongly agree" response was given a value of four points, "agree," three; "disagree," two; and "strongly disagree" was given a value of one point. Similarly, the "very necessary" response was given a value of four points, "necessary," three; "somewhat necessary," two; and "not necessary" was given a value of one point. Finally, a "very serious" response was scored four points, "serious," three; "somewhat serious," two; and "not serious" was given a value of one point.

Three hypotheses stated in the null form served as the basis for analyzing the results of the study:

- (1) There are no significant differences in the opinion of extension staff members by rank as to the importance of the functions, requirements, activities and problems of Agricultural Information Services.
- (2) There are no significant differences in the opinion of the extension staff members by sex as to the functions, requirements, activities and problems of the Agricultural Information Services.
- (3) There are no significant differences in the opinions of the extension staff members by years of extension experience as to the functions, requirements, activities and problems of the Agricultural Information Services.

A repeated measures of analysis of variance and t-test were used as statistical treatments to determine if any significant differences existed in the opinions of the extension staff members. There were no significant differences found at the .05 level in the opinion of extension staff members as indicated by hypothesis number one, two, and three. This indicated a general consensus on the importance of the functions, requirements, activities, and problems of the Agricultural Information Services.

The researcher made the following recommendations as a result of the findings of this study: (1) that existing and current information from Research Institutes be made available for the use of the Extension Services; (2) that the field extension staff members be kept constantly up to date in the latest development in farming technology; (3) that the Agricultural Information Service use its modern communication techniques

to support the Extension Service and thereby increase adoption of innovations by farmers; (4) that a channel for efficient feedback from the farmers to Research Institutes be established; (5) that adequate, reliable, and fully equipped transportation be made available to the Agricultural Information Services for farm tours and other agricultural publicity campaigns.