PERCEPTIONS OF AGRICULTURAL EXTENSION STAFF AND IRISH POTATO PRODUCERS CONCERNING TRAINING NEEDS AND MUTUAL WORKING RELATIONSHIPS IN THE MWAGHAVUL CHIEFDOM OF PLATEAU STATE, NIGERIA

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In most cases, successful people have always depended upon each other for their successes. The success of this work will prove the above statement correct.

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INTRODUCTION

God created man in his image, spirit, and soul, and body. The body needs food in order to function and serve as a good dwelling place for the spirit to sustain the soul. The root of most, if not all, kinds of food is based on agriculture. Thus agriculture should be given priority among most, if not all, other areas of economic development.

Before other inventions and modern developments take place, there need to be agricultural improvements. Therefore, if Nigeria is to develop in the right sense, there is a need to improve and diversify the agriculture sector of the economy. This could be widely achieved in an atmosphere where mutual understanding and positive working relationships exist between the rest of the food producers.

In the past, it was often generally mistaken that the neglect of food production in Nigeria was occasioned by the oil boom. This is a wrong assumption. It is wrong because even before the era of the oil boom, budgetary allocations to food production within the agricultural sector were comparatively low.

There is great need for more attention to be placed on agriculture in terms of, not just financing and mere human

labor, but mutual working relationships between the agricultural sector and other sectors of the economy in general. In particular, human working relationships are needed within the managerial hierarchy of the agricultural sector.

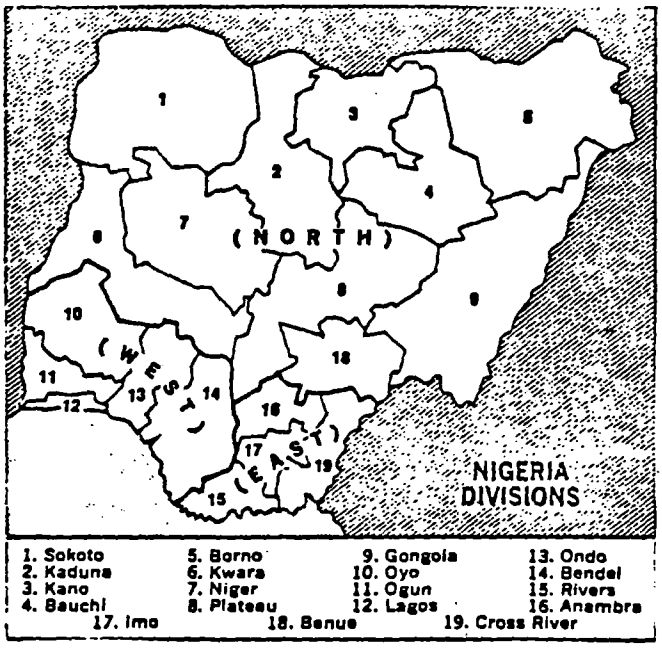
Location and History of Mwaghavul People and Plateau State

Compared to some other ethnic groups in Nigeria, like the Hausa, Ibo, Yoruba, and the Fulani people, the Mwaghavuls are a smaller group of people found on the high land areas of Plateau State Nigeria. Jos is the capital city of Plateau State, and the Mwaghavul people, numbering approximately one-quarter million, live east of Jos in Mangu Local Government.

Mwaghavul land is divided into Kerang, Mangun, Mangu, Kombum, Ampang West, Panyam, and Pushit Districts. Each district observes some kind of seasonal traditional festival, mostly either immediately after the rainy season or before it.

There are only two seasons in a year. The dry season lasts between October 1st or September 28 until June 2nd or May 30th.

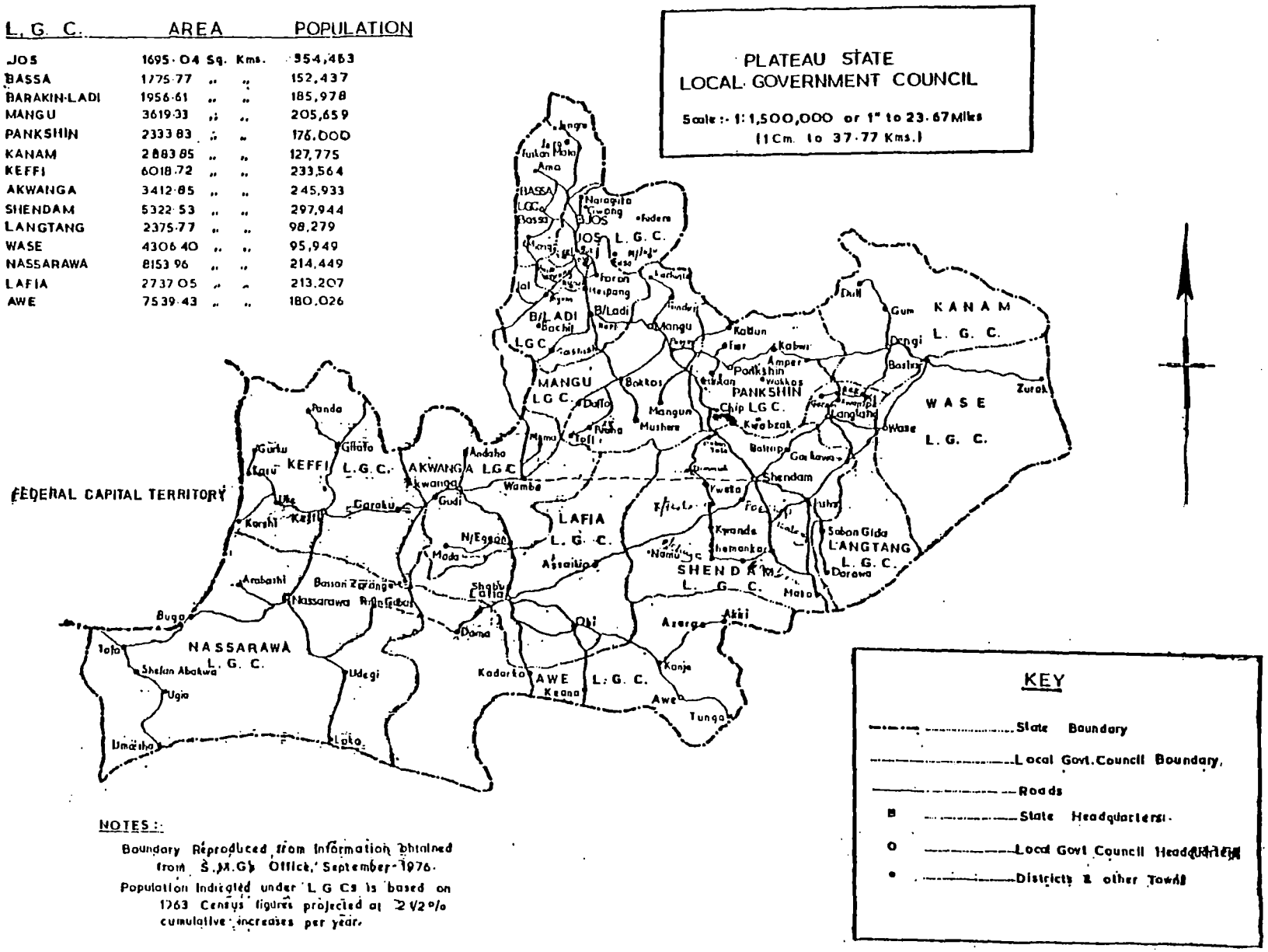
The wet season is mostly late June or July until September. As pointed out earlier, the Mwaghavul people live in Mangu local government areas of Plateau State. This signifies that Plateau State is divided into more Local Government Council's. Others apart from Mongu are: Lafia,



Source: Collier's Encyclopedia, Vol. 17 Macmillan Cooperation New York, 1976 p. 539.

Figure 1. Map of Nigeria

L. G. C.	AREA	POPULATION
JOS	1695·04 Sq. Kms.	354,463
BASSA	1775·77 „ „	152,437
BARAKIN-LADI	1956·61 „ „	185,978
MANGU	3619·33 „ „	205,659
PANKSHIN	2333·83 „ „	176,000
KANAM	2883·85 „ „	127,775
KEFFI	6018·72 „ „	233,564
AKWANGA	3412·85 „ „	245,933
SHENDAM	5322·53 „ „	297,944
LANGTANG	2375·77 „ „	98,279
WASE	4306·40 „ „	95,949
NASSARAWA	8153·96 „ „	214,449
LAFIA	2737·05 „ „	213,207
AWE	7539·43 „ „	180,026



NOTES :-

Boundary Reproduced from information obtained from S.M.G's Office, September 1976.

Population indicated under L G Cs is based on 1963 Census figures projected at 2½% cumulative increases per year.

Source: Plateau State Govert. Annual Publication, 1982

Figure 2. Map of Plateau State of Nigeria

Akwanga, Lantang, Pankshin, Kanam, Wase, and Jos, as shown in figure 1 and figure 2.

Agriculture plays a major role in the socio-economic development of Nigeria as a nation. Since time immemorial, it has been the major support of industrial development of other nations, such as European nations. According to Ndifon, the main problem is that the previous governments of Nigeria failed to invest sufficient funds in the agricultural sector of the economy. As a result, the farmers have not been able to produce enough food to feed the population of the country. One other problem has been lack of cordial working relationship between the farmers and the Extension staff. There is therefore, a desperate need for a reorganization of the agricultural sector by the Plateau State government of Nigeria in such a way as to make the improved farming techniques be fully utilized by the farmers in general, and Irish potato producers in particular.

The Agricultural Extension staff need more adequate training in the field of production, marketing, and storage as well as processing, so as to be in a better position to educate the public. Such areas as prevention of food wastages and preservation of food would be of tremendous help to Irish potato producers in the future.

Another point of observation is the wide communication gap between the farmers and Agriculture Extension staff as well as between the farmers and the Ministry of Agriculture. There is need to get this amended in order to create an

atmosphere of mutual working relationships. Part of the problem is lack of adequate training relationships and adequate training for Agricultural Extension staff, which often results in lack of coordination of the activities of the agricultural programs, causing a loss by the Irish potato producers. Such losses result quite often in a shortage of seedlings needed during planting seasons, both in the rainy-season farms and the dry-season gardens. The other side of the problem is the need to educate farmers regarding methods of improved farming in some specific areas as pointed out in this study.

The main purpose of this study was to determine the perceptions of Irish potato producers and Agricultural Extension staff, regarding their training needs and changes needed to improve mutual working relationships.

Objectives of the Study

The following are the objectives of the study:

1. To determine selected demographic data of the respondents
2. To determine the frequency of contacts between Irish potato producers and Agricultural Extension staff
3. To determine perceptions of Agricultural Extension staff regarding the need for further training on the job
4. To determine the perceptions of the Irish potato producers concerning the need for training sessions

5. To assess the Irish potato producers' perceptions of the nature and extent of benefits from Agricultural Extension programs
6. To find out how often Agricultural Extension staff make field visits to farms

Scope and Limitations of the Study

The following limitations apply to the study:

1. Many of the approaches in this study are based on those used in an earlier study conducted by Moses Ndifon in Cross River State of Nigeria among cocoa farmers.
2. The Mwaghavul Chiefdom was the only area studied in the whole of Mongu local government area of Plateau State Nigeria.
3. The sample was limited to Irish potato producers and Agricultural Extension staff in Kombum, Pamyam, Pushit, Ampang West, Kerang, Mangun, and Mongu Districts.
4. The Irish potato producers surveyed were only those early to market on market day and those in church on Sunday.
5. The questionnaires used in collecting data were sent through friends and relatives who distributed, collected, and mailed them back to the author.
6. In cases where necessary, the questionnaires were either read aloud to the respondents (Irish potato

farmers) or were interpreted to them in the Mwaghavul language for responses.

7. The study material was developed thousands of miles from the area of study without aid of current information from the area.
8. The information from the potato producers was limited due to the low response from the farmers.

The following are terms and words employed throughout the study.

1. Mallamin Gona - A Hausa language term associated with Agricultural Extension staff, singular.
2. Mallamai Gona - The plural of Mallamin Gona.
3. L.G.C. - An abbreviation of Local Government Council area. This is similar to the county in the United States.
4. Potato - Plant with starchy tubers that are used as food.
5. Dan Kasuwa - The professional traders.
6. Toshia - Some kind of offers by farmers to influence the Extension agents to act in their favor.
7. Agricultural Extension - An out-of-school system in agriculture to bring the farmers and the technical information together to enable them to increase farm income.
8. Irish Potato Producer - Refers to the farmers who produce potatoes for local consumption and for sale.

9. Irish Potato Plant Protection - These are the various ways practiced by farmers to protect potatoes in the field from winds, worms, and rats.
10. Agricultural Extension Staff - Specialists in agriculture at village, clan, divisional, and federal levels trained by Ministry of Agriculture or personal effort and employed by the Ministry of Agriculture, to work with farmers as advisors and communicate farmers' needs and problems to the government.
11. Plateau - The name of the state where the area chosen for this study is located. Area of level high ground.
12. Irish Potato - Refers to potato: An English phrase describing potato and its origin from Ireland.

CHAPTER II

REVIEW OF LITERATURE

Background of the Problem

In outlining the procedure of this study, it was proposed that a review of literature be done related to the problems of production aspects of agricultural products like rice, corn, millet, yams, and potatoes in Nigeria. A review of literature related to the "role of agricultural development," in general, was also considered as well as "Nigeria's economic past and agricultural development."

The distance between Oklahoma State University and the Mwaghavul Chiefdom in Plateau State of Nigeria was too far to collect current related literature on agriculture from the Plateau State. Time constraints and the postal service were the key obstacles, since it would take months to receive the information.

Role of Agriculture in Development

In Nigeria, it is generally known that the majority of the people live in small villages, mostly on family farms. The livelihood of these people could only improve through development of agricultural techniques and through community development programs. This is a result of the fact that

these people are not willing to leave their inherited land areas to move into towns and cities.

> In most developing countries in Africa, including Nigeria, agriculture needs to be developed in order to provide sufficient food necessary for the people.
>
> For faster and true economic development, governments of these developing countries should allocate a substantial portion of their budgetary amounts annually to the agricultural sectors of the economy of their countries.
>
> The young generation in the developing countries should be taught the practical aspects of agriculture; for example, in how to plant crops, cultivate land either by manual hand labor or using machines, application of fertilizer, harvesting and storing products, selling products, how to castrate animals, feed them, and keep them. Such learned skills would go a long way towards making the young people self-reliant and competent in meeting their day-to-day challenges. Furthermore, governments of developing countries should set up agricultural experiment stations, to improve on livestock species and plants, through cross breeding and crossing plants by grafting and pollination (4, p. 29).

In Plateau State Nigeria and Mwaghavul Chiefdom, in particular, land is owned by families. Some land is being used effectively for agriculture but there is some land still not being cultivated. The government should provide machines to farmers. This would encourage participation in land cultivation for more food production.

> The truth is that without a sound and modern agriculture sector, all efforts geared towards industrialization are bound to be futile (4, p. 29).

Nigeria's Economic Past and Agriculture Development

At independence, about 70 percent of Nigeria's gross domestic product was attributed to agriculture and the vast majority of the population was engaged in agricultural pursuits. Agricultural commodities accounted for close to 90 percent of the export values.

> By 1980, however, these proportions have been altered by other economic sectors. Agriculture supplied most of the country's goods and 70 to 75 percent of the Nigerian population depended on it for their livelihood (1, p. 18).

> The agricultural sector consists predominantly of small holders by farm families, estimated to number about five to six million, who in the 1970's produced 90 percent or more of the country's agricultural output. Farming methods followed traditional methods or practices and productivity was low, given the country's potential. Fertilizers and pesticides were introduced in some areas that had Agricultural Extension services. By 1981, not many people had adopted the use of pesticides and fertilizers. During the 1970's, the government had moved to establish large sectors of farms about 4,000 hectares in each of the 19 states. These were mechanical farms aiming at increasing agricultural productivity. But the successes were too little (14, p. 38).

> The average area cultivated by a small holder of farm ranged from less than half a hectare to over two hectares. The size depended largely on the amount of land that could be cleared and farmed by a family and the crop grown. Population pressures played some part, tending to restrict available land.

> During the 1970's agricultural average output grew at an annual average rate of not more than one percent. Many young people migrated to urban centers to enjoy attractive living. The results were low prices as a result of inadequate credit, therefore production declined amidst increasing populations. This caused Nigeria to stop exporting cocoa, palm

oil, and ground nuts in large quantities as before (17, p. 68).

Food and agricultural are inseparable. The two go together and will continue to do so, so long as human life exists on this planet (earth).

Findings from such research as the World Food Budget and World Food situation indicate that about two-thirds of the world population are nutritionally deficient (West, p. 60). The diet-deficient areas include all of the Asian countries. Japan, Israel, and the southern tip of Africa are not diet-deficient. South and Central America, as well as other parts of Africa are deficient 150 to 200 calories of the minimum standard of 2,400 calories. The daily consumption of protein is about one-third short of the required daily level (15).

It is worthy to note that the population growth in the countries lacking sufficient food plays a great role in lowering the per capita consumption of the people.

> The annual per capita increase has been just about .003 percent while food consumption has been increasing at a rate of approximately 0.15 percent per capita (15, p. 13).

The shortage of food has brought a lot of suffering on most nations called the under-developed countries. The hardship has led to some kind of awareness or desperate search for improved agriculture. Some little success is noticed in some of the developing countries in the field of agriculture by means of mechanized farming.

Food has always been a prime necessity for man since he was created. People have for thousands of years gone hungry and even today more than half of the world's population is underfed (10).

It is contended that the Americans have long been the best fed people in history; to this freedom the American farmers have to do their work diligently, and hopefully will provide the citizens with an abundance of food. Oklahoma, one of the leading wheat states, has a total of some 84,000 farms, with an average size of 450 acres. Her other major farm products include cattle, cotton, soy beans, pecans, sorghum, grains, barley, corn, and oats (15).

Agriculture is considered to be the largest and most basic of all jobs. Occupations and careers have something to do with this industry offering various opportunities to thousands of young men and women (8). Agriculture involves more than just growing food and other farm commodities. It includes the professions of agricultural science and research, manufacturing industry, agricultural business, and agricultural education communications (15, p. 14). There is great necessity to revolutionize agriculture through developing new skills, techniques and methods. These could be achieved by means of new equipment that would further simplify farm cultivation. Many people in the past have run away from farms as a result of the hard main labor involved.

Some reasons have been suggested why farmers have moved away from the farm in the last 300 years as follows:

1. The cost-price squeeze of farm expenses. Wages in farm occupations have risen above productivity.
2. Fluctuations of income and labor scarcity.
3. Those not "cut out" to be farmers drift away in the face of problems or because they are not good at the work or do not like it.
4. Inadequate quantity and quality of farm land to support the standard of living today.
5. Enticement from "City Life" and more stable income level, as well as undesirable risk created by weather on crops or disaster of pests and diseases among crops and livestock, drive the farmers off the farms.
6. Urban sprawl, resulting in increased price of land, leads some farmers to sell out their land and move to the city.
7. Aging farmers without heirs or with heirs not interested in farming sell their land (22).

It was concluded that farmers drifting away from the farms had been due to "automation, mechanization, and agricultural research" that have made it possible for fewer farmers to feed the population (3, p. 111).

Potato farmers in the Mwaghavul Chiefdom of Plateau State still endure the above conditions and continue farming. A number of reasons have been responsible. First, the Irish potato is one of the main cash crops produced and sold in bulk by Mwaghavul people for income to enable them to pay

their annual taxes, settle their children's school fees and clothe their families. Secondly, a number of these farmers were born and bred on the farms. As a result they have come to have a natural interest in farming, probably and partly due to parental influences or even friends. Thirdly, the potato is one of the crops that gives a high yield on the type of soil where the people live. Therefore, they feed on it and help each other with it as no other crops are easily available.

The Relationship Between Agricultural Extension Agents and Farmers

The single most important thing required to achieve set goals is a good relationship. Likewise, to solve problems no matter how complicated, a cordial relationship is necessary.

The same thing applies to agricultural goals. This relationship required in the field of agriculture should exist between Agricultural Extension staff and farmers.

Agriculture Extension is confronted with the task of assisting local farmers to improve their farms, farming practices, and production, which in turn increases gross farm income (9, p. 9). Better programs are developed when Extension personnel work in conjunction with local people because their needs and interests are considered in the program development (17).

> The training, experience and personality of an Extension worker have definite effects on the success of Extension programs. The training program should be designed to prepare the

> Extension worker to be a community organizer, adult educator and a student of human behavior in general (11, pp. 21-22).

Extension workers need training in the following areas:

1. Technical subject matter area in agriculture and home economics.
2. Organization, administration and operation of the Extension program.
3. The process of human development.
4. The program planning development, execution, and evaluation of the program effectiveness.
5. The teaching and learning process.
6. The community social system.
7. Communication methods.
8. The design of practical programs that meet the needs of the local clientele (9, p. 22).

The following should be part of the training for local leaders and/or other informal leaders in Extension work. the needs are as follows:

1. Leaders should be able to organize local groups.
2. Leaders should assist in spreading the influence of Extension workers by informing neighbors and friends.
3. The leaders should be able to furnish technical knowledge and information to their clientele.
4. Leaders should organize self-help projects to improve social and economic conditions.

5. Leaders should encourage people to join special groups and participate in local projects.
6. They should encourage clientele to attend meetings, trips, and demonstrations.
7. Leaders should assist in selecting project leaders and resource personnel.
8. They should be able to engage in teaching - learning process.
9. Leaders should encourage friends and neighbors to adopt improved practices.
10. Leaders should inform the Extension worker of progress being made (20).

How Agricultural Research Extension And Education Function

For real progress and productive development, Agricultural Research, Extension and Education should function together. This had been the same in Nigeria since the activities of Agricultural Research had not been separated from those of Extension and other general services.

In accordance with the Federation of Nigeria Constitution of 1963, scientific and industrial research was included in the concurrent legislative list and it was up to each government within the Federation to organize and engage in whatever research it considered to be in the interest of its economic policy (1). It was not until 1963 that legal

order created a separate institution of Agricultural Research and Extension.

Agricultural Research

As pointed out earlier, research is a basic necessity for the agricultural economy in any country of the whole world. The same principle applies to Nigeria as a developing country.

> The function of research in agriculture is to discover and investigate the fundamental laws governing plant and animal life and their productivity and economic efficiency to agricultural industry (13, p. 132).

In Nigeria, the importance of Agricultural Research has stimulated various state governments to provide in-service training for Agricultural Research personnel. These provisions were made available to interested and talented individuals in the forms of in-service training and scholarships to study in developed countries.

Agricultural Extension

It is only when applied on the farm level that scientific information becomes valuable to the agricultural economy of a country. Past findings indicate:

> Agricultural Extension methods require special techniques in order to succeed since they deal with not only the productivity but also the social, cultural and economic aspects of rural life (18, p. 16).

The role of Extension officers is perceived as an adult educator who assists farmers in diagnosing their needs and

plan a sequence of experiences to produce a desired outcome (6).

It is suggested that the aim of Extension is to bring the farmer knowledge and help that will enable him to farm more efficiently and increase his income (2, p. 68).

It was also pointed out that the objective and scope of Extension is to raise agricultural productivity, promote a higher standard of living among rural population, and enhance rural welfare. To achieve such an objective, it is recommended that Extension personnel act as friends instead of imposing their will or government policy on the farmer (19, p. 17).

Agricultural Education

The demand of the Extension service in Nigeria for agricultural graduates accounts for more than eighty percent of the outlets for university graduates in agriculture. There are also demands for agriculture graduates in other areas such as research institutions, rural education institutions, plantation undertakings and in certain commercial uses such as the fertilizer and chemical industries for technical services. Nigeria is one of the developing countries facing acute shortage of trained personnel in agriculture.

The value of trained personnel in agriculture for Nigeria is stressed. Nigeria will continue to bear the brunt of agricultural development program well into the 1990's.

The truth of the matter is we just cannot train enough degree-holders in fields of agriculture to meet the needs of development (16, p. 292). It was pointed out that assistance programs directed towards the agricultural sector must be concerned directly with education. The following seem to be important factors considering the development of Agricultural Education:

1. Teaching Agricultural Education programs in the primary and middle schools, colleges or university level must rest firmly on a foundation of well educated manpower.

2. Teacher Training programs should include technical agricultural subjects and methodology; training in techniques of communication and in the human and social aspects of the cultural environment.

3. Assistance programs in Agricultural Education should be formulated by individuals who have an intimate knowledge of both the counting and the subject matter.

4. In the process of plan development, clear-cut objectives must be stated so that all levels of administration understand the purpose of particular projects.

5. Organization along all phases of program action is the essential ingredient for successful programs (7, pp. 7, 86).

Furthermore, when developing an Agricultural Education and Extension Training Program designed to serve the cause of rural development, it is important to keep in mind:

1. The curricula should indicate purpose of the training level of recruitment, subjects and their content, time tables, duration or theoretical course, duration of practical course, systems employed to check student's progress, teaching staff required, period of training tasks of the teachers, facilities to be used, relations between the schools, Extension services, Research Cooperative and

Production services. It is also introduced in the curricula such subjects as economics, rural sociology, development, management, Extension, environment, human nutrition and modern communication aides.

2. Location of Agricultural Schools: A school of agriculture should be in the countryside though not in an isolated position. The school farm should allow for student participation and act as a practical laboratory for modern production methods, besides production and research activities, and provide facilities for farm studies.

3. Laboratories and Technical Libraries: The equipment and operating methods of laboratories and technical libraries should be according to the recent establishments in these fields.

4. Training of Specialists: Specialists are as important as Agricultural generalists or middle-level professionals. Specialists can be trained locally by making use of consultants or by sending them abroad to a foreign university.

5. Research: This includes not only Agricultural Research, but research in management, sociology and industrial methods. For an effective link between education, research and extension, it is essential to have a coordinating body at the highest level. The task of such a body is to decide on education, extension and research programs, taking account of the country's actual needs.

6. In-Service Training: The Agricultural education system should provide in-service training for technicians and for Agricultural producers. These training courses can be organized on a farm, at a research station or in a village.

7. Teacher Training: Teachers should be provided with opportunities either at home or abroad to learn new techniques of effective instruction and they can devote their wholehearted energy to their jobs.

8. Adult Education for Farmers: In the rural community, Agricultural educators must devise and use suitable training methods which will reach as many people as possible. A well structured Agricultural Extension Service

> backed by research services could play an effective role in training the rural masses. The same applies to these knowledge transmission means; demonstration, manuals, posters, audio-visual aids, radio, television, and so on (pp.8-10). In an economic situation like that of Nigeria, one does not expect the population standard of living to be raised or improved just by education and training. Rather, other aspects must be given equal attention. Areas such as: Agrarian reform credit facilities, fair and guaranteed prices, adoption of school curricula, social infrastructure and support of producer's cooperative (12, p. 21).

SUMMARY

The Review of Literature is not restricted just to agriculture in the selected area for this study: rather, it covered national and international aspects of agriculture. The summary shows the development aspects of agriculture and how it had often been in people's minds and government plans for improvement.

The Review of Literature shows that agriculture plays a vital role in the development of a nation. It therefore needs attention.

As for Nigeria, it is understood from previous literature reviews that agriculture has contributed to some levels of the economic growth of the country and still requires closer attention, since Nigeria's population is rapidly growing.

The single most important factor required to achieve economic goals is good working relationships. This aspect as revealed needs to be smoothed out for agricultural

development in Nigeria. We have a part to play like every wise citizen of Nigeria.

The key aspiration of this study is to create a way in which the Plateau State Government of Nigeria could come to the aid of the potato farmers in the Mwaghavul Chiefdom. Also, it is hoped that information from this study will improve the working relationships between the farmers and the Agricultural Extension staff in the Mwaghavul Chiefdom.

CHAPTER III

DESIGN AND METHODOLOGY

Introduction

This chapter indicates procedures used in analyzing the data of this study. The study was designed according to the purpose and the objectives. The purpose was to ascertain the perceptions of Agricultural Extension staff and Irish potato farmers concerning training needs and mutual working relationships regarding production practices with implications for a mutual working relationship.

Areas of Study

The seven selected districts for this study were: Mongu, Mangun, Panyam, Ampang West, Kerang, Pushit, and Kombun among the whole Mwaghavul speaking people. Others like Chakfem, Mupun, Mushere, and Jipal were not included, although there are some similarities among all of these languages, because they are not under Mwaghavul Chiefdom.

Population of Studies

In the seven districts of the Mwaghavul Chiefdom, 10 farmers were chosen as representatives for the sample from each of the districts, so a total of 70 farmers were thus

selected as respondents. The selection was based on the following criteria:

1. The representatives from these areas were Irish potato producers.
2. The respondents were age 25 and above.
3. The respondents were Mwaghavul persons and living within the jurisdictions of the Mwaghavul Chiefdom.
4. The respondents were recognized farmers and had often obtained at least ten sacks of Irish potatoes each harvesting period.

Development of the Survey Instrument

Two separate questionnaires were developed for the study in order to gather the required information to meet the purpose and objectives of the study. The author reviewed the literature closely related to the study to develop the questionnaire. The instruments were submitted to the staff in the Department of Agricultural Education, Oklahoma State University for review.

Collection of Data

A total of eighty questionnaires were mailed to Mr. Jonah R. Kesmen from Ampang West Mongu Local Government Area (L.G.C.), Plateau State Nigeria, schooling at Brooklyn, New York, who was going home on vacation at the time. The researcher instructed Mr. Kesmen to hand over the questionnaires to Mr. Danjuma Obadiah Shikse, who would in

turn hand them over to the distributors (persons mentioned in Table 1). The distributors had indicated their willingness to assist in distributing the questionnaires to the participants (farmers and Agricultural Extension staff).

The researcher instructed the distributors to distribute the questionnaires on Sundays at churches, since many farmers in the Mwaghavul land area are church attendants. They were also to distribute them on market days. The market days in Mwaghavul land districts are as follows: Tuesday for Mangun, Kombun, and Ampang West districts, Wednesday for Pushit, Friday for Mongu, Thursday for Panyam, and Monday for Kerang. The questionnaires were to be distributed in the following ways:

1. Five copies were to be distributed to the first five farmers who came to sell their potatoes to the Yan Kasuwa (licensed buying agents).
2. The last five copies in each district were to be given to farmers on Sundays, making sure that farmers who got one each on market days were not given again.
3. The questionnaires were distributed between 9:30 and 11:00 a.m., both on market days and Sundays.
4. Questionnaires meant for Agricultural Extension staff were distributed at any time on the weekdays when the ones for potato farmer were distributed.
5. The Agricultural Extension staff completed their questionnaires with little or no assistance from the

TABLE I

DISTRIBUTION OF INSTRUMENTS USED FOR THE SURVEY TO RESPONDENTS

NAME	OCCUPATION	DISTRIBUTION SAMPLE AREA	NUMBER OF COPIES PER DISTRICT TO FARMERS	DISTRIBUTION DAYS
Manasseh Mutfwang	Author's uncle, farmer at Ampang West	Ampang West District	10	Sundays
Thomson G. Gumesh	Tutor B.S.S. Gindiri	Kerang District	10	Sundays
Yakubu S. Dimkah	Vice Principal B.S.S. Gindiri	Mangu District Kompun District Pushit District	10 10 10	Fridays & Market Days and Sundays
Donjina Obadiah	Technical Engineer Plateau Tel. Station Jos (Author's brother in-law)	Panyam District Mangun District	10 10	Fridays & Market Days and Sundays

distributors. Most farmers (participants) had their questionnaires completed for them through interviews by the distributors because most of them hardly can read or write English.

In summary, those who took part in the distribution and interviewing the farmers were required to write a brief summary of problems encountered during the process distributing and filling out of the questionnaire.

Analysis of the Data

To provide an overview of the statistical treatment of the data collected from the potato producers in the seven districts of the Mwaghavul land area and the ten Agricultural Extension staff members, the following analysis was included: a scale of absolute values with categories ranging from "very important" to "no importance" and "very often" to "none" were employed to analyze certain portions of the data collected.

Numerical values were assigned to the response categories and real limits were defined in order to permit statistical treatment of the data, as presented in Table II.

The research was mainly descriptive. The researcher used frequency distributions, percentages, rank order, and calculated arithmetic means. Mean responses were selected as the most appropriate way of describing the findings.

The "Mean Responses" in Tables X, XI, and XII, were calculated by multiplying the number of responses in each

TABLE II

REAL LIMITS FOR RESPONSE CATEGORIES

RESPONSE CATEGORIES	NUMERICAL VALUE	RANGE OF REAL LIMITS FOR CATEGORIES
Very Important (very often)	4	3.5 - 4.00
Important (often)	3	2.5 - 3.49
Some Importance (seldom)	2	1.5 - 2.49
Little Importance (little)	1	0.5 - 1.49
No Importance (none)	0	0.0 - 0.49

rank order by the numerical value of the category and summing the products.

The sum of the selected items were divided by the total number of responses to secure the mean response. Chapter IV shows the analysis of the data and the presentation of findings.

CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

Introduction

The main objective of this chapter is to present and analyze the data coming forth from the set of questionnaires returned by the participants, bearing in mind that the purpose of the study was to determine the perceptions of Irish potato producers and agricultural extension staff in Mwaghavul Chiefdom of Plateau State Nigeria, in regards to training needs and production practices with implications for mutual working relationships. Findings relative to the objectives of the study are presented in this chapter.

The development of the instrument and the method of collecting the data were explained in Chapter III. The data collected involved securing both selected background information and/or views presented by the 70 potato producers and the 10 agricultural extension staff members in Mwaghavul land. This chapter thus revealed the assembled data analysis.

Population of Study

Number and percentages of the Irish potato producers (respondents) taking part in the study are revealed in Table III.

TABLE III

SUMMARY OF EXTENSION STAFF AND IRISH POTATO PRODUCERS FROM SELECTED DISTRICTS PARTICIPATING OF THE STUDY

	EXTENSION STAFF			FARMERS		
DISTRICTS	NUMBER SURVEYED	NUMBER RETURNED	PERCENTAGE RETURNED	N - 70 SURVEYED	RETURNED	PERCENTAGE RETURNED
Ampang West	1	1	14.28	10	6	60.000
Mangun	1	1	14.28	10	4	40.000
Panyan	1	1	14.28	10	2	20.000
Kerang	1	1	14.28	10	2	20.000
Kombun	1	1	14.28	10	4	40.000
Pushit	1	1	14.28	10	3	30.000
Mangu	1	1	14.28	10	5	50.000
	7	7	100.00	70	26	37.143

The seven districts of the Mwaghavul land area of Plateau State were selected to be surveyed. Ten persons were selected as representatives from each district. As a whole, 70 farmers were given the opportunity to respond to the questionnaires. As shown on Table III, 26 (37.14 percent) of the selected respondents actually took part in the survey.

Seven agricultural extension staff members were selected as respondents and all of them participated as revealed in Table IV.

Findings of the Study

Personal and Demographic Data of Respondents

Personal and demographic data of the respondents is presented in Table IV which shows that of the 26 respondents who actually participated in the study, 25 (96.15 percent) were males and 1 (3.85 percent) were female. From the gathered information, it is revealed that 22 (88 percent) were married and 3 (12 percent) were single.

Of the 26 farmers who responded to the questionnaires, 1 (4 percent) of them were between the ages of 25 and 29, 5 (20 percent) fell between 30 and 34, 6 (24 percent) were between ages 35 and 39, amd 13 (52 percent) were 40 years and above. So most participants were between the ages 40 and above. There were no major differences found among the villages for any of the comparison factors.

The personal and demographic data of those of agricultural extension staff respondents is presented in

TABLE IV

SUMMARY OF MWAGHAVUL LAND IRISH POTATO PRODUCER'S RESPONSES BASED ON AGE, SEX AND MARITAL STATUS

FACTORS FOR COMPARISON	MANGU		MANGUN		AMPANG WEST		PANYAM		KERANG		KOMBUN		PUSHIT		TOTAL N - 26	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Sex:																
Male	5	100	4	100	5	83.33	2	100	2	100	4	100	3	100	25 -	96.15
Female	-	-	-	-	1	16.67	-	-	-	-	-	-	-	-	1 -	3.85
Marital Status:																
Married	5	100	3	75	4	80.	2	100	2	100	3	75	3	100	22 -	88.
Single	-	-	1	25	1	20.	-	-	-	-	1	25	-	-	3 -	12.
Age:																
20 - 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0 -	0
25 - 29	-	-	1	20	-	-	-	-	-	-	-	-	-	-	1 -	4.
30 - 34	1	20	2	40	-	-	-	-	-	-	2	50	-	-	5 -	20.
35 - 39	2	40	-	-	2	40.	-	-	-	-	-	-	2	100	6 -	24.
40 years or above	2	40	2	40	3	60.	2	100	2	100	2	50	-	-	13 -	52.

Table V. Seven agricultural staff participated showing a 100 percentage return. All of them were males, 3 (42-86 percent) were between the ages 26-30, 2 (28.57 percent) were between ages 31-34, and 2 (28.51 percent) ages 35 and above. The largest group of participants were between ages of 26 and 30.

Of the seven participants (agricultural extension staff) 6 (85.71 percent) were married and only 1 (14.29 percent) were single.

The study revealed that out of the seven respondents 1 (14.29 percent) had served 1-3 years, 4 (57.14 percent) had served 4-6 years, 1 (14.29 percent) had served 10-12 years. No one among them (agricultural extension agents) had served up to 13 years or above.

Findings regarding the educational levels and years of experience of the agricultural extension staff is revealed in Table VI. Among the seven respondents, 6 (85.29 percent) attended school 6-10 years, while 1 (14.21 percent) attended 11 and 15 years.

For level of training as agricultural extension staff, 3 (42.86 percent) had gone through training 2-3 years, 2 (28.57 percent) between 4-5 years and yet another 2 (28.57 percent) indicated as having gone through training for 6 years and above.

Among the respondents, 2 (28.57 percent) pointed out that they often receive training on the job, 4 (57.14 percent) seldom take part in training and 1 (14.29 percent) revealed zero frequency of training received on the job.

TABLE V

SUMMARY OF AGRICULTURAL EXTENSION STAFF RESPONSES BASED ON SEX, AGE, MARITAL STATUS, AND YEARS OF SERVICE

ITEM	NUMBER	PERCENTAGE
Sex:		
Male	7	100.00
Female	-	00.00
Total	7	100.00
Age:		
20 - 25	-	00.00
26 - 30	3	42.86
31 - 34	2	28.57
35 and above	2	28.57
Total	7	100.00
Marital status:		
Married	6	85.71
Single	1	14.29
Total	7	100.00
Years of service:		
1 - 3 years	1	14.29
4 - 6 years	4	57.14
7 - 9 years	1	14.29
10 -12 years	1	14.29
13 years and above	-	00.00
Total	7	100.00

TABLE VI

SUMMARY OF EDUCATIONAL LEVEL AND FREQUENCY OF "INSERVICE" TRAINING DESIRED AS REPORTED BY THE AGRICULTURAL EXTENSION STAFF

ITEM	NUMBER	PERCENTAGE
Level of schooling attained:		
1 - 5 years	0	0.00
6 - 10 years	6	85.71
11 - 15 years	1	14.21
Level of training as Agriculture Extension Staff		
0 - 1 years	-	0.00
2 - 3 years	3	42.86
4 - 5 years	2	28.57
6 years and above	2	28.57
How often do you get to go for training?		
Very often	-	0.00
Often	2	28.57
Seldom	4	57.14
None	1	14.29
Would you like more training?		
Yes	7	100.00
No	-	0.00
Length of time preferred for further training:		
½ - 1 year	5	71.43
1½ - 2 years	2	28.57
2½ - 3 years	-	-
3½ - 4 years	-	-

As summarized in Table VI, it is interesting to note that all respondents (100 percent) indicated they desired more training. Five (71.43 percent) would like to spend 1/2-1 year in training, and 2 (28.57 percent) for 1 1/2-2 years. None among them would choose to spend more than 2 years for further training.

Contact Between Agricultural Extension Agents And The Potato Producers

Among the objectives put forward for this study was the need "to determine the frequency of contacts between Irish potato producers and the agricultural extension staff." Tables VII and VIII reveal the findings.

Among the 7 respondents in the study, 1 (14.29 percent) indicated they had 1-20 registered farmers in their district areas, 2 (28.57 percent) had 21-40, 3 (42.85 percent) had 41-60, and 1 (14.29 percent) had 61-80 registered potato producers in their respective districts.

As to the frequency of the extension staff meetings with the farmers, 6 (85.71 percent) indicated very often, 1 (14.29 percent) indicated seldom. The result of findings about attending farmers meetings revealed that 6 (85.71 percent) had been attending while 1 (14.29 percent) showed they had not been attending.

5 (71.43 percent) desired to attend potato farmer meetings for less than once a week, 2 (28.57 percent)

TABLE VII

SUMMARY OF AGRICULTURAL EXTENSION STAFF RESPONSES AS TO THE NUMBER AND FREQUENCY OF CONTACT WITH FARMERS

ITEM	NUMBER	PERCENTAGE
Number of registered farmers in your area?		
1 - 20	1	14.29
21 - 40	2	28.57
41 - 60	3	42.85
61 - 80	1	14.29
81 - 100	-	0.00
100 and above	-	0.00
Total	**7**	**100.00**
Frequency of meeting farmers		
Very often	-	0.00
Often	6	85.79
Seldom	1	14.29
More	-	0.00
Total	**7**	**100.00**
Staff attendance at potato farmers meetings		
Yes	6	85.71
No	1	14.29
Total	**7**	**100.00**
Desired frequency of potato farmer meetings		
Less than once a week	5	71.43
Once per week	2	28.57
More than once a week	-	0.00
Total	**7**	**100.00**

TABLE VIII

SUMMARY OF EXTENSION STAFF RESPONSES RELATING TO "FARM VISITS", "FARMER RESPONSES" PERCEIVED "FARMER SKILLS" AND "SELECTION OF FARMERS TO WHOM THEY GIVE ASSISTANCE"

RESPONSE	NUMBER	PERCENTAGE
Visit farmers with a problem		
Yes	7	100.00
No	-	0.00
Total	**7**	**100.00**
Farmer's response to your visits		
Friendly	7	100.00
Unfriendly	-	0.00
Cared less	-	0.00
Total	**7**	**100.00**
Perceived "farmer skills"		
Very skilled	-	0.00
Skilled	6	85.71
Unskilled	1	14.29
Total	**7**	**100.00**
Selection of farmers whom they give assistance		
"Friendly" farmers	3	42.86
"Skilled" farmers	3	42.86
"Rich" farmers	-	0.00
Others	1	14.28
Total	**7**	**100.00**

indicated once per week and none would favor attending farm meetings more than once a week.

Table VIII contains data regarding the extension staff's responses relating to "farm visits," farmer responses, perceived farmer skills, and selection of farmers to whom they give assistance. All of the agents, 7 (100 percent), indicated that they paid visits to farmers with a problem. The study revealed 7 (100 percent) of the staff felt a friendly response from farmers to visits.

The result of perceived farmer skills as put forward by the agricultural extension staff showed that they considered the farmers among whom they work as skillful although not highly skillful. Six (85.17 percent) agricultural agents indicated skilled, and 1 (14.29 percent) pointed out that the farmers were unskilled; see Table VIII.

Factors that influence the agricultural extension agents in selecting farmers to whom they give assistance are also summarized in Table VIII. As revealed, 3 (42.86 percent) pointed out that it was the "skills" of farmers that influenced their choices and selections. Also 1 (14.28 percent) of the respondents indicated that there were other factors not mentioned that guide their own selections. It is interesting to note that "riches" was not chosen by any of the respondents as a factor influencing their selections of farmers for assistance.

Farmers Perceptions Of The Importance of Agricultural Extension Staff Help with Production Problems

Table IX presents a summary of Irish potato producers' perceptions of the importance of agricultural extension staff and help with production problems.

Watering during dry-season gardening is ranked as first (1) with a mean of 3.85. This shows that watering during dry-season gardening is considered the highest by Irish potato producers for which help is highly needed from Agricultural extension staff. The study also shows that use of credit sources, use of new equipment and storage facilities all rank second (2), each with mean responses of a 3.81. These are followed by weed control and fertilizer application ranked fifth (5), each with mean response of 3.77. Next are transportation of potatoes ranked seventh (7) with a mean response of 3.73, also ranking seventh (7) is marketing information. The next item which ranked ninth (9) was potato farm production with a mean response of 3.50. By category, all the above items with rank one through nine were considered very important. The Irish potato producers ranked climatic control as number ten (10), with a mean response of 2.31 and finding new seed varieties as eleven (11), with a mean response of 2.15.

TABLE IX

SUMMARY OF IRISH POTATO PRODUCERS PERCEPTIONS OF THE IMPORTANCE OF AGRICULTURAL EXTENSION STAFF HELP WITH SELECTED PRODUCTION PROBLEMS

ITEM OF PRODUCTION AREAS	Very Important		Important		Some Importance		Little Importance		No Importance		Mean Response	Rank by Mean	Category
ITEM OF TRAINING	N	%	N	%	N	%	N	%	N	%			
Potato farm protection	17	65.38	6	23.80	2	2.6	1	3.85	-	-	3.50	9	VI
Fertilizer application	22	84.61	3	11.54	0	.0	1	3.85	-	-	3.77	5	VI
Watering during dry season gardening	23	88.46	2	7.69	1	3.85	-	-	-	-	3.85	1	VI
Use of credit sources	22	84.61	3	11.54	1	3.85	-	-	-	-	3.81	2	VI
Use of new equipment	24	92.30	1	3.85	-	-	-	-	1	3.85	3.81	2	VI
Storage facilities	24	92.30	1	3.85	-	-	-	-	-	-	3.81	2	VI
Transportation of potatoes	23	88.46	1	3.85	1	3.85	-	-	1	3.85	3.73	7	VI
Marketing information	22	84.6	2	7.70	1	3.85	1	3.85	-	-	3.73	7	VI
Weed control	23	88.	2	7.70	-	-	-	-	-	-	3.77	5	VI
Climatic control	11	42.30	-	-	2	7.70	12	46.2	1	3.85	2.31	10	S
Finding new seed varieties	7	6.92	2	7.69	6	23.80	10	38.46	1	3.85	2.15	11	S

Values: Very important - 4 Important - 3 Some Importance - 2 Little importance - 1 No importance - 0

Training Needs of Irish Potato Producers

Table X is a summary of present training needs of Irish potato producers for selected production practices as perceived by the Agricultural Extension staff.

The indicated present training needs are listed in order of importance as follows:

1. Storage facilities
2. (four way tie) Fertilizer application, potato plant production, keeping of seedlings, and use of credit source
6. Chemical weed control
7. Selecting seed varieties, transportation of seedlings and use of new equipment
10. Marketing information
11. Worm control

As indicated by the respondents, the above seven mentioned areas of need for present training priority followed by selecting seed variety. It is interesting to note the close "tie" that exists among the second and seventh place ranks.

As for the future training needs of Irish potato producers for selected areas of production practices, the Agricultural Extension staff's perception as revealed in Table XI show the following by rank of mean scores:

1. Keeping of seedlings
2. Irish potato plant production
3. Use of new equipment and seed variety selection

TABLE X

SUMMARY OF PRESENT TRAINING NEEDS OF IRISH POTATO FARMERS FOR SELECTED PRODUCTION PRACTICES AS PERCEIVED BY AGRICULTURAL EXTENSION'S PERSONNEL

	Very Important		Important		Some Importance		Little Importance		No Importance		Mean Response	Rank by Mean	Category
ITEM OF TRAINING	N	%	N	%	N	%	N	%	N	%			
Potato plant production	6	85.71	-	-	-	-	1	4.29	-	-	3.57	2	VI
Fertilizer application	5	71.43	1	14.29	1	14.29	-	-	-	-	3.57	2	VI
Keeping seedlings	5	71.43	1	19.29	1	14.29	-	-	-	-	3.57	2	VI
Use of credit source	4	57.14	3	42.86	-	-	-	-	-	-	3.57	2	VI
Use of new equipment	5	71.43	-	-	-	-	2	28.57	-	-	3.14	8	I
Storage facilities	5	71.43	2	28.57	-	-	-	-	-	-	3.71	1	VI
Transportation of seedlings	2	28.57	4	57.14	1	14.29	-	-	-	-	3.14	8	I
Marketing information	2	28.57	5	71.43	-	-	-	-	-	-	3.29	7	I
Chemical weed control	4	57.14	2	28.57	1	14.29	-	-	-	-	3.43	6	I
Worm control	2	28.57	3	42.86	1	14.29	1	14.29	1	14.29	2.86	11	I
Selecting seed varieties	2	28.57	4	57.14	1	14.2	-	-	-	-	3.14	8	I

Values: Very important - 4 Important - 3 Some important - 2 Little important - 1 No importance - 0

TABLE XI

SUMMARY OF FUTURE TRAINING NEEDS OF IRISH POTATO PRODUCERS FOR SELECTED PRODUCTION PRACTICES AS PERCEIVED BY AGRICULTURAL EXTENSION PERSONNEL

	RESPONSE AS TO TRAINING NEEDED												
ITEM OF TRAINING	N	%	N	%	N	%	N	%	N	%			
Irish potato plant Production	6	85.71	1	14.29	-	-	-	-	-	-	3.86	2	VI
Fertilizer application	5	71.43	1	14.29	1	14.29	-	-	-	-	3.57	5	VI
Keeping of seedlings	7	100.	-	-	-	-	-	-	-	-	4.00	1	VI
Use of credit source	5	71.43	1	14.29	1	14.29	-	-	-	-	3.57	5	VI
Use of new equipment	6	85.71	-	-	1	14.29	-	-	-	-	3.71	3	VI
Storage facilities	5	71.43	1	14.29	1	14.29	-	-	-	-	3.57	5	VI
Transportation of seedlings	5	71.43	1	14.29	1	14.29	-	-	-	-	3.57	5	VI
Marketing information	4	57.14	2	28.57	1	14.29	-	-	-	-	3.45	9	I
Chemical weed control	4	57.14	2	28.75	-	-	-	--	-	-	3.14	11	I
Worm control	5	71.43	1	14.29	-	-	1	14.29	-	-	3.45	9	I
Selecting seed varieties	5	71.43	2	28.57	-	-	-	-	-	-	3.71	3	VI

Values: Very important - 4 Important - 3 Some importance - 2 Little importance - 1 No importance - 0

TABLE XII

COMPARISON OF PRESENT TRAINING NEEDS AS PERCEIVED BY FARMERS WITH THOSE PERCEIVED BY EXTENSION STAFF

Item of Training Needed and/or Problem Areas	Mean	Rank	Category	Mean	Rank	Category
Use of credit source	3.81	1	VI	3.57	2	VI
Use of new equipment	3.81	1	VI	3.14	5	I
Marketing information	3.73	5	VI	3.29	4	I
Fertilizer application	3.77	4	VI	3.57	2	VI
Seed variety selection	2.15	6	S	3.14	5	I
Storage facilities	3.81	1	VI	3.71	1	VI

5. (four way tie) Fertilizer applications, use of credit source, storage facilities, and transportation of seedlings
9. (two way tie) Worm control and marketing information
11. Chemical weed control

In a comparison of present training needs as perceived by farmers with those perceived by extension staff, Table XII revelaed that for the farmers, all item areas except seed variety selection are "very important." Both farmers and Extension staff chose "use of credit source, fertilizer application, and storage facilities as very important areas for present training need. Both ranked seed variety selection as least for present training need.

For the Extension staff three areas are very important and three other areas is important for present training need. For the farmers five arears are very important and only one area is of some importance.

Table XIII exhibits the farmers' frequency of putting into practice the recommendations of the Agricultural Extension staff. Of the 26 respondents, 12 (46.15 percent) pointed out that they put to use the recommended production practices very often, 11 (42.30 percent) indicated they use the recommended practices often, while 3 (11.55 percent) indicated seldom. No farmer refuses or fails to put to use the received recommended ideas. The farmers in Mangu indicated they all followed the Extension staff recommendations very often.

Findings regarding the number of times during the year Agricultural Extension staff make visits to farmers' respective villages are summarized in TAble XIV. The results showed 4 (15.38 percent) farmers indicated that (none) no visits were made by Agricultural Extension staff members during the year. About 13 (50 percent) indicated Agricultural staff made 1-3 visits, 7 (26.72 percent) indicated 4-6 Agricultural staff do go there to visit, and 2 (7.70 percent) indicated Agricultural staff visited their village 7-9 times annually.

Table XV summarized the farmers' responses by district as to frequency with which they confer with Extension staff. The total revealed 19 (73.1 percent) confer with Extension staff less than once per week, a total of 7 (26.9 percent) indicated they confer with Agricultural staff once per week. None of the farmers confer with the Agricultural Extension staff more than once per week.

It is understood from the study's analysis that the Agricultural Extension staff do organize meetings for farmers from time to time. Twenty-one (80.77 percent) of the potato farmers indicated "yes" when asked if they attended meetings with Extension staff, 5 (19.23 percent) responded no. Summary of Table XVI revealed the frequency of the farmers who wish to attend such meetings by district. The results showed 20 (76.92 percent) indicated that they attend less than once per week, 6 (23.08 percent) others indicated they would like to attend once per week.

TABLE XIII

SUMMARY OF FARMER'S RESPONSES BY VILLAGES AS TO FREQUENCY AND USE OF PRODUCTION PRACTICES RECOMMENDED BY EXTENSION STAFF

Village	Very Often		Often		Seldom		Never		TOTAL		Mean	Rank
	N	%	N	%	N	%	N	%	N	%		
Kombun	0	0.00	1	25.00	3	75.00	-	-	4	100.	2.25	7
Ampong West	4	66.67	2	33.33	-	-	-	-	6	100.	3.67	2
Kerang	1	50.00	1	50.00	-	-	-	-	2	100.	3.50	3
Mangun	2	50.00	2	50.00	-	-	-	-	4	100.	3.50	3
Pushit	-	-	3	100.	-	-	-	-	3	100.	3.00	5
Mangu	5	100.00	-	-	-	-	-	-	5	100.	4.00	1
Panyem	-	-	2	100.	-	-	-	-	2	100.	3.00	5
TOTAL	12	46.15	11	42.30	3	11.75	-	-	26	100.		

Values: Very often - 4 Often - 3 Seldom - 2 Never - 1

TABLE XIV

SUMMARY OF FARMER'S RESPONSES AS TO THE NUMBER OF TIMES AGRICULTURAL EXTENSION STAFF MAKE VISITS TO THEIR RESPECTIVE VILLAGES

NUMBER OF EXTENSION STAFF INVOLVED	MANGU		MANGUN		AMPANG WEST		PANYAM		KERANG		KOMBUN		PUSHIT		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
None	-	-	-	-	-	-	1	50	1	50	1	25	1	33.33	4	15.38
1 - 3	3	60	2	50	3	50.00	1	50	-	-	2	50	2	66.67	13	50.00
4 - 6	2	40	1	25	2	33.33	-	-	1	50	1	25	-	-	7	26.72
7 - 9	-	-	1	25	1	16.67	-	-	-	-	-	-	-	-	2	7.70
10 and above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	5	100	4	100	6	100.00	2	100	2	100	4	100	3	100.00	26	100.00

Making visits refers to visitations to give either advice, formal or informal teaching and/or counseling farmers during the year.

TABLE XV

SUMMARY OF FARMER'S RESPONSES BY DISTRICT AS TO FREQUENCY WITH WHICH THEY CONFER WITH EXTENSION STAFF

	Less Than Once Per Week		Once Per Week		More Than Once Per Week		Total	
DISTRICTS	N	%	N	%	N	%	N	%
Ampang West	5	83.30	1	16.70	-	-	6	100.00
Mangun	3	75.00	1	25.00	-	-	4	100.00
Panyam	2	100.00	-	-	-	-	2	100.00
Kerang	1	50.00	1	50.00	-	-	2	100.00
Kombun	3	75.00	1	25.00	-	-	4	100.00
Pushit	2	66.70	1	33.30	-	-	3	100.00
Mangu	3	60.00	2	40.00	-	-	5	100.00
Total	19	73.10	7	26.90	-	-	26	100.00

The tendencies of farmers to contact Agricultural Extension staff when faced with problems showed positive results, but the Agricultural staff approachability was perceived as unfriendly. This is shown in Table XVII. Twenty-three (88.46 percent) indicated they seek help or assistance from a friend who is a potato farmer, 2 (7.69 percent) showed they seek assistance from relation who have money while 1 (3.85 percent) indicated others a part as shown in Table XVIII. Farmers were instructed to specify other places from where they sought assistance, but none of them could point out any specific sources other than the first two, despite the fact that they chose the "others."

When asked how often they received information from outside their village regarding potato farming, 2 (34.61 percent) of the farmers indicated "very often," 9 (34.61 percent) indicated often, 10 (38.46 percent) indicated "seldom," and 5 (19.24 percent) indicated "none." As for the source from which the information was received, 1 (3.85 percent) indicated "radio," 2 (7.69 percent) indicated "newspaper," 4 (15.38 percent) indicated Extension staff, 16 (61.54 percent) indicated neighbor, and 3 (11.54 percent) indicated "others" but did not specify.

When asked if information from Extension staff would improve production, 24 (92.31 percent) farmers indicated "Yes" while 2 (7.69 percent) responded "No."

When asked "should Extension staff help if there is a problem regarding marketing potatoes?" 26 (100 percent)

TABLE XVI

SUMMARY OF HOW OFTEN IRISH POTATO FARMERS WISH TO ATTEND EDUCATIONAL MEETINGS ARRANGED BY AGRICULTURAL EXTENSION STAFF

	Less Than Once Per Week		Once Per Week		More Than Once Per Week		Total	
DISTRICTS	N	%	N	%	N	%	N	%
Mangu	3	60.00	2	40.00	-	-	5	100.00
Mangun	3	75.00	1	25.00	-	-	4	100.00
Ampang West	4	66.67	2	33.33	-	-	6	100.00
Panyam	2	100.00	-	-	-	-	2	100.00
Kerang	2	100.00	-	-	-	-	2	100.00
Kombun	3	75.00	1	25.00	-	-	4	100.00
Pushit	3	100.00	-	-	-	-	3	100.00
Total	**20**	**76.92**	**6**	**23.08**	**-**	**-**	**26**	**100.00**

TABLE XVII

SUMMARY OF FARMER'S TENDENCIES TO CONTACT EXTENSION STAFF AND THE STAFF'S APPROACHABILITY

	N	%
Tendency to contact:		
Yes	23	88.46
No	3	11.54
Total	**26**	**100.00**
Approachability:		
Unfriendly	21	80.77
Friendly	3	11.54
Doesn't care to help	2	7.69
Seeks gift before offering help	-	0.00
Total	**26**	**100.00**

TABLE XVIII

SUMMARY OF FARMER'S RESPONSES CONCERNING SOURCES OF ASSISTANCE AND INFORMATION

Questions Concerning Information Sources	N	%
Who farmer contacts concerning potato farming problems:		
Friend who is potato farmer	23	88.46
Relation who has money	2	7.69
Others apart from first two above	1	3.85
Total	**26**	**100.00**
How often farmer receives information from outside the village regarding potato farming:		
Very often	2	7.69
Often	9	34.61
Seldom	10	38.46
None	5	19.24
Total	**26**	**100.00**
Source of outside information:		
Radio	1	3.85
Newspaper	2	7.69
Extension staff	4	15.38
Neighbor	16	61.54
Others	3	11.54
Total	**26**	**100.00**
Production improved by putting into use information from Extension staff:		
Yes	24	92.31
No	2	7.69
Total	**26**	**100.00**

farmers indicated "yes." None of them responded when asked "How often do you hire part-time laborers within a year?"

In response to "How quickly were you paid after sale of your potatoes?" 7 (26.92 percent) farmers responded "within one day," 17 (65.38 percent) indicated "within one week," 1 (3.85 percent) responded "within two weeks," and 1 (3.85 percent) showed "within three weeks." No farmer indicated "four weeks and above."

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

As stated in previous chapters, the purpose of this study was to ascertain the perceptions of Irish potato producers regarding needs and relationships in terms of "work" with Agricultural Extension staff in the Mwaghavul land of Plateau State, Nigeria.

This chapter presents a summary of the study's findings, problems, design, and conduct of the study. Also, there are conclusions and recommendations based on the analysis and synthesis of the collected data. It is hoped these will be useful in some way both to the government and people of Nigeria in adjusting and readjusting their priorities in an attempt to shape a better society for the entire population through agriculture.

Purpose of Study

The major purpose of the study was to determine perceptions of potato producers and Agricultural Extension staff in regards to training needs and production practices with implications for mutual working relationships.

Objectives

The following objectives were set to guide the investigation:

1. To determine selected demographic data of the respondents
2. To determine the frequency of contacts between Irish potato producers and Agricultural Extension staff
3. To determine perceptions of Agricultural Extension staff regarding the need for further training on the job
4. To determine the perceptions of the Irish potato producers concerning the need for training sessions
5. To assess the Irish potato producers' perceptions of the nature and extent of benefits from Agricultural Extension staff
6. To find out how often Agricultural Extension staff make field visits to farms

A Summary of the Study

A total of 70 questionnaires were developed and used for the collection of data from 70 selected farmers from the seven districts of the Mwaghavul land. Seven other questionnaires were specifically developed and used for the Agricultural Extension staff serving in the same area. The Agricultural Extension staff are the government workers sent to work with farmers to improve methods, techniques, and production capacities.

All the questionnaires sent to the Agriculture staff were mailed back for a 100 percent return, while 26 (37.14 percent) of the farmers responded. The farmers chosen were:

1. All Irish potato producers
2. All were 20 years old and above
3. All were permanent residents of the community

Summary of the Findings

Personal and Demographic Data of the Respondents

The study revealed that most farmers are male, married elderly persons. As already presented, 13 (50 percent) of the respondents were 40 years old or above; an additional 11 (44 percent) were between 30-40 years of age. On the other hand, the Agricultural Extension staff were male, married but younger in age, since among them 5 (71.43 percent) were between 26-34 years and 2 (28.57 percent) were above 35 years of age. Their years of experience in the Extension service were all below 13 years with over 70 percent below six years.

Agents Training Desired

The study also revealed that most of the Agricultural staff had attained schooling ranging from 6-10 years. The majority of them have had between 2-3 years training as Agricultural Extension staff and they do go for training often. All (100 percent) of them however, would like more training, preferably for 1/2-1 year length of time.

Extent of Contact Between Potato Farmers and Agricultural Extension Staff

The Extension staff averaged between 20 and 60 registered potato farmers in their districts, with whom they said they met often. They said they attended farmers' meetings, which they desired less than once a week. All agents indicated they visited farmers with problems and received a friendly response. They perceived farmers as being skilled and chose farmers to visit based on friendliness or skill.

Producers Perceptions of Importance of Extension Staff Aid With Production Problems

The Irish potato producers perceived that the importance of Extension staff to help with production problems was very important in all the selected areas except two. The two areas were considered of some importance. Highest among the areas for which help is required from the Extension staff is "watering during dry-season gardening".

Extension Staff Perceptions of Present and Future Training Needs of Potato Producers

The Extension staff chose five areas as "very important" but six others as "important," which would require training at present. As for the "future," the Extension staff unanimously declared all areas but three on the

questionnaires to be "very important" for future training. A comparison of the Extension staff opinion indicated that while "storage facilities" is considered highest for training at present, "keeping of seedlings" takes the highest priority for future training by ranking.

In a comparison of present training needs as perceived by farmers with those perceived by Extension staff, Table XII revealed that for the farmers, all nine areas, except seed variety selection, are "very important." Both farmers and Extension staff chose "use of credit source," "fertilizer application," and "storage facilities" as "very important" areas for present training need. Both ranked "seed variety selection" as least for present training need.

The study revealed that Mangu potato producers do put into practice all the recommendations made by the Extension staff in regards to production practices. The second greatest use was by farmers at Ampang West, and use at those Kerang and Mangun tied for third. Use at Panyam and Pushit tied for fifth followed by use at Kombun.

In regards to the number of Extension staff visits to farmers, the study showed that farmers at Ampang West were visited most frequently, followed by farmers at Mangu, then a tie for visits to those at Kombun and Mangun, followed by Pushit. Then Panyam and Kerang farmers tied for last. The farmers at Ampang West confer most with the Extension staff. Panyam farmers confer least with the Extension staff.

The study also revealed that farmers at Ampang West attended the most "Educational Meetings" arranged by the Extension staff, followed by farmers at Mangu. The interesting aspect is that some farmers from all of the districts in the study attended the educational meetings. The difference was only in the number and percentages.

As for the tendency of farmers to contact Extension staff, all the farmers except three agreed they do contact the Extension staff when faced with problems. However, most farmers felt that the approachability of the Extension staff was unfriendly.

The majority of the farmers seek assistance mostly from their friends who are potato farmers.

For the Extension staff three areas were "very important" and three other areas "important" for present training needs. The farmers felt five areas were "very important" and only one area was of "some importance."

Importance of Extension Staff To Help With Selected Production Problems

In regard to the importance of Extension staff helping with selected production problems, the Irish potato producers felt that help in all selected areas was "very important" except in two areas: "new seed varieties" and "climatic control."

Field Visits and Assistance Given
By Extension Staff To Farmers

All Extension staff make visits to farmers with problems and all of the Extension staff agreed, also, that the farmers' responses were "friendly." It was understood by the staff, by an 88.71 percent response, that the farmers are skilled. Also it is interesting to note that "friendliness" and skills of farmers are major factors influencing the Extension staff to make visits with farmers rather than riches or "offers" from the farmers.

Conclusions

The interpretation and analysis of findings from the study have led to the following conclusions:

1. Since 40 percent of sampled farmers, most of them males, were age 35 years old and above, it happens that farming in the Mwaghavul land is in the hands of elderly people. They sooner or later will give way to the younger ones. Also, since education is much more pursued by young people than the elderly in the Mwaghavul land, it becomes apparent that the farmers are mostly illiterate.
2. The ages of Agricultural Extension staff range between 26-34, as indicated by 71.67 percent of the agents' respondents. The age difference between the Extension staff and those of the potato producers does affect communication as well as the entire

production process, because by Mwaghavul tradition it is not appropriate for older persons to take advice from younger persons unless proved beyond doubt to be absolutely necessary.

3. The Extension staff have not attained a high level of training for their job performance. Most of them are high school graduates. They, therefore, have very little or almost nothing to tell the farmers in terms of professional instruction. It is not surprising that all of them (100 percent) desired further training.
4. Since the Extension staff have all attended school, and they are working with farmers who have not been to school, this results in a communication gap between the Extension staff and the illiterate farmers.
5. Since the Agricultural Extension staff percent indicated that farmers were skilled and all agreed that farmers responses to their visits were "friendly," it was concluded that farmers are ready to work hand in hand with the Extension staff. This is encouraging since the Extension staff base their visits to farmers on the influence of skills and friendliness of the farmers rather than "possessions" of the farmers and/or "offers" from the farmers. The "contact" aspect between the farmers and the Extension staff is very essential

for improved potato production.

6. Apart from "selecting new seed varieties" and "climatic control," the farmers felt it was very important to have help from the Extension staff in all other selected areas of production. All farmers showed they had problems requiring the Extension staff to help. It was, therefore, concluded that the farmers feel it is "important" to have help from the Extension staff. A specific area of concern by the potato producers was "watering during dry season gardening," since 92.31 percent of the farmers indicated they need help in this area.

7. Since all the Agricultural Extension staff indicated five areas were very important for present training and eight areas were very important for future training, it was concluded that they considered future training even more important than present. However an additional conclusion was that all areas were important for both present and future training. Also, since the Extension staff considered "storage facilities" as the most important area for the present training, and "keeping of seedlings" as most important for the future training. It was concluded that at present, more training is required for "storage facilities" while in the future, training is needed for "keeping of seedlings."

8. Since both the Irish potato producers and the Agricultural Extension staff chose "use of credit source," "fertilizer application" and "storage facilities" as "very important" areas for present training needs, it was concluded that training is required in each of these areas of agriculture for the present. It was also concluded that the producers and Extension staff considered training needs similarly.
9. The study showed that farmers from the selected districts put into practice recommendations made by the Agricultural Extension agents with Mangu farmers taking the lead, it was concluded that the Extension staff serving other districts need to step up their efforts to ensure that farmers see the need to put into practice what they recommended.
10. The study showed that farmers of Ampang West also received the most frequent visits by the Agricultural Extension staff. It was therefore concluded that the Extension staff serving in other districts need to increase their number of visits to farmers in their respective districts. Since the study indicated that farmers in Ampang West conferred most with Extension staff, it was concluded that the visits by the Extension staff encourage the farmers to seek their help.

11. As for attendance at educational meetings, the study revealed that farmers at Ampang West attended the most meetings. It was concluded that the Extension staff serving at Ampang West was actively encouraging farmers to attend educational meetings, and that there is a need for the other Extension to seek ways of encouraging farmers in their respective districts to attend educational meetings.
12. Since all farmers indicated that they contacted the Extension staff when faced with problems, and most of them pointed out that the Extension staff response was unfriendly, it was concluded that the unfriendly response by the Extension staff to farmers might have been responsible for farmer's lack of attendance at educational meetings and the lack of use of the Extension staffs' recommendations.

Recommendations

Through the author's experiences as a Mwaghavul man, by analysis of the findingsand results, and interpretation of the study, the following recommendations are put forward.

1. There is need for the government of the Plateau State of Nigeria to encourage young men and women in the Mwaghavul Districts to choose agriculture as their future career because the present farmers are

getting too old in age to remain active as farmers for sufficient potato production.

2. More incentives need to be offered by the government to encourage the Extension staff to remain on the job a greater number of years in order to gain more experience. Such experience would enable the Extension staff to gain more confidence in working with the farmers in their respective districts. The farmers need to be educated to give up traditions to make way for positive modern agricultural changes. They need to learn to take good advice from the young Agricultural Extension staff.
3. The government needs to provide some in-service training for the Agricultural Extension staff in the most needed areas of agriculture for which training is required.
4. The Agricultural Extension staff needs to work hard to gain the confidence of the farmers in order to better perform their duty among the farmers.
5. There is need for more contact between the Agricultural Extensions staff and the potato producers. This will help bridge the communication gap.
6. The Agricultural Extension staff needs to provide more assistance to the potato producers facing problems, particularly watering during dry-season gardening. The Extension staff should communicate such problems like this to the government for a more effective and lasting assistance.

7. The Plateau State Government needs to train more Agricultural Extension staff to meet the present educational needs of the farmers and to meet the future needs.
8. The government needs to set up more Agricultural Research Centers and provide funds for Agricultural research in use of credit source, fertilizer application, storage facilities, and keeping of seedlings.
9. The farmers need to be educated both formally and informally on modern methods of potato production in terms of mechanized farming by the Extension staff. The Extension staff should organize more meetings, but schedule them less than once a week to encourage attendance.
10. More effective methods of marketing Irish potato products should be devised by the Mongu Local Government Area to facilitate quick and profitable selling of potato products
11. The federal government of Nigeria should make sure that the mass media such as the newspaper, radio, and television, have news broadcasts, which carry information on Agriculture in some form. This will ensure proper reception and dissemination of information to and from the farmers in rural areas.
12. The government should back the Extension staff to educate farmers on the need to provide modern storage

facilities, introduce some form of potato processing industry in the local areas including Mwaghavul Chiefdom.

13. The government needs to provide more funds to set up training sessions for farmers on modern farming techniques and develop a safer method for keeping potato seedlings.
14. The Agricultural Extension agents need to set up demonstration plots to show farmers some simple basic techniques of farming.
15. This type of study should be conducted in other areas of the Plateau State of Nigeria and other areas of Nigeria in general, for farmers of crops like yams, peanuts, and cassava.

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APPENDIXES

APPENDIX A

LETTER TO THE PERMANENT SECRETARY MINISTRY OF AGRICULTURE PLATEAU STATE, REQUESTING PERMISSION TO SURVEY THE AGRICULTURAL EXTENSION STAFF

3-3 South University Place
Stillwater, OK 74075
October 31, 1985

The Permanent Secretary
Ministry of Agriculture and
Natural Resources
Plateau State
Nigeria

Permission for a research study of agricultural extension staff in Mwaghavul land area

Dear Sir:

I am Samuel D. Mutfwang from Ampang-West and a graduate student at Oklahoma State University, Stillwater, Oklahoma. I am currently conducting a study to determine the perception expressed by Irish potato farmers and agriculture extension workers regarding the extent of a mutual working relationship in Mwaghavul land of Mongu local government area.

Your cooperation and high initiatives in this project will be highly appreciated. To this end, I am requesting that you read through the questionnaire and return the bearer of this note a letter for the agricultural officer at Mongu Lgc to help in the distribution and collection of the completed questionnaire from his subordinates.

Your opinion as appropriate will be considered and a final draft of the results will be presented to you in complete form.

Thanks for your cooperation.

Sincerely,

Samuel D. Mutfwang

cc: Dr. James P. Key
Chairman of Thesis Committee

Chief Agricultural Officer
Agriculture Department
DOS Plateau State

Agriculture Officer
Agriculture Office
Mongu

APPENDIX B

LETTER TO FARMERS

3-3 South University Place
Stillwater, OK 74075
October 31, 1985

Dear Fellow Farmer:

I am Samuel D. Mutfwang and a graduate student at Oklahoma State University, Stillwater, Oklahoma. I am currently conducting a study to determine the perception expressed by Irish potato farmers and agricultural extension workers regarding the extent and nature of desirable working relationships in the Mwaghavul land.

This research effort will help me complete my program and also enable me to determine basic problems that have been troubling farmers in our area. Through this research effort, I hope to make recommendations concerning establishing better working relationships between you and those who represent our government.

Your help will be greatly appreciated.

Sincerely,

Samuel D. Mutfwang

James P. Key

Dr. James P. Key
Chairman of Thesis Committee

APPENDIX C

LETTER TO AGRICULTURAL EXTENSION STAFF

3-3 South University Place
Stillwater, OK 74075
October 31, 1985

Dear Agricultural Extension Staff:

I am Samuel D. Mutfwang from Ampang-West and a graduate student at Oklahoma State University, Stillwater, Oklahoma. I am currently conducting a study to determine the perception expressed by potato farmers and agricultural extension workers regarding the extent and nature of desirable working relationships in the Mwaghavul land.

This research effort will help me complete my program and also enable me to determine basic problems that have been troubling farmers in our division. Through this research effort, I hope to make recommendations concerning establishing better working relationships between you and the potato farmers in Mwaghavul.

Your help will be greatly appreciated.

Sincerely,

Samuel D. Mutfwang

James P. Key

Dr. James P. Key
Chairman of Thesis Committee

APPENDIX D

STUDY INSTRUMENT

Irish Potato Farmers

Your Name is NOT Required in this Paper so be as Accurate as Possible

THIS IS NOT A TAX FORM

Circle only one answer

1. Marital status

   a. Married
   b. Single

2. Sex

   a. Male
   b. Female

3. Your age:

4. How many laborers do you have full-time (employed all year)?

   a. None
   b. 1 to 5
   c. 6 to 10
   d. 11 to 15
   e. 16 to 20
   f. 21 and above

5. How many times during the year does the agricultural extension staff visit your village?

   a. None
   b. 1 to 3
   c. 4 to 6
   d. 7 to 9
   e. 10 and above

6. If you have agricultural extension staff visit your village, how often do you meet with them?

   a. Less than once per week
   b. Once per week
   c. More than once per week

7. Have you ever attended meetings called by an agricultural extension staff?

   a. Yes
   b. No

8. How often would you like to attend?

   a. Less than once per week
   b. Once per week
   c. More than once per week
   d. Not at all

9. Do you contact your agricultural extension staff when you have a problem in potato farming?

   a. Yes
   b. No

10. If yes to question 9, how does the agricultural extension staff react?

   a. Unfriendly
   b. Friendly
   c. Does not care to help
   d. Seeks gift in order to help

11. If no to question 9, whom do you contact?

   a. Your friend who has potatoes
   b. Your relation who has money
   c. Other (specify)

12-22. How important do you feel it is for the agricultural extension staff to help you in the following areas?

check one box	Very Important	Important	Some Importance	Little Importance	No Importance
12. Potato farm protection	( )	( )	( )	( )	( )
13. Fertilizer application	( )	( )	( )	( )	( )
14. Watering during dry season gardening	( )	( )	( )	( )	( )
15. Use of credit sources	( )	( )	( )	( )	( )
16. Use of new equipment	( )	( )	( )	( )	( )
17. Storage facilities	( )	( )	( )	( )	( )
18. Transportation of potatoes	( )	( )	( )	( )	( )
19. Marketing information	( )	( )	( )	( )	( )
20. Weed control	( )	( )	( )	( )	( )
21. Climatic control	( )	( )	( )	( )	( )
22. Finding new seed variety	( )	( )	( )	( )	( )

23. What other problems do you feel the extension staff would also be of most help to you? (be specific)

24. Indicate how often you receive information from outside the village regarding your potato farming

a. Very often
b. Often
c. Seldom
d. None

25. From what source do you receive this information?

a. Radio
b. Newspaper
c. Agricultural Extension Staff
d. Neighbor
e. Other (specify)

26. How often have you used the ideas introduced to you by your agricultural extension staff?

a. Very often
b. Often
c. Seldom
d. Never

27. How many sacks of potatoes do you sell a year?

a. 0 - 10
b. 11 - 20
c. 21 - 30
d. 31 - 40
e. 50 sacks and above

28. Do you think that you can improve your production with useful information from your agricultural extension staff?

a. Yes
b. No

29. How quickly are you paid after the sale of your potatoes

a. Within 1 day
b. Within 1 week
c. Within 2 weeks
d. Within 3 weeks
e. 4 weeks and above

30. If there is a problem in this area do you think that agricultural extension staff should be involved to help?

a. Yes
b. No

31. How often do you hire part-time laborers?

a. Very often
b. Often
c. Seldom
d. None

A G R I C U L T U R A L E X T E N S I O N S T A F F

Circle One Answer Only

1. Sex

   a. Male
   b. Female

2. Please state your age

3. Marital status

   a. Married
   b. Single

4. How many registered potato farmers are in your area or station?

5. How often do you get to meet them?

   a. Very often
   b. Often
   c. Seldom
   d. None

6. Have you ever attended the potato farmers meeting?

   a. Yes
   b. No

7. If you have not been attending would you like to attend one?

   a. Yes
   b. No

8. How often would you like to attend?

   a. Less than once per week
   b. Once per week
   c. More than once per week

9. Do you visit the farmers when they have a problem on their farms?

   a. Yes
   b. No

10. If yes, how do the farmers react when you visit them?

    a. Friendly
    b. Unfriendly
    c. Don't care about my presents

11. If no, would you like to visit with them?

    a. Yes
    b. No

12. How skilled do you think the farmers are?

    a. Very skilled
    b. Skilled
    c. Not skilled

How would you rank training needs according to importance for farmers now and in the future in terms of:

	Now				Future			
	a Very Impt.	b Impt.	c Some Impt.	d Little Impt.	a Very Impt.	b Impt.	c Some Impt.	d Little Impt.
13. Irish Potato Plant Production	( )	( )	( )	( )	( )	( )	( )	( )
14. Fertilizer application	( )	( )	( )	( )	( )	( )	( )	( )
15. Keeping of seedlings	( )	( )	( )	( )	( )	( )	( )	( )
16. Use of credit source	( )	( )	( )	( )	( )	( )	( )	( )
17. Use of new equipment	( )	( )	( )	( )	( )	( )	( )	( )
18. Storage facilities	( )	( )	( )	( )	( )	( )	( )	( )
19. Transportation of seedlings	( )	( )	( )	( )	( )	( )	( )	( )
20. Marketing Information	( )	( )	( )	( )	( )	( )	( )	( )
21. Chemical weed control	( )	( )	( )	( )	( )	( )	( )	( )
22. Worm Control	( )	( )	( )	( )	( )	( )	( )	( )
23. Seed variety selection	( )	( )	( )	( )	( )	( )	( )	( )

24. Rank the areas in which you feel most competent to help farmers from number one: most competent to number 11, least competent. Place zeros (0) by those for which you do not feel competent to help farmers.

____ 1.
____ 2.
____ 3.
____ 4.
____ 5.
____ 6.
____ 7.
____ 8.
____ 9.
____10.
____11.

25. What level of schooling have you attained?

26. How many years have you been in extension service?

27. What level of training have you attained as an agricultural extension staff?

28. How often do you get to go for training?

a. Very often
b. Often
c. Seldom
d. None

29. Would you like to go for more training to help you in your job with the farmers?

a. Yes
b. No

30. How long would you like to stay in the training?

a. 1/2 - 1 year
b. 1 1/2 - 2 years
c. 2 1/2 - 3 years
d. 3 1/2 - 4 years

31. What major factor influences your selection of farmers to hlep?

a. Friendly farmers
b. Skilled farmers
c. Rich farmers
d. Other (Specify)

32. If you have a problem with potatoes as a farm produce how do you try to solve the problem?

a. Talk to the Agricultural Extension Officer
b. Talk to the farmer involved
c. Talk to the local leaders
d. Other (Specify)

33. Which areas would you prefer further training to be able to offer better help to farmers? (check responses)

( ) a. Help with potato plant protection
( ) b. Fertilizer application
( ) c. Keeping seedlings
( ) d. Farmers loans
( ) e. Use of new equipment
( ) f. Storage facilities
( ) g. Transportation
( ) h. Marketing of potato produce
( ) i Chemical weed control
( ) j. Worm control
( ) k. Selecting seed varieties

VITA

Samuel Dawet Mutfwang

Candidate for the Degree of

Master of Science

Thesis: PERCEPTION OF AGRICULTURAL EXTENSION STAFF AND IRISH POTATO PRODUCERS CONCERNING TRAINING NEEDS AND MUTUAL WORKING RELATIONSHIPS IN THE MWAGHAVUL CHIEFDOM OF PLATEAU STATE, NIGERIA

Major Field: Agricultural Education

Biography in Brief:

Personal Data: Born at Fudus Village of Ampang-West District, Mongu Local Government area of Plateau State Nigeria on April 3, 1952 to Dawet Mutfwang and Nadok. Married to Cinderella Obadiah Shikse April 3, 1976, father of four namely: Manpet (son) Sekyen (daughter) Nandi (daughter) and Nanfwang (son).

Education: Attended Mangun L.A. School 1962-1965. Attended senior primary L.G.A. School Jarnaret 1966-1968 and obtained first leaving school certificate. Attended Gindiri Teachers' College 1969-1973. Headstudent 1972-73 (college captain) and obtained grade two Teacher's Certificate. Attended Citizenship and Leader Training Course 1971, Shere Hill Jos. Attended College of Education Sokoto 1977-1980 and obtained a National Certificate in Education (N.C.E.). Attended Langston University 1983-1985 and obtained B.S. in Agricultural Economics. Completed requirements for the Master of Science Degree, Oklahoma State University in July 1986.

Professional Experience: Taught as grade two teacher at Primary School Limankara Gwoza former North Eastern State Nigeria 1973-1975. Taught as grade two teacher at Katul Primary School Jipal. 1975-76, A Headmaster, Asa Primary School Asa Lankan Pankshin L.G.C. Plateau State Nigeria 1976-77. Served the National Youths Service (NYSC) at L.G.C., Imo State Nigeria 1980-81. Head of History Department: Boys

Secondary School Gindiri Plateau State Nigeria. 1980-83 worked on small farms project Langston University 1983-85.

Membership: Had been member of Church of Christ in Nigeria up till present. Member of New Hope Baptist Church, Langston, Oklahoma, 1983-85. Presently member of Church of Christ, Stillwater, Oklahoma. Member of Mwaghavul Bible Translation Committee since 1981. Member African Christian Association, Stillwater, Oklahoma branch 1985 to present.