

THE TANZANIA AGRICULTURAL EXTENSION
SERVICE AS PERCEIVED BY TRAINERS,
EMPLOYERS, EXTENSION OFFICERS
AND CLIENTELE

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CHAPTER I
INTRODUCTION

Tanzania mainland, formerly Tanganyika, is a vast tropical agrarian country of about 937,062 square kilometers which lies South of the Equator on the East African Coast. Major lakes are: Nyanza on the north-west, Tanganyika on the western and Nyasa on the south-west borders of the country. These along with smaller inland lakes and rivers form approximately six percent of the country.

The country attained her independence on 9th December, 1961, and has 20 administrative regions which are divided into 101 administrative districts, both rural and urban. Tanzania is, however, characterized by geographical diversity in terms of topography, soils and climate, particularly rainfall, such that even within Districts marked contrasts occur in ecological conditions. Rainfall ranges from 250-1250 mm or more per annum (Fig. 1). Soils in most of the agricultural plains are of low fertility status with the exception of the volcanic mountain plains and river basins.

Some parts of the country have distinct wet and dry seasons, with one cropping season in a year. In other areas there are two rainfall seasons with a short dry spell between. The central plains form the drier part of the country--Dodoma, Singida and Arusha Regions, the latter mainly in the Masai Steppe. These factors determine the distribution of agricultural activities, since crops are distributed according to their climatic and soil adaptability.

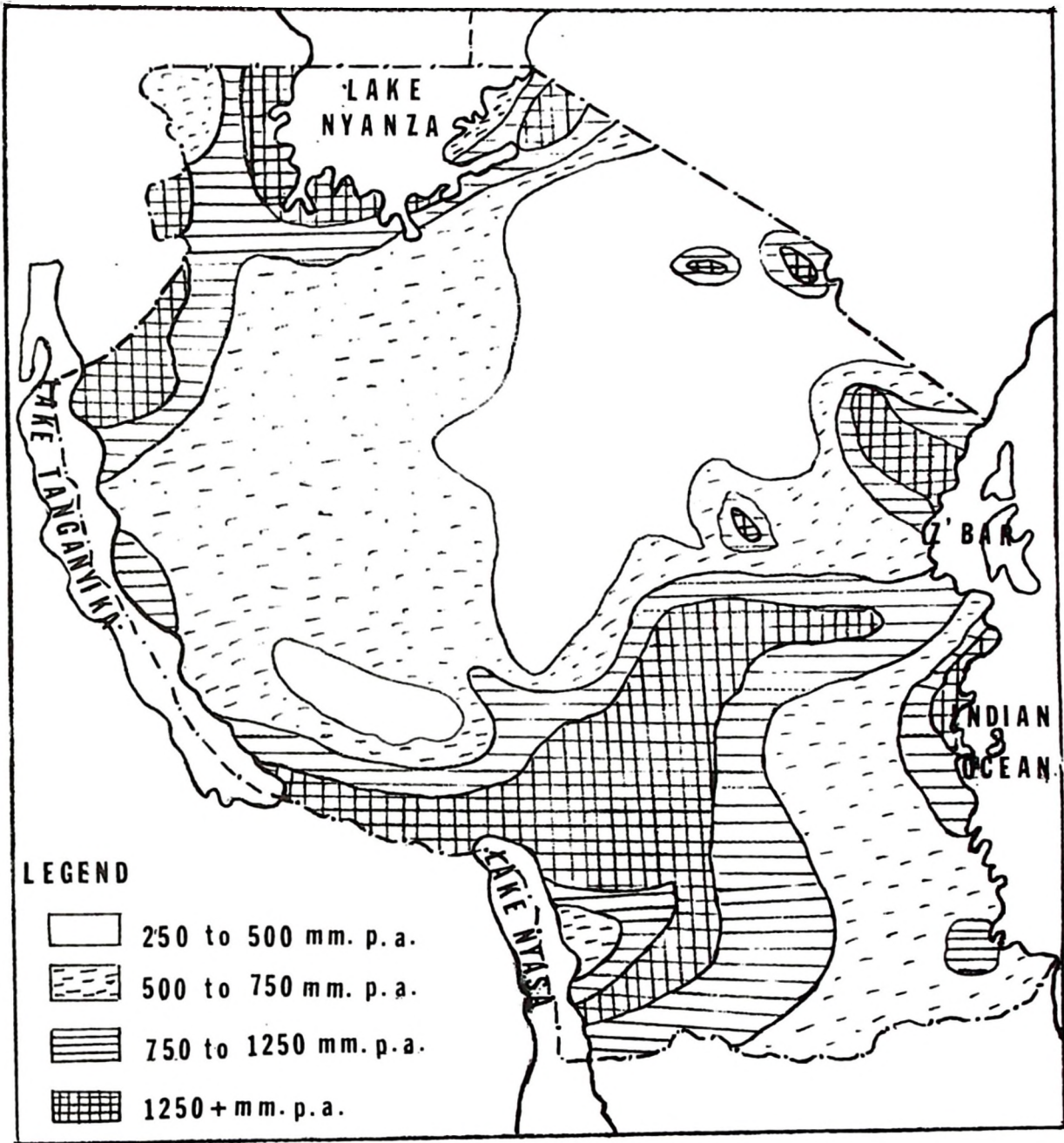


Figure 1. A Schematic Map of Tanzania Showing Rainfall Regimes.

The bulk of the Tanzania livestock industry is in the Northern, Central, Western (lake areas) and Southern Highlands. Areas with the greatest livestock population are Arusha (Masai Steppe), Dodoma, Singida (in central plains), Tabora, Shinyanga, Mwanza and Mara Regions. Normally every rural family will keep at least one type of livestock.

The population of Tanzania is about seventeen and one half million. Over 90 percent of the population live in rural areas and are dependent upon subsistence agriculture for their livelihood. Surplus livestock and crops goes to feed the urban populace or is exported. Most of the rural populace now live in 8,210 Ujamaa and/or Registered villages.

Tanzania's economy is largely agricultural. Agricultural products form about 80 percent of Tanzania's exports, and about 40 percent of the Gross National Product (GNP) is attributed to agricultural products. This means that agriculture is the "backbone" of the economy of the country. In this respect, Mwalimu Nyerere (1967) stated:

And the truth is that our United Republic has at present a poor, undeveloped and agricultural economy. We have very little capital to invest in big factories or modern machines; we are short of people with skill and experience. What we do have is land in abundance and people who are willing to work hard for their own improvement. It is the use of these latter resources which will decide whether we reach our total goals or not. If we use these resources in a spirit of self-reliance as the basis for development, then we shall make progress slowly but surely . . . pursuing this path means that Tanzania will continue to have a predominantly rural economy for a long time to come.

The strategy for agricultural extension service in Tanzania is established on the fundamental basis and philosophy for agricultural extension service and farmers' education. Generally speaking, programs of the agricultural extension service are designed to improve the efficiency of production and distribution of food and agricultural products, bettering conditions of the rural populace and, thus, playing the central role in raising standards of living and the level of national economy. In order to accomplish this, it must be an organized system of education on the land, in which adults and young people learn by doing. Extension service personnel also play the double role of communicating the results of research to the farmers, and the needs or problems of the farmers to the research stations.

Extension officers, therefore, work with people in all stages of development with divergent beliefs, customs, habits, ways of expressing their social status, philosophies and ways of doing things. Based on the philosophy of "Education for Self-Reliance," extension service is helping people, through educational programs, to help themselves.

The Problem in Its Setting

Ministry of Agriculture Training Institutes (MATIs) have, since the early 1940s (then training centres), been involved with training agricultural extension officers (previously known as agricultural instructors). Up to 1945, the majority of the extension officers had received no formal training in agriculture. There was then a single training centre, at Ukiriguru, with an intake capacity

of 40 students for a three-year course.

In 1950, the capacity was increased to more than 100 students per year. In 1953, Tengeru Natural Resources Centre was opened to train Field Assistants in agriculture, forestry and veterinary medicine. Five years later, the Land Planning Training Centre was opened at Morogoro to train senior members of staff in this field.

The system has undergone many changes in form and expansion. In 1971, there were only four MATIs offering certificate courses with a total intake of 360 students. By 1978, there were 13 MATIs offering both certificate and diploma courses, with a capacity of 1,045 agricultural certificate students and 725 diploma students, the latter in specialized fields. Despite changes the MATI system has undergone, there has been little information or data available concerning perception of the extension service by trainers (MATI tutors), employers, extension officers and clientele (farmers). The trainer-graduate contact virtually ends on graduation day.

MATI training activities have increased steadily and it is likely that they will continue to do so. Improvements and modifications will definitely have to be made to accommodate new technology. It was, therefore, imperative that a study be made on perceptions of the role of agricultural extension service from the point of view of the clientele, extension officers (change agents), employers of the extension officers and trainers. As far as it is known, this study was the first attempt to obtain such views, and its findings may assist MATIs in devising teaching approaches which will help solve some of the problems extension workers face in the field.

Objectives

Primarily, this study was designed to:

1. Determine the role of extension service in agricultural development as perceived by the clientele, extension officers, employers and trainers.
2. Determine major factors perceived to influence the effectiveness of extension officers.
3. Determine possible linkage that should exist between MATIs and the Extension Service.
4. Determine implications of perceptions of extension service personnel on MATI training programs.

Definition of Terms Used

Bwana Shamba. Swahili for agricultural extension officer.

Communication. A conscious attempt to share information, ideas and attitudes with others.

Employers. Under the Decentralized Government system, employers are the Regional/District Development Directors (RDDs/DDDs) and Kilimo Parastatal General Managers. However, in this study employers are the immediate employers--the Regional Agricultural/Livestock Development Officers, District Agricultural/Livestock Development Officers and Regional/District Managers of Kilimo Parastatals.

Exhortation. To urge strongly and earnestly a course of action to be taken by a person or group.

Kilimo. Swahili used in place of the Ministry of Agriculture.

Masai Steppe. The grassland of Masailand in Arusha, Dodoma and Singida regions of Tanzania.

Mwalimu. Swahili for teacher. Wherever it is used in this manuscript it refers to His Excellency the President Julius K. Nyerere of the United Republic of Tanzania.

Parastatal. Public corporation formed by legal enactment to render specific services spelled out by the law which are essential to the general public convenience.

Program. A logical sequence plan of operations to be performed or followed by the Bwana Shamba and the clientele.

Shamba. Swahili, used here in place of "farm".

Ujamaa Village. A village or an area within prescribed boundaries of a District of Tanzania with at least 250 families carrying out most activities which contribute substantially to the economy of the village in a communal way.

Village. A registered village with not less than 250 families. It does not have to have communal undertakings or activities.

Research Methodology

Data for this study were obtained through surveys and interviews conducted by the investigator based on the foregoing objectives.

This study involved trainers, employers of the extension officers, extension officers and the clientele. A standard survey was administered to extension officers who went through the MATI system and the clientele in eight districts in four of the twenty regions of

Tanzania mainland which covered the geographical crop and livestock distribution. Included were Kilimo parastatal extension employees in districts in which the study was conducted. It also involved the immediate employers of the extension officers--the Regional and District Agricultural/Livestock Development Officers (RADOs/RLDOs and DADOs/DLDOs) rather than the Regional Development Directors (RDDs) and District Development Directors (DDD) who are civil service or political appointees. In addition, Kilimo Parastatal Regional and District Managers (RMs and DMs) in the areas under the study were included. The MATI system was represented in the study by the Principals and their Heads of Departments.

Questionnaire Format. A survey form with seven parts designed to collect essential data was developed following a review of available literature and consultations with graduate committee members and Tanzanian agricultural workers enrolled at West Virginia University. It was then pretested by 10 Tanzanian Agricultural workers--two former RADOs, four tutors, three extension officers, and one principal--to assure its reliability and validity. Subsequently, a Swahili version was also prepared (see Appendix J).

The questionnaire was designed to determine perceptions of the role of extension service and its contribution to agricultural development; extension service strategies, problems and factors contributing to these problems; and skills required by the extension officers as dictated by local conditions. Information was also solicited to determine perceptions of linkages between MATIs and the

extension service. Proper conceptualization of the role of extension service, and effective coordination of extension with training institutions is one of the requisites for effective extension service.

In addition, parts two through seven which deal with specific views of the clientele, extension officers, employers and the trainers were developed to pinpoint specific perceived problems in the extension service. What people believe to be true is true and real or meaningful to them as they see it.

While this study attempted mainly to determine current perceptions of the role of extension service by the clientele, extension officers, employers and trainers, the element of the past could not be underrated because the present and the future has been and will continue to be based on the past. An element of duration in the service (since first appointment) was included so that technological change impact over time, if any, could be determined.

Procedure.

1. Because of the nature of the study, it was determined that a survey involving approximately one percent of the 8,210 Registered and Ujamaa villages would provide adequate and valid data. Thus, 80 villages were selected for the study--20 villages in each of four regions. In each village selected for the study, the Village Council Chairman or the Secretary, the Chairman of the Village Council Finance and Planning Committee or Production and Marketing Committee and two farmers selected randomly from a list of 10 "best" farmers provided by the Village Council Chairman were interviewed.

2. The Village Council Chairman or Secretary in each village was asked to give the investigator names of 10 farmers recognized by the village council as best or among the best farmers. The names were written on slips of paper which were rolled and mixed together. The chairman or some other person present (not the investigator) was asked to pick one rolled piece of paper. The rolled pieces of paper were mixed again and another person was asked to pick the second one, thus assuring random selection of farmers interviewed.

3. A mailed questionnaire was used to obtain the views of the RADOs, RLDOs, DADOs, DLDOs, Kilimo Parastatal Regional and District Managers, and the Extension Officers in the areas selected for the study. The trainers, with the exception of those at MATI Temeke who train laboratory technicians and MATI-Butiama who train Artificial Inseminators, were also involved through a mailed questionnaire.

4. The 20 regions were grouped into four rainfall probability regimes to cover the geographic agricultural areas ranging from low lands to high lands, and from those areas which are semiarid to those which are high rainfall areas. This was necessary because Tanzania agriculture depends largely on rainfall.

The four rainfall probability regimes and the regions whose larger areas fall into these regimes are:

<u>Rainfall Regimes</u>	<u>Regions</u>
250 - 500 mm p.a.	Arusha, Dodoma and Singida.
500 - 750 mm p.a.	Lindi, Mtwara, Rukwa, Tabora, and Shinyanga.
750 - 1250 mm p.a.	Coast, Dar Es Salaam, Tanga, Kigoma, Mwanza, Mara and Ruvuma.

Rainfall RegimesRegions

1250+ mm p.a.

Iringa, Kilimanjaro, Mbeya, Morogoro
and West Lake.

On this basis, four regions and two districts in each region were randomly selected by drawing method, and are given hereunder:

Region SelectedDistrict Selected

Dodoma

Kondoa and Mpwapwa.

Mbeya

Mbeya (Rural) and Rungwe.

Tabora

Tabora (Rural) and Igunga.

Tanga

Korogwe and Muheza.

5. The investigator randomly selected the 10 villages in each district at the District or Regional Agricultural Office upon arrival on the preliminary visit. The villages in each of the two districts were written on slips of paper, mixed up, and one piece drawn. The remaining slips were mixed again for the next drawing until the 10 villages were obtained. With few exceptions, villages selected were distributed throughout the districts (see Fig. 2 and Appendix K).

6. The Director of Manpower Development Division (DMD) in the Ministry of Agriculture was requested to contact personnel involved with the study to help minimize problems that the investigator might have faced in collecting data. It was anticipated that if the DMD introduced the investigator to the participants, explained to them the objectives of the study, particularly the use of the data, and requested them to respond freely without fear or threat, real or imagined, cooperation in the study could be facilitated. The DMD also countersigned all covering letters (see Appendix A-C).



Figure 2. A Schematic Map of Tanzania Showing Regions and Location of the Eight Districts.

7. Due to lack of up-to-date records regarding location of the extension officers at the Ministry of Agriculture, the investigator made preliminary visits to the regions and/or districts in order to obtain names and addresses of personnel eligible to participate in the study. Telephone calls were used in isolated cases.

8. The questionnaire forms were mailed to 260 extension officers in the eight districts, 39 employers in the four regions, and 77 trainers, making a total of 376. Follow-up letters were sent to those participants who failed to return the questionnaire within a reasonable length of time. Ultimately, 65 trainers, 30 employers and 213 extension officers, making a total of 308 or 81.9 percent, returned completed questionnaires.

9. Personal interviews with 320 farmers (representing the clientele) in 80 villages in the four regions were made by the investigator.

Treatment of the Findings

Data obtained were processed and tabulated using West Virginia University Computing Services, and results are presented in both tabular and narrative forms. Pertinent statistical tests were utilized to determine if significant differences in perceptions existed among the groups surveyed and within various categories of individual groups.

Use of the Findings

Data obtained will be made available to the DMD's office so that an assessment of problems in the extension service, its role,

success and failures, and clientele perceptions might be made. The study essentially provides an insight into what the clientele expect from extension service. Comparison between employers' and the trainers' views on extension concepts as well as between skills taught in MATIs and those skills required by extension officers in the field was made. This information may assist MATIs in devising optimum programs through curriculum improvements to satisfy clientele and employers' needs. It may also help establish formal MATI-Extension Service linkages.

Limitations of the Study

The study was limited to:

1. Extension officers with a minimum professional qualification of certificate training in agriculture or livestock in the eight districts.
2. Employers in the four regions, for regional level employers, and in the eight districts, for district level employers.
3. Four farmers in each of the 80 villages.
4. MATI Principals and their Heads of Departments.

Problems Encountered in the Study

The study revealed varying perceptions of the agricultural extension service in Tanzania, and varying attitudes toward some aspects of agricultural extension service. However, for the benefit of researchers who may undertake similar studies in the future, problems which were encountered are enumerated below:

1. There was no list of names of extension staff at the Ministry of Agriculture Manpower Development Division. This necessitated preliminary visits to Regional and/or District Agricultural and Livestock Development Offices in order to obtain names and addresses of extension officers.

2. The list of possible participants given at the Regional Agricultural/Livestock offices did not always correspond to the actual participants as given at District offices, an indication that some regional offices did not have up-to-date information on district staff.

3. Village visitations and subsequent interviews were often delayed because of transport difficulties. The investigator relied upon district agricultural offices' transport systems or, where it was possible, on regional means of transport. As a result the exercise was considerably prolonged. Revisitations were made to all districts where the 10 villages were not covered during the first visit. This was necessitated by two reasons--heavy rains and lack of cooperation given by some DADOs and/or District Administrators, the latter being the reason in most of the cases.

4. The period during which the study was conducted (January-June) was the rainy season in many parts of the country. Hence, washed away bridges and/or flooded roads and/or muddy roads which were impassable prevented coverage of randomized villages. As such, the investigator decided, with concurrence of his field supervisor, to take accessible village or villages on the same route that had the randomly selected but inaccessible village. This decision was made

because rerandomization could have resulted in selection of even more inaccessible villages.

CHAPTER II
REVIEW OF THE LITERATURE

A review of literature reveals the situation concerning the developmental stages of agriculture in Tanzania, the role played by the agricultural extension service, and problems which extension service has undergone or is undergoing. The review not only affirms the need for the study but also may be useful in devising possible solutions to problems facing the extension service in the country. In his review of agricultural extension service, Fuggles-Couchman (1964) said that:

Around the year 1945, and for some years thereafter, the agricultural staff were more of policemen rather than advisors, largely responsible for the enforcement of the multitude of agricultural rules and for bringing offenders to court. As a result of the spread of literacy and the growth of political sense over the years extension officers were divorced from the role of policemen.

Substantial change in the approach of the extension officers towards their proper role of "farmers' advisers" did not occur until 1955. According to Fuggles-Couchman (1964) extension officers then tended to concentrate on their proper role as advisers and friends of farmers. He noted further that by the year 1956, extension service programs emphasis was placed on the "focal point" approach rather than extensive approach. Staff and attention were concentrated in a few chosen areas, either because people were more receptive to advice or because of a greater potential of production or specialized crops (usually cash crops) which required much care.

The National Executive Committee, of the then ruling party TANU, passed a resolution in 1972 affirming the role of agriculture and the policy thereof stating: "For the foreseeable future, the vast majority of our people will continue to spend their lives in the rural areas and continue to work on the land. The land is the main basis for Tanzania's development. We have no other". (Armbrester and Lawrence, 1977)

The Tanzania agricultural policy aims at increasing production of both food and cash (export) crops, and at developing the rural areas where agriculture provides the livelihood of over 90 percent of the population. In this regard Mwalimu Nyerere (1967) stated that:

It is therefore the villages which must be made into places where people live a good life; it is in the rural areas that people must be able to find their material well-being and their satisfaction. This improvement in village life will not however, come automatically. It will come only if we pursue a deliberate policy of using the resources we have--our manpower and our land--to the best advantage. This means people working hard, intelligently, and together.

The Tanzania agricultural performance did not, however, reach the Party and Government anticipated levels. In his review of Tanzania's achievements and failures ten years after the Arusha Declaration, Mwalimu Nyerere (1977) pointed out that:

. . . the truth is that the agricultural results have been very disappointing. Modern methods have not spread very quickly or very widely; the majority of our traditional crops are still being grown by the same methods as our forefathers used. Irrigation, and even the building of small dams, is talked about more than done. People still think in terms of getting a tractor for their farms--even when they are small--rather than learning how to use oxen-ploughs; or they concentrate on saving for a lorry when their real need is a number of small carts to move seeds and crops from the shamba to the collecting points or village store. Towards agriculture, and agricultural methods even our attitudes have not changed as

much as they need to do.

The Arusha Declaration contains Party and Government affirmative support and concern in agricultural development when it states that: "It is the responsibility of government and the cooperative societies to see to it that our people get the necessary tools, training, and leadership in modern methods of agriculture".

(Armbrester and Lawrence, 1977)

This statement describes indirectly the role of agricultural extension service in the development of Tanzania. It includes two very important elements--the training and leadership functions--of agricultural extension service. Kelsey and Hearne (1963) stated that: "It is the function of the Extension Service to teach people to determine accurately their own problems, to help them to acquire knowledge and to inspire them to action, but it must be their own action out of their own knowledge and convictions".

The perceived agricultural extension problem which tends to be most frequently mentioned by agricultural workers is the problem of convincing traditional peasants to change from traditional to modern farming practices. Some agricultural extension professionals and researchers tend to disagree with this perception. Moris (1965) stated that:

It is often assumed erroneously that the major problem in agricultural extension is to convince traditional peasants to raise their output. In many areas, however, farmers have very clear cut ideology about what one does to raise his production: he extends production into new land. . . . Peasants are so convinced that the way to increase output is to open new virgin land to their cultivation, they will not try alternative methods. They will ignore increased yield which "better farmers" achieve through better techniques, since they will insist that all the

government need do is to give them new land, and they too, would do as well. In this situation it is not enough to demonstrate superior yields; the agriculturist must convince people that his yields are so much better that they could not be duplicated by giving people new land.

This same view is shared by the former Minister for Agriculture, Dereck Bryceson, in Agricultural Planning in East Africa (1968). Bryceson stated that:

At the same time, too much nonsense is talked about farmers being too conservative for change. . . . In our extension efforts it must be realized that the farmer won't change to something new from something that he knows, unless it can be demonstrated that it is to his own real benefit. He must clearly see that, in fact, more money will go into his own pocket as a result.

In reviewing the functions of the Field Officers, Moris (1965) revealed that: "Field Officer is a multi-functional post in the establishment, perhaps the most so of any in the various levels of agricultural employment; and the job in the field requires the playing of many different roles."

The problem of multi-purpose function of the extension service workers is not inherent to Tanzania. Benor and Harrison (1977) working in India referred to it as the "dilution of efforts." They pointed out the problem of multi-purpose role assigned to the field-level agricultural extension workers:

He often is made responsible not only for all aspects of rural development, including health, nutrition, and family planning, but also for regulatory work, procurement and the collection of statistics. This is clearly too much for anyone and especially for a poorly paid and inadequately trained man.

Coupled with poorly defined agricultural extension programs, the problem can be highly magnified. Benor and Harrison (1977) revealed that:

Moreover, the programs themselves are often poorly defined and inadequately supported. The responsibilities are simply too broad. As a result, the extension worker can perform neither his agricultural duties nor his other duties effectively and must resort to doing only those tasks which are most closely monitored (e.g. reports and statistics) and to perform token services for the most influential people in his jurisdiction.

The concept of agricultural extension programs had been realized in Tanzania. The importance of planning and its requisites for success has been made known. K. Johansen, in Agriculture Planning in East Africa (1968) stated that:

However well conceived a plan may be, and however accurately the economic considerations may have been worked out, unless we have the full-cooperation of the farmer who has to till the soil, the plan will fail. The alternative approach to the problem is to urge for development which comes from the people themselves. . . . To be successful, plans for development should be drawn up on the ground with the full knowledge of, and in full cooperation with the local people. Plans imposed from the top without this local consultation are unlikely to succeed . . . we require planning units in the field whose task is to try to translate national objectives into practical possibilities.

An assessment of the agricultural extension service in Sukumaland in 1970, revealed that program planning in agricultural extension service was practically nonexistent. Robert Hulls, in Technical and Farm Development in East Africa (1975) affirms that:

It is clear from the interviews with the district coordinators that there is practically no planning in the sense envisaged here. The whole process does not get any further than a consideration of national production priorities. Two district coordinators said that divisional production targets (based on the previous year's production) form the basis of the Bwana Shamba's extension activities. One of them went so far as to say that the divisional coordinator is supposed to decide how the production targets are to be achieved, "if new inputs are needed such as fertilizer or insecticides then he has to organize a campaign for the use" . . . The nearest approach there is to anything remotely resembling extension planning are the monthly schedules of work. These consist of month by month lists of the activities which should be occupying farmers and are intended to serve as a reminder to the Bwana Shamba of "what to emphasize now."

In this respect it appears that extension service problems have obvious root causes. The information which Hulls gathered indicated some of the root causes. Robert Hulls, in Technical and Farm Development in East Africa (1975) pointed out that: "Thus at the moment there is no effective extension program planning. This failure would seem to be a root cause of the general failure of extension to communicate modern agricultural techniques to the farmers of Sukumaland."

Several reasons have been advanced in an effort to identify the root causes for the lack of agricultural extension service program planning in Tanzania. Robert Hulls further noted that:

The felt needs of farmers should be the starting point of extension activity. In Sukumaland the starting point appears to be the assumption that the extension service knows what is best for the farmers; better than the farmers do themselves.

This same point seems to be the reason for the predominant use of exhortation as the method of presenting technical information to the farmers, and the underutilization of the Bwana Shamba during some seasons either during the dry spell or the cropping season when he/she has already advised the farmers. The advice may have been accepted or rejected, the latter being the normal trend. Concluding this point, Robert Hulls, in Technical and Farm Development in East Africa (1975) stated that. . . . "the primary task of the extension service is the communication of information about the innovations available. But the inadequacies in extension program planning outlined here, means that communication is very ineffective."

The need for effective extension service cannot be overemphasized. In this regard the former Minister for Agriculture, Dereck Bryceson, in Agricultural Planning in East Africa (1968) pointed out that: "Above all, the requirement is for an ever-present efficient extension service. . . . it means a corps of technical workers who live with the farmer in the villages, ride bicycles or motorbikes, and work with him to gain his confidence."

Concerning the rate of adoption of new techniques, K. Johansen, in Agricultural Planning in East Africa (1968) observed that:

It is usually possible to get the farmers to adopt a single new practice but much more difficult to get them to accept a combination of new practices. As extension and research personnel become more and more competent and as the farmers become better educated, it will become easier to get farmers to accept new combinations of factors.

Other workers in East Africa consider socio-economic aspects to be a contributory factor in the failure of extension service in certain projects. Belshaw, in Agricultural Planning in East Africa (1968) stated that:

Traditionally the nature of the activities pursued by agricultural extension staff has been determined on the basis of agricultural, technical and administrative criteria. Often resources have yielded poor or even negative returns because of a failure to understand the socio-economic structure of small-scale farming. . . . Farm level studies in Central Province-Kenya, and Lango, Bukedi and Bugisu Districts of Uganda have indicated that failure to take simple economic aspects into account has led to lack of success in a variety of improvement programs.

Regarding causes of Extension Officers' poor attitudes towards the clientele (farmers), studies in East Africa have revealed that this is mainly a result of the nature of extension service

organization, being more bureaucratic and/or authoritarian, which raises problems of motivation. In this regard, Watts, in Technical and Farm Development in East Africa (1975) explained the problems as related to the extension officers' motivation. He stated that:

One of the problems of a bureaucratic type extension service is that the extension agent is motivated more towards the bureaucracy than to the client. . . . the lack of orientation towards the client leads, in East Africa, to the typically poor motivation of most extension workers. As long as the monthly report is made, the acreages of crops estimated and contact with a few progressive farmers maintained, there is normally little to worry about.

Regarding the Bwana Shambas' attitude towards farmers (clientele), Saylor, in Technical and Farm Development in East Africa (1975) revealed that:

It appears that nearly 30 percent of the Bwana Shambas do not themselves feel that farmers are cooperating with them, and that 35 percent have difficulty in establishing a sense of accomplishment by working with peasant farmers. These figures may be partially reflected in statement (K6) which indicates that nearly 66 percent of the Bwana Shambas find that peasant farmers do not implement their recommendations.

Information has been gathered on extension officers' opinions regarding certain attributes of extension service. In an opinion survey made in Tanzania by Saylor and reported in Technical and Farm Development in East Africa (1975), it was found that Bwana Shambas do not feel they have enough training but that, nevertheless, they have overcome this obstacle and provide useful information to the farmers with whom they work. On inservice training, Saylor pointed out that: "Apparently, the Bwana Shambas believe that additional training of a slightly different type than they have had in the past would permit them to be much more efficient in carrying out their work."

In another study on the variation of Sukumaland cotton yields and the extension service, Saylor in Technical and Farm Development in East Africa (1975) noted that:

Even the simple analysis carried out here suggests that much work needs to be done in tying the activities of both the research stations and the extension service to basic studies of farm level activities. The complexity of the problem becomes even more apparent if the above governmental instruments are extended to include credit and marketing problems.

Concerning the adoption of innovations extended to farmers by extension officers in Sukumaland, Saylor, in Technical and Farm Development in East Africa (1975) revealed that. . . . "only three farmers out of 207 farmers sprayed their cotton, and only two farmers used fertilizers on their cotton shambas." Saylor also noted that some Bwana Shambas lacked basic competencies which necessitated action by the Mwanza Regional Agricultural Officer who suggested that: ". . . each Bwana Shamba should own a farm . . . Bwana Shambas would thus be forced to learn how to use fertilizers and insecticides as most of them do not seem to have ever done any visible demonstrations of the fertilizers and insecticides." Results of a pesticides test given by Saylor to the Bwana Shambas revealed that:

Over half of the Bwana Shambas did not know how much DDT concentrate should be put into a 2 gallon sprayer if either 8 or 12 gallons of water were sprayed per acre, although nearly all of the Bwana Shambas knew when spraying should begin.

Saylor further pointed out that: "In fact results of a test given to all Regional Field Staff revealed that most of the Bwana Shambas knew virtually nothing about the use of fertilizers." In another test regarding the use of fertilizers, Saylor found that Bwana Shambas were aware of differences between superphosphate and

nitrogenous fertilizers and when they should be applied but they did not know the application rates.

Regarding farmer visits by the extension officers, Benor and Harrison (1977) stated: "Effective extension service will require actual visiting of the farmers by their extension officers. . . . there is no substitute for actually visiting an area where the system is operating."

In the survey done in Sukumaland, visitation was found to be quite low. Saylor, in Technical and Farm Development in East Africa (1975) stated that: "However, examination of the data showed an extremely skewed distribution of farm visits by Bwana Shambas as nearly 70 percent of the farmers revealed that they had had no contact with the Bwana Shamba in the past year."

Concerning the views of the farmers on the work of the Bwana Shambas, Robert Hulls, in Technical and Farm Development in East Africa (1975) revealed that:

. . . the majority of farmers (64.5%, Table 16.4) gave an answer which may be judged as correct--namely, that the Bwana Shamba was concerned with modern methods of farming. About 10 percent limited his work to the cotton crop and half of these to specific items of cotton husbandry.

Regarding the role of the Bwana Shamba as perceived by farmers, Robert Hulls, in Technical and Farm Development in East Africa (1975) stated that:

Most farmers (60.8%, Table 16.5) saw the role of the Bwana Shamba as an adviser or teacher which corresponds, more or less, to the official view of the Bwana Shamba's role. Of the remainder a relatively large proportion (19.1%) regarded Bwana Shamba as an Inspector.

The problems facing Tanzania agricultural development, and the role of political leadership as stipulated in "Politics is Agriculture," have been summarized by Mwalimu Nyerere (1977) when he stated that:

Looking back it is possible to see many contributory factors to this lack of sufficient agricultural growth. Government has been too slow in changing the prices offered to the farmers, so that, at times they were not recompensed for their effort on food crops or for the increased costs of production following inflation. This has now changed, the new prices should enable an active farmer to get a reasonable return for his effort if the rains do not fail. Also difficulties with transportation, and inefficient service from the cooperative societies have been discouraging. But the real failure seems to have been a lack of political leadership and technical understanding at the village and district level. Despite the call in "Politics is Agriculture", for all political leaders to learn the basics of good husbandry in their areas, and to join with the peasants in production; we have continued to shout at the peasants, and exhort them to produce more, without doing much to help them or to work with them in a relationship of mutual respect. Many of our leaders know nothing about agriculture; what is more, they don't want to learn.

Other workers elsewhere have emphasized the fact that the problems encountered have root causes. Leagans, in Behavioral Change in Agriculture (1971) stated that:

The problems encountered are not inherent in an extension education system per se, but stem from lack of such requisites as proper conceptualization of role, adequate staffing, effective coordination with research centers and training institutions, provision of useful technology and requisite physical inputs, adequate financing, proper organization and effective administration.

The goal of modern agriculture is likely to be reached more rapidly when policy makers, agricultural scientists, extension educators, and farmers gain further understanding of the physical, economic, social, technical, educational and political institutions which influence the provision and effective utilization that

modernization requires. In this regard, Leagans adds that:

Political and financial commitments are required for establishing an infrastructure that includes such essential items as agricultural research institutions as well as those necessary to train the manpower needed to lead and manage the agricultural industry, and to provide the needed education of farmers that enables them to move from traditional to modern agricultural practices.

CHAPTER III

PRESENTATION AND INTERPRETATION OF DATA

In recent years, the government of Tanzania directed the MATI system to reorganize training programs such that all certificate level courses should be based on a multi-purpose syllabus, commonly referred to as Agro-Vet, whose graduates should be able to handle or give advice on both crops and livestock enterprises in the villages. This was described as an effort toward reaching the strategy of effecting the "one village one Bwana Shamba" policy. This strategy implies efforts toward solving current problems in the dissemination of technological practices to Tanzanian farmers.

This study was undertaken to determine perceptions of the agricultural extension service, strategies, problems and methods used in extension service. Attitudes toward extension service, training of extension officers and performance from the points of view of clientele, extension officers, employers of extension officers and trainers were also determined. Awareness of their perceptions may provide evidence of what can be done to maintain, improve and/or adjust the service so that appropriate approaches to solving the problems and shortcomings can be devised.

It was anticipated that as a result of this study the employers, trainers, extension officers themselves, and policy makers in the Ministry of Agriculture as well as those in the Regions and Districts might gain insight into the existing status and situations

of the extension service. Systematic knowledge as to how farmers are assisted through this service is vital. The study may be useful in evaluating extension service policies and objectives. Information provided may also assist trainers to review instructional programs for the training of extension officers both at certificate and diploma levels.

The descriptive method was utilized in this study. Data presented in this chapter were obtained from questionnaires mailed to 77 trainers, 39 employers in the four regions, and 260 extension officers in the eight districts which participated in the study, making a total of 376. A total of 308 questionnaires (81.9 percent) were returned and used in the analysis. Completed questionnaires were received from 65 trainers, 30 employers and 213 extension officers. Personal interviews with 320 farmers (representing the clientele) in 80 villages in the four regions were made by the investigator.

The analysis of variance (F-ratio) was utilized to measure the overall significance of differences among occupational groups. The null-hypothesis that no true difference exists among mean ratings of groups was accepted or rejected at the .05 level of confidence. An F-value significant at the .05 level of confidence means that not more than 5 times in 100 trials would a difference of such magnitude appear due to sampling fluctuations if true differences among means were zero.

In appropriate cases, frequency and percentage distributions were calculated. To determine relationship between two variables, correlation testing (regression analysis) was utilized. A

null-hypothesis was accepted or rejected at the .05 level of confidence. However, it is important to note that a significant correlation does not necessarily indicate cause and effect association between the two factors, rather it indicates that there is a consistent relationship between the two variables over and above chance fluctuations in sampling.

Perceptions of the Role of Agricultural Extension Service

Opinions of the clientele, extension officers, employers and trainers were solicited concerning 15 statements relating to the role of agricultural extension service. Respondents were requested to indicate whether they strongly agreed, agreed, were undecided, disagreed or strongly disagreed with each statement by encircling a letter or letters corresponding to each response (SA, A, U, D, SD). Responses were assigned number values from 1 (strongly disagree) to 5 (strongly agree) and mean values for each statement were then found within each occupational category, as can be observed in Table I.

For interpretation purposes, mean values lower than 2.75 should be considered as indicating disagreement. Mean values between 2.75 and 3.25 should be considered as indicating indecision, and mean values above 3.25 should be considered as indicating agreement.

Data presented in Table I indicate that perceptions held by farmers, extension officers, employers and trainers were similar in most cases, even though significant differences among groups were detected by the analysis of variance statistical test for each statement. All groups expressed strong agreement that extension service

TABLE I
 PERCEPTIONS OF THE ROLE OF TANZANIAN AGRICULTURAL EXTENSION
 SERVICE BY OCCUPATIONAL CATEGORIES
 (N = 628)

Statements Rated	Occupational Categories				Overall Means	F Value
	Farmers N = 320	Extension Officers N = 213	Employers N = 30	Trainers N = 65		
1. Extension service helps farmers to help themselves.	4.22	4.46	4.57	4.26	4.32	4.53*
2. Farmers' needs and problems determine agricultural extension service programs in this locality.	3.49	3.95	4.23	3.58	3.69	7.24*
3. Agricultural extension service provides a continuing educational experience for farmers.	4.03	4.32	4.53	3.66	4.12	10.05*
4. Agricultural extension service adequately serves both adults and youths in this locality.	3.18	3.81	3.63	2.52	3.35	18.37*
5. Convincing farmers to adopt new practices requires unusual patience on part of employers, extension officers and policy makers.	4.56	4.28	4.23	4.14	4.40	6.41*
6. Agricultural extension service has helped farmers want to learn.	4.20	4.08	4.13	3.74	4.11	4.57*
7. Agricultural extension officers appear to have adequate self-confidence.	3.58	3.62	3.43	2.91	3.52	6.61*
8. Agricultural extension service should be primarily concerned with introduction of new technology.	3.76	3.48	3.47	2.55	3.52	13.74*
9. Agricultural extension service has changed farmers' attitudes towards new technology.	3.93	4.01	3.93	3.42	3.91	5.15*
10. Agricultural extension service has been more effective in crop production than in animal husbandry.	4.27	3.61	4.07	3.88	3.99	16.47*
11. The current local agricultural extension service program is quite satisfactory.	2.28	1.66	2.07	2.23	2.05	11.07*
12. Agricultural extension officers normally implement national projects regardless of farmers' readiness.	3.13	2.69	2.80	3.40	2.99	6.23*
13. Programs in agricultural extension have been very stable and steadfast in their goals.	3.08	2.48	2.03	2.32	2.75	15.29*
14. Programs in agricultural extension service should be organized and coordinated at the national level.	4.27	3.45	3.73	3.20	3.85	26.45*
15. Extension officers have sufficient practical agricultural knowledge to train farmers properly.	3.13	3.83	3.33	2.71	3.33	16.23*

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Uncertain
 4 - A - Agree
 5 - SA - Strongly Agree

*Significant at the .05 level of confidence.

helps farmers to help themselves and that convincing farmers to adopt new practices requires a great deal of patience. Strong disagreement was expressed by all groups regarding the statement, "The current local agricultural extension service program is quite satisfactory." Oddly enough, the highest rating of this statement (mean 2.28) was given by farmers whereas the lowest (mean 1.66) was given by extension officers.

Considerable disagreement occurred among groups with regard to several statements. Trainers disagreed (mean 2.52), with the statement, "Agricultural extension service adequately serves both adults and youths," whereas extension officers (mean 3.81) and employers (mean 3.63) expressed agreement. Trainers also disagreed (mean 2.55) that extension service should be primarily concerned with introduction of new technology, whereas employers, extension officers and especially farmers (mean 3.76) expressed agreement. Farmers considered extension programs to be somewhat stable and steadfast (mean 3.08) in their goals. Other groups (mean rating range 2.03-2.48) disagreed. With the exception of trainers who indicated indecision (mean 3.20), other groups agreed that, "Programs in agricultural extension service should be organized and coordinated at the national level." Farmers gave the highest rating (mean 4.27). In fact, a considerable number of farmers pointed out during interviews that Tanzania depends on the success of agriculture for her economic development. The present set up is such that each District is on its own and Regions alike. The farmers also opined that it is virtually impossible for anyone to tell what is going on in agricultural

extension service in this country. This justifies the setting up of National Agricultural Extension Service Coordination Office that will monitor the pace at which farmers adopt technical practices.

Acquisition of practical agricultural knowledge by extension officers in the MATI system has often been questioned. It is interesting to note that trainers rated extension officers somewhat lower in this respect (mean 2.71) than did farmers, and much lower than extension officers (mean 3.83) themselves.

Perceptions of Agricultural Extension Service Strategies

In order to determine perceptions of agricultural extension service strategies, opinions of respondents were solicited on six statements dealing with strategies. Data contained in Table II indicate that all respondents strongly agreed with only one statement, "Success of agricultural extension service requires change of attitudes of farmers, extension officers, administrators and political leaders."

Only farmers agreed (mean 3.54) with the statement, "Agricultural extension service goals and objectives are well known by farmers," whereas extension officers, employers and trainers (mean rating range 2.23-2.75) disagreed. Farmers perceived farmers themselves to be more heavily involved in extension program planning (mean 3.01) than did employers (mean 2.17) or trainers (mean 1.98). Employers and extension officers considered periodic program evaluation to be of more value in improving extension programs in their respective localities, than did trainers or farmers. Extension

TABLE II
 PERCEPTIONS OF AGRICULTURAL EXTENSION SERVICE
 STRATEGIES BY OCCUPATIONAL CATEGORIES
 (N = 628)

Statements Rated	Means per Occupational Category				Overall Means	F Value
	Farmers N = 320	Extension Officers N = 213	Employers N = 10	Trainers N = 65		
1. Agricultural extension service goals and objectives are well known by farmers.	3.54	2.75	2.70	2.23	3.09	31.31*
2. Farmers are heavily involved in planning agricultural extension service programs.	3.01	2.98	2.17	1.98	2.85	13.29*
3. Agricultural extension service programs are improved by periodic evaluations in this locality.	2.21	3.06	3.37	2.55	2.59	21.61*
4. Agricultural extension service is based on team work among RADOs, DADOs, Parastatal Managers and Extension Officers.	2.96	4.12	3.60	3.08	3.39	36.28*
5. Success of agricultural extension service requires change of attitude of farmers, extension officers, administrators and political leaders.	4.53	4.59	4.80	4.40	4.55	2.04
6. Extension officers put as much effort in Young Farmers' activities as in Adult Farmers' activities.	2.32	3.75	3.37	2.35	2.86	57.19*

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Undecided
 4 - A - Agree
 5 - SA - Strongly Agree

*Significant at the .05 level of confidence.

officers and employers agreed that extension service is based on team work among RADOs, DADOs, Parastatal Managers and Extension Officers. Farmers and trainers were undecided. Several farmers expressed the opinion during interviews that there used to be team work among Regional and District Agricultural Officers. They used to visit the villages to see what extension officers were doing and give them needed assistance. This inspired farmers and it made extension officers work more diligently than they do now. The extension officer nowadays is on his own.

Extension service is responsible for working with Young Farmers and Adult Farmers. Farmers and trainers perceived that young farmers' activities received considerably less attention than adult farmers' activities. Extension officers and employers perceived that the young and adult farmer activities received equal attention.

These data unveil a rather strong disparity in general that could have serious implications on the extension service. It would appear that clientele, extension officers and employers are not in agreement on extension service strategies.

Perceptions of Agricultural Extension Service Problems

As may be noted from information contained in Table III, all respondents agreed with six statements concerning extension service problems, and expressed indecision on two statements.

Differences between groups existed as verified by the analysis of variance test for each problem. Strong agreement was expressed in regard to the statement, "Communication of new technology to farmers

TABLE III
 PERCEPTIONS OF AGRICULTURAL EXTENSION SERVICE
 PROBLEMS BY OCCUPATIONAL CATEGORIES
 (N = 629)

Statements Rated	Occupational Categories				Overall Means	F Value
	Farmers N = 320	Extension Officers N = 213	Employers N = 30	Trainers N = 65		
1. Communication of new technology to farmers is still a problem.	3.92	4.09	4.23	3.95	3.99	1.42
2. Customary beliefs of local farmers are not a problem in agricultural extension service.	4.02	2.83	2.33	2.06	3.33	60.76*
3. Farmers' reluctance to accept new ideas has made agricultural extension service a failure.	3.63	3.59	3.63	2.94	3.55	5.10*
4. Farmers tend to avoid program responsibility.	3.28	3.43	3.53	3.29	3.34	0.94
5. Political leaders really understand the role of agricultural extension service.	3.64	2.43	2.43	2.38	3.04	53.79*
6. There is inadequate government financial commitment to agricultural extension service.	3.51	3.83	4.10	3.78	3.67	6.01*
7. There are not enough farmer visits by the extension officers.	4.12	2.86	4.00	3.89	3.66	41.49*
8. Extension officers are unable to communicate effectively with people not directly related to agriculture.	3.03	2.20	3.47	3.40	2.80	36.31*

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Undecided
 4 - A - Agree
 5 - SA - Strongly Agree

*Significant at the .05 level of confidence.

is still a problem." However, farmers strongly agreed (mean 4.02) with the statement, "Customary beliefs of local farmers are not a problem in agricultural extension service," whereas trainers (mean 2.06) and employers (mean 2.33) expressed disagreement. Trainers (mean 2.94) were not so sure that farmers' reluctance to accept new ideas has made agricultural extension service a failure, whereas other respondents tended to agree with the statement.

Political leaders' understanding of agricultural extension service has been questionable among agriculturists for quite some time. The information manifests that only farmers (mean 3.64) agreed that political leaders really understand the role of agricultural extension service, while extension officers, employers and trainers disagreed. It is interesting to note that only extension officers (mean 2.86) tended to disagree with the statement, "There are not enough farmer visits by the extension officers," whereas farmers, employers and trainers agreed. Farmers gave the highest mean rating of 4.12. Previous studies have shown that farmer visits by extension officers were quite few. Extension officers also disagreed (mean 2.20) with the statement, "Extension officers are unable to communicate effectively with people not directly related to agriculture," while employers (mean 3.47) and trainers (mean 3.40) expressed agreement.

Percentage Representation of Perceptions of Agricultural Extension Service Problems

In order to more closely examine perceptions of extension service problems, frequencies of responses by occupational categories are presented in Table IV. Respondents were asked to indicate whether

they strongly disagreed (SD), disagreed (D), were undecided (U), agreed (A) or strongly agreed (SA) with each statement. For interpretation purposes SD and D responses were combined, and were termed "Disagree". U remained unchanged while A and SA responses were also totaled and termed "Agree".

Data recorded in Table IV reveal that the majority of farmers did not disagree with any of the statements. It can also be seen that they indicated indecision on two statements with which they would be least familiar. Those statements were concerned with adequacy of government financial commitment to agricultural extension service, and ability of extension officers to communicate effectively with people not directly related to agriculture. Regarding the latter statement, 70.4 percent of extension officers, 33.3 percent of employers and 18.5 percent of trainers perceived no problem. The majority of farmers (78.4 percent) perceived that customary beliefs of local farmers are not a problem in agricultural extension service; whereas 43.7 percent of extension officers, 30.0 percent of employers and only 15.4 percent of trainers agreed. Most farmers, 65.0 percent, expressed belief that political leaders really understand the role of agricultural extension service, while only 19.7 percent of extension officers, 20.0 percent of employers and 20.0 percent of trainers agreed.

Correlation of Perceptions of Agricultural Extension Service Problems with Academic Qualification

To determine the effect of academic qualification on perceptions of agricultural extension service problems, coefficient of correlation

TABLE IV

PERCENTAGE REPRESENTATION OF PERCEPTIONS OF AGRICULTURAL EXTENSION SERVICE PROBLEMS BY OCCUPATIONAL CATEGORIES

Problems Perceived	Farmers N = 370			Extension Officers N = 213			Employers N = 30			Trainers N = 65			
	Disagree	Agree		Disagree	Agree		Disagree	Agree		Disagree	Agree		
	N %	N %	N %	N %	N %	N %	N %	N %	N %	N %	N %	N %	
1. Communication of new technology to farmers is still a problem.	61 19.1	20 6.2	239 74.7	36 16.9	6 2.8	171 80.3	2 6.7	--	--	28 93.3	5 7.7	6 9.2	54 83.1
2. Customary beliefs of local farmers are not a problem in agricultural extension service.	68 21.3	1 .3	251 78.4	109 51.2	11 5.1	93 43.7	20 66.7	1 3.3	3 10.0	9 30.0	50 76.9	5 7.7	10 15.4
3. Farmers' reluctance to accept new ideas has made agricultural extension service a failure.	86 26.9	17 5.3	217 67.8	58 27.2	13 6.1	142 66.7	6 20.0	3 10.0	3 10.0	21 70.0	29 44.6	12 18.5	24 36.9
4. Farmers tend to avoid program responsibility.	125 39.1	9 2.8	186 58.1	61 28.6	26 12.2	126 59.2	7 23.3	4 13.3	4 13.3	19 63.3	15 23.1	19 29.2	31 47.7
5. Political leaders really understand the role of agricultural extension service.	73 22.6	39 12.2	208 65.0	128 60.1	43 20.2	42 19.7	19 63.3	5 16.7	5 16.7	6 20.0	41 63.1	11 16.9	13 20.0
6. There is inadequate government financial commitment to agricultural extension service.	22 6.9	181 56.6	117 36.6	34 16.0	27 12.7	152 71.3	3 10.0	2 6.7	2 6.7	25 83.3	13 20.0	5 7.7	47 72.3
7. There are not enough farmer visits by the extension officers.	64 20.0	5 1.6	251 78.4	108 50.7	17 8.0	88 41.3	5 16.7	--	--	25 83.3	7 10.8	7 10.8	51 78.4
8. Extension officers are unable to communicate effectively with people not directly related to agriculture.	90 28.1	139 43.4	91 28.4	150 70.4	33 15.5	30 14.1	10 33.3	--	--	20 66.7	12 18.5	20 30.8	33 50.8

was utilized to ascertain if a relationship existed between academic qualification and expressed perceptions. This statistical test gives a ratio or "r" value which expresses the extent to which changes in one variable are accompanied by or are dependent upon changes in a second variable. The relationship is expressed relatively on a scale ranging from an absolute -1.00 to +1.00. The significance of the derived "r" is tested against a null-hypothesis that the population "r" is in fact .00; that no relationship exists. The null-hypothesis was accepted or rejected at the .05 level of confidence.

Analysis of data recorded in Table V indicate that significant relationships existed between expressed perceptions and academic qualifications in five of the eight statements to which respondents reacted. The strongest correlations, both negative, appear within the two statements, "Customary beliefs of local farmers are not a problem in agricultural extension service" and "Political leaders really understand the role of agricultural extension service." As agreement with each statement tended to rise, the respondents academic qualification tended to decline. No significant relationship was found regarding communication of new ideas being a problem in extension, farmers tendency to avoid program responsibility or extension officers being unable to communicate effectively with people not directly related to agriculture.

Perceptions on the Extent to which Agricultural Extension Methods are Used

In determining perceptions of agricultural extension service it was considered appropriate to ascertain the extent to which various

TABLE V
CORRELATION OF PERCEPTIONS OF AGRICULTURAL EXTENSION
SERVICE PROBLEMS WITH ACADEMIC QUALIFICATIONS
(N = 625)

Problems Perceived	"r" Value
1. Communication of new technology to farmers is still a problem.	.04
2. Customary beliefs of local farmers are not a problem in agricultural extension service.	-.42*
3. Farmers' reluctance to accept new ideas has made agricultural extension service a failure.	-.13*
4. Farmers tend to avoid program responsibility.	-.01
5. Political leaders really understand the role of agricultural extension service.	-.39*
6. There is inadequate government financial commitment to agricultural extension service.	.13*
7. There are not enough farmer visits by the extension officers.	-.18*
8. Extension officers are unable to communicate effectively with people not directly related to agriculture.	-.11

*Significant at the .05 level of confidence.

methods are used in disseminating agricultural technology to Tanzanian farmers. Opinions of farmers, extension officers, employers and trainers were solicited on a list of seven possible methods which could be used in extension service. Respondents were asked to indicate whether each of the methods was: always (A), often (O), sometimes (ST), seldom (S) or never (N) used by the extension officers in disseminating technological practices in their respective localities. Although five responses were possible, for interpretation only three categories of responses were recorded, that is, seldom, sometimes and often. Frequency analysis was made to determine the percentage of responses within each occupational category.

From information contained in Table VI, one will discover that farmers perceived that only exhortation and village visitation are methods somewhat extensively used. Other groups also perceived these as being the major methods used. However, extension officers also credited themselves with making considerable use of method demonstrations, team approach, group discussions and, to some extent, use of Ukulima wa Kisasa and Kilimo pamphlets in carrying out the extension service mission.

The disparity of opinions, particularly between extension officers and their clientele, the farmers, poses a major question as to diversity and effectiveness of methods. It is obvious, however, that from the farmers' point of view, method demonstration--one of the most effective tools of agricultural extension--should be used much more extensively than is currently the case.

TABLE VI
 PERCENTAGE REPRESENTATION OF PERCEPTIONS OF THE EXTENT TO WHICH AGRICULTURAL
 EXTENSION METHODS ARE USED BY OCCUPATIONAL CATEGORIES

Methods Rated	Farmers N = 320						Extension Officers N = 213						Employers N = 30						Trainers N = 65					
	Seldom		Sometimes		Often		Seldom		Sometimes		Often		Seldom		Sometimes		Often		Seldom		Sometimes		Often	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1. Method demonstration is used by the extension officers.	233	72.8	30	9.4	57	17.8	59	27.7	73	34.3	81	38.0	8	26.7	15	60.0	4	13.3	22	33.8	31	47.7	12	18.5
2. Exhortation (telling) is a method used by the extension officers.	120	37.5	65	20.3	135	42.2	17	8.0	42	19.7	154	72.3	1	3.3	3	10.0	25	86.7	4	6.2	8	12.3	53	81.5
3. Extension officers use group discussions as a teaching method.	293	91.6	12	3.7	15	4.7	71	33.3	79	37.1	63	29.6	13	43.3	12	40.0	5	16.7	24	36.9	26	40.0	15	23.1
4. The extension officers use "team approach" as an agricultural extension method in this area.	268	83.8	24	7.5	28	8.7	54	25.4	71	33.3	88	41.3	13	43.2	11	36.7	4	20.0	38	58.5	15	23.1	12	18.5
5. Village visitation is a method used by the agricultural extension officers in this area.	142	44.4	53	16.6	125	39.0	10	4.7	15	7.0	88	88.3	2	6.7	3	10.0	25	83.3	6	9.2	21	32.3	38	58.5
6. Selling of Ubulwa wa Kisasa and other Kiliro pamphlets is an extension approach in this area.	294	91.9	14	4.4	12	3.7	126	59.2	41	19.2	46	21.6	16	53.3	9	30.0	5	16.7	46	70.8	14	21.5	5	7.7
7. Agricultural cinemas (films) are used in agricultural extension in this area.	307	95.9	9	2.8	4	1.3	168	78.9	30	14.1	15	7.0	18	60.0	9	30.0	3	10.0	47	72.3	7	10.8	11	16.9

Extension Officers', Employers', and Trainers'
Attitudes toward Agricultural Extension Service

Favorable attitudes toward extension service are as important as positive perceptions of the agricultural extension service. In this study it was proposed that the attitudes of extension officers, employers and trainers regarding certain aspects of agricultural extension service be determined. Opinions of respondents were solicited on 10 statements relating to various aspects of agricultural extension service.

Information contained in Table VII clearly indicates that respondents strongly agreed with seven of the 10 statements. These dealt with need for linkage between extension service and the MATIs, periodic follow-up on MATI graduates by trainers, starting of farmer classes in the villages, organization of refresher courses in specific subject matter areas for extension officers by MATIs, use of extension problems by MATIs in designing new training strategies, holding seasonal seminars on extension methodology by RADOs and DADOs, and MATI cooperation with RADOs and DADOs in designing extension methodology seminars.

Trainers expressed disagreement (mean 2.65) with the statement, "Agricultural extension officers are provided with fully detailed programs from their superiors," whereas extension officers (mean 3.55) and employers (mean 3.50) agreed. The linkage between extension and research services in the improvement of agricultural practices and availability of research recommendations to extension officers has been questioned. It is interesting to note that

TABLE VII
 EXTENSION OFFICERS', EMPLOYERS', AND TRAINERS' ATTITUDES
 TOWARD EXTENSION SERVICE
 (N = 308)

Statements Rated	Extension Officers N = 213	Employers N = 30	Trainers N = 65	Overall Means	F Value
1. Agricultural extension officers are provided with fully detailed programs from their superiors.	3.55	3.50	2.65	3.36	17.34*
2. Agricultural extension officers normally prepare a plan of work for each program.	3.85	3.60	3.06	3.66	14.82*
3. There is strong linkage between Extension and Research services.	3.51	2.67	2.38	3.19	21.93*
4. There should be a strong linkage between Extension service and the MATIs.	4.65	4.57	4.51	4.61	1.29
5. Extension Officers who live in villages should introduce farmers' classes in their villages.	4.17	4.37	4.25	4.20	0.70
6. MATIs should make periodic follow-up on their graduates' field performance.	4.22	4.67	4.69	4.36	9.32*
7. MATIs should organize refresher courses for extension officers in specific subject matter areas.	4.63	4.93	4.52	4.64	3.06*
8. MATIs should use extension problems in the field in designing new strategies for instruction.	4.51	4.73	4.54	4.54	1.43
9. RADOs and DADOs should hold seasonal seminars in extension methodology.	4.44	4.70	4.28	4.43	3.19*
10. MATIs should cooperate with RADOs and DADOs in designing extension methodology seminars.	4.53	4.73	4.32	4.51	3.56*

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Undecided
 4 - A - Agree
 5 - SA - Strongly Agree

*Significant at the .05 level of confidence.

extension officers (mean 3.51) agreed that, "There is strong linkage between extension and research services," whereas employers (mean 2.67) and trainers (mean 2.38) expressed disagreement.

Extension Officers' and Employers' Attitudes toward
Extension Staffing, Morale, and Performance

Performance of extension staff and the competence of both sexes in agricultural extension has often been questioned. To determine attitudes of extension officers and employers, respondents' opinions were solicited on eight statements relating to staffing, morale and performance.

Information contained in Table VIII identifies areas where respondents indicated strong agreement as well as strong disagreement. Both groups strongly agreed with two statements, "Local extension service staffing is inadequate," and that "The happier the extension officers, the harder they tend to work." Strong disagreement was expressed by both groups with regard to the statement, "Promotions in extension service are rational and give hope to extension officers." In fact, extension officers pointed out in their comments that promotions in extension service usually take so long that some officers reach retirement age without having been promoted even once. This is indeed very discouraging. Employers on the other hand pointed out that extension personnel have been frustrated for a long time, and this has resulted in lower work output, especially by the Agricultural Field Assistants cadre. Promotions are not forthcoming. Although the Ministry of Agriculture failed to promote the extension staff rationally in the past, under decentralization, it is even

TABLE VIII
 EXTENSION OFFICERS' AND EMPLOYERS' ATTITUDES TOWARD EXTENSION
 STAFFING, MORALE AND PERFORMANCE
 (N = 243)

Statements Rated	Extension Officers N = 213	Employers N = 30	Overall Means	F Value
1. Local extension service staffing is inadequate.	4.73	4.80	4.74	0.48
2. Promotions in extension service are rational and give hope to extension officers.	1.84	1.87	1.84	0.01
3. Extension officers are satisfied with present recruitment procedures for higher training.	2.51	2.07	2.45	2.46
4. Morale of extension officers is quite high.	3.10	2.10	2.98	17.22*
5. The happier the extension officers the harder they tend to work.	4.54	4.80	4.58	3.09
6. Female extension officers perform as competently as male extension officers in the villages.	3.25	2.10	3.11	22.85*
7. Extension service is too difficult for female extension officers.	3.11	4.07	3.23	15.79*
8. There is little need for more female extension officers to work in villages.	2.29	3.57	2.44	28.94*

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Undecided
 4 - A - Agree
 5 - SA - Strongly Agree

*Significant at the .05 level of confidence.

worse.

Disagreement was also expressed by both groups with respect to the statement, "Extension officers are satisfied with present recruitment procedures for higher training." It is interesting to note that the lowest mean rating of 2.07, was given by employers. Significant differences were detected between responses of extension officers and employers in several instances. Employers rated morale of extension officers much lower (mean 2.10) than did extension officers themselves (mean 3.10). Extension officers agreed (mean 3.25) that, "Female extension officers perform as competently as male extension officers in the village," while employers (mean 2.10) expressed disagreement. However, employers strongly agreed (mean 4.07) with the statement, "Extension service is too difficult for female extension officers," while extension officers expressed indecision. Extension officers perceived female extension officers to be needed to work in villages, whereas employers thought there was little, if any, need for more female extension officers to work in villages. In this respect, employers commented that the only time a female extension officer will be useful is when each village has an extension officer, but not now when each extension officer is required to serve up to five or more villages.

Influence of Extension Officers' Sex on Attitudes toward Extension Staffing, Morale and Performance

An effort was made to determine influence of sex on attitudes toward extension staffing, morale and performance. Since females appeared only among extension officers, responses of male and female

extension officers were subjected to analysis as can be observed in Table IX. Responses of employers (all males) were also included in Table IX but only for purposes of observation and comparison. The most striking difference of opinion between male and female extension officers appeared with respect to the statement, "Female extension officers perform as competently as male extension officers in the villages." Females strongly agreed (mean rating 4.21) with the statement whereas males were somewhat less enthusiastic (mean rating 3.08). Females also rated recruitment procedures, morale of extension officers, and inadequacy of staffing significantly higher than did males. However, males and females agreed that more female extension officers are needed to work in the villages.

Influence of Age on Farmers' Attitudes Toward Extension Service and Competence of Extension Officers

As an item of analysis, farmers were requested to respond to 10 statements relating to extension service and competence of extension officers. Data were categorized by age groups and the analysis of variance statistical procedure was utilized to determine whether significant differences existed in mean ratings among age groups.

As may be noted from information contained in Table X, no significant differences among mean ratings of age groups were detected, manifesting agreement of attitude ratings in each of the 10 statements. All groups strongly agreed with the statement, "If offered an opportunity to attend farmers' classes, I will attend." The lowest mean rating of 4.66 was given by the age group 21-30 years.

TABLE IX
 INFLUENCE OF EXTENSION OFFICERS' SEX ON ATTITUDES TOWARD
 EXTENSION STAFFING, MORALE AND PERFORMANCE
 (N = 243)

Statements Rated	Employers		Extension Officers		Overall Means	F Value
	Male N = 30	Female N = 0	Male N = 180	Female N = 33		
1. Local extension service staffing is inadequate.	4.80	--	4.69	4.91	4.73	4.76*
2. Promotions in extension service are rational and gave hope to extension officers.	1.87	--	1.84	1.82	1.84	0.01
3. Extension officers are satisfied with present recruitment procedures for higher training.	2.07	--	2.38	3.21	2.51	9.19*
4. Morale of extension officers is quite high.	2.10	--	3.03	3.52	3.10	4.05*
5. The happier the extension officers the harder they tend to work.	4.80	--	1.53	4.61	4.54	0.24
6. Female extension officers perform as competently as male extension officers in the villages.	2.10	--	3.08	4.21	3.25	24.87*
7. Extension service is too difficult for female extension officers.	4.07	--	3.17	2.82	3.11	2.15
8. There is little need for more female extension officers to work in villages.	3.57	--	2.33	2.03	2.29	1.68

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Undecided
 4 - A - Agree
 5 - SA - Strongly Agree

*Significant at the .05 level of confidence.

TABLE X
 FARMERS' ATTITUDES TOWARD EXTENSION SERVICE AND EXTENSION
 OFFICERS' COMPETENCE BY AGE
 (N = 320)

Statements Rated	Age Groups in Years					Overall Means	F Value
	21-30 N = 44	31-40 N = 92	41-50 N = 90	51-60 N = 61	> 60 N = 33		
1. I usually get agricultural technical assistance from the extension officer when I need it.	3.32	3.17	3.43	3.33	2.91	3.27	0.92
2. Agricultural extension service has helped me to develop and succeed in farming.	3.55	3.46	3.94	3.85	3.39	3.68	1.91
3. Extension service should provide us with free farm inputs.	3.45	3.36	3.51	3.08	3.42	3.37	0.80
4. The extension officer knows most basic skills in crop production.	3.41	3.42	3.77	3.80	3.45	3.59	1.66
5. The extension officer knows most basic skills in livestock production.	2.98	2.84	2.81	2.79	2.94	2.85	0.21
6. The extension officer knows basic skills in farm machinery use.	2.89	3.03	2.93	2.82	2.97	2.94	0.30
7. The extension officer is competent in advising farmers on new practices.	3.20	3.36	3.44	3.66	3.09	3.39	1.08
8. The extension officer uses local leadership to help him in his work.	3.29	3.46	3.68	3.52	3.21	3.48	0.79
9. I am satisfied with the work of the extension officer.	3.29	2.99	3.29	3.33	2.88	3.17	0.91
10. If offered an opportunity to attend farmers' classes, I will attend.	4.66	4.75	4.82	4.87	4.70	4.78	1.52

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Undecided
 4 - A - Agree
 5 - SA - Strongly Agree

All groups expressed indecision with respect to the statement, "The extension officer knows most basic skills in livestock production," with the lowest mean rating of 2.79 given by age group 51-60 years. Indecision was also expressed in regard to the statement, "The extension officer knows basic skills in farm machinery use." Age group 31-40 years gave the highest mean rating of 3.03. Whereas other age groups indicated that they were somewhat satisfied with the work of the extension officer, age groups 31-40 years and more than 60 years, indicated indecision.

Farmers' Attitudes Toward Extension Service and
Extension Officers' Competence by Regions

Tanzania's agriculture depends largely on rainfall. Rainfall distribution determines the adaptability of crop and livestock enterprises in the regions. Variation in climatic conditions has been among the most frequently mentioned topics in extension service. In this study, responses of farmers from the four regions were compared concerning the 10 statements relating to agricultural extension service and extension officers' competence. The analysis of variance statistical procedure was utilized to determine whether significant differences existed among mean ratings of farmers in the four regions.

As indicated in Table XI, significant differences in attitudes were detected among regions. Farmers in all four regions strongly agreed with the statement, "If offered an opportunity to attend farmers' classes, I will attend." Also rated highly were "The extension officer knows most basic skills in crop production," and "Agricultural extension service has helped me to develop and succeed

TABLE XI
 FARMERS' ATTITUDES TOWARD EXTENSION SERVICE AND EXTENSION
 OFFICERS' COMPETENCE BY REGIONS
 (N = 320)

Statements Rated	Regions				Overall Means	F Value
	Dodoma N = 80	Mbeya N = 80	Tabora N = 80	Tanga N = 80		
1. I usually get agricultural technical assistance from the extension officer when I need it.	3.00	3.42	3.69	2.96	3.27	4.73*
2. Agricultural extension service has helped me to develop and succeed in farming.	3.39	4.02	3.84	3.45	3.68	3.60*
3. Extension service should provide us with free farm inputs.	3.17	3.15	3.69	3.46	3.37	2.33
4. The extension officer knows most basic skills in crop production.	3.27	3.84	3.56	3.70	3.59	3.05*
5. The extension officer knows most basic skills in livestock production.	3.10	2.60	2.99	2.71	2.85	2.71*
6. The extension officer knows basic skills in farm machinery use.	2.66	3.24	3.09	2.76	2.94	3.91*
7. The extension officer is competent in advising farmers on new practices.	2.96	3.71	3.36	3.52	3.39	3.97*
8. The extension officer uses local leadership to help him in his work.	3.20	3.62	3.86	3.25	3.48	3.42*
9. I am satisfied with the work of the extension officer.	2.79	3.64	3.34	2.90	3.17	5.18*
10. If offered an opportunity to attend farmers' classes, I will attend.	4.62	4.92	4.70	4.85	4.78	5.98*

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Undecided
 4 - A - Agree
 5 - SA - Strongly Agree

*Significant at the .05 level of confidence.

in farming," even though significant differences existed among mean ratings given by farmers.

Further analysis of the data reveals that farmers in Tabora and Tanga regions tended to agree with the statement, "Extension service should provide us with free farm inputs," whereas those in Dodoma and Mbeya regions were not so sure. A considerable number of farmers in Mbeya region, and Rungwe district in particular, pointed out during interviews that they were eager to develop agriculture through their own efforts, and that under the self-reliance policy they felt development would not occur if inputs were given freely. They requested the Ministry to see that all farm inputs be easily and readily available to farmers at reasonable prices. They also felt that agricultural loan policies should cover all crops and livestock enterprises.

Disagreement was expressed by farmers in Mbeya region (mean 2.60) and Tanga region (mean 2.71) with respect to the statement, "The extension officer knows most basic skills in livestock production," whereas those in Dodoma (mean 3.10) and Tabora (mean 2.99) perceived that extension officers were somewhat more competent. The extension officers' knowledge of basic skills in farm machinery use was rated lowest by farmers in Dodoma region (mean 2.66) as compared with farmers in Mbeya region (mean 3.24), who rated it highest. Extension officers' competence in advising farmers has often been questioned. However, farmers in Mbeya, Tabora and Tanga regions agreed with the statement, "The extension officer is competent in advising farmers on new practices," while farmers in Dodoma region indicated

indecision.

The use of local leadership in agricultural extension was rated lower in Dodoma region (mean 3.20) than in other regions. Farmers in Mbeya region (mean 3.64) and Tabora region (mean 3.34) expressed greater satisfaction with the work of extension officers than those in Dodoma region (mean 2.79) and Tanga region (mean 2.90).

These data display to a certain extent a regional pattern of responses; with reaction of farmers in Dodoma reflecting a trend of lower ratings followed by Tanga, then Tabora and Mbeya with higher ratings.

Influence of Age on Extension Officers' Attitudes toward Training and Clientele

Attitudes of extension officers were sought on 10 statements relating to various aspects of extension service, training they received at the MATIs and clientele. Ratings were categorized by age groups to determine if age had an influence on their responses.

As is revealed by information contained in Table XII, no significant difference was found among mean ratings by age groups, reflecting agreement of attitude ratings in each of the 10 statements. All respondents strongly agreed with the statement, "I require more training in farm machinery to help me discharge my duties properly." Also highly rated were, "Farmers have a poor understanding of the role of the extension officers," and "Farmers have a very strong desire to improve their living standards." Extension officers in the age group 41-50 years perceived themselves to have had adequate training in livestock production, whereas other age groups

TABLE XII
 INFLUENCE OF AGE ON EXTENSION OFFICERS' ATTITUDES
 TOWARD TRAINING AND CLIENTELE
 (N = 213)

Statements Rated	Age Groups in Years					Overall Means	F Value
	21-30 N = 106	31-40 N = 71	41-50 N = 30	51-60 N = 4	> 60 N = 2		
1. I get adequate supervision and technical assistance from the DADO, DLDO and District Manager.	3.30	3.11	3.47	4.00	4.50	3.29	1.47
2. I have had adequate training in crop production to discharge my duties properly.	3.36	3.73	3.83	3.25	4.00	3.55	1.89
3. I have had adequate training in livestock production to discharge my duties properly.	2.71	2.80	3.40	2.50	2.50	2.83	1.90
4. I have had adequate training in extension methodology at the MATI.	3.70	3.76	4.07	2.75	4.50	3.76	1.76
5. I require more training in Farm Machinery to help me discharge my duties properly.	4.62	4.32	4.27	4.75	4.00	4.47	2.17
6. Farmers have vague understanding of the role of extension service.	3.67	3.44	3.53	4.50	3.00	3.58	1.38
7. Farmers' education facilitates adoption of new practices.	3.51	3.15	3.27	4.00	3.00	3.36	1.21
8. Farmers have a poor understanding of the role of the extension officer.	4.08	4.21	3.77	4.50	3.50	4.08	1.54
9. Farmers have a very strong desire to improve their living standards.	4.07	4.08	4.13	3.75	5.00	4.09	0.58
10. Village leadership has had great impact on the success of extension service in this area.	3.62	3.49	4.27	4.00	3.50	3.68	2.26

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Undecided
 4 - A - Agree
 5 - SA - Strongly Agree

indicated disagreement, with lowest mean rating of 2.50 given by age groups 51-60 years and over 60 years. Only extension officers within age group 51-60 years (mean 2.75) expressed some disagreement with regard to the statement, "I have had adequate training in extension methodology at the MATI," while other age groups (mean rating range 3.70-4.50) expressed agreement.

Influence of Dates of Appointment on Extension Officers'
Attitudes toward Training and Clientele

As an item for analysis, ratings of the 10 statements relating to extension officers' training and clientele were categorized by dates of appointment to the extension service. This was necessary so that duration in the service and technological change impact as revealed by their response mean ratings could be determined.

Information contained in Table XIII makes it clear that respondents expressed similar attitudes in most aspects, although significant differences among dates of appointments were detected by analysis of variance statistical test in two of the 10 statements. Concerning the statement, "I get adequate supervision and technical assistance from the DADO, DLDO and District Manager," extension officers appointed between 1966-1970 (mean 3.00) and 1976-1978 (mean 3.06) indicated indecision, while other extension officers agreed with the statement. With regard to the statement, "I have had adequate training in livestock production to discharge my duties properly," extension officers appointed between 1971-1975 (mean 2.53) expressed disagreement, while those appointed between 1955-1960 (mean 3.50) and 1961-1965 (mean 3.67) agreed.

TABLE XIII
EXTENSION OFFICERS' ATTITUDES TOWARD TRAINING AND CLIENTELE
BY DATES OF APPOINTMENT
(N = 213)

Statements Rated	Dates of Appointment in Years						Overall Means	F Value
	<1954 N = 14	'55-'60 N = 24	'61-'65 N = 3	'66-'70 N = 55	'71-'75 N = 70	'76-'78 N = 47		
1. I get adequate supervision and technical assistance from the DADO, DLDO and District Manager.	4.07	3.42	3.67	3.00	3.44	3.06	3.29	2.69*
2. I have had adequate training in crop production to discharge my duties properly.	3.93	3.79	4.33	3.65	3.30	3.53	3.55	1.64
3. I have had adequate training in livestock production to discharge my duties properly.	2.86	3.50	3.67	2.76	2.53	2.96	2.83	2.61*
4. I have had adequate training in extension methodology at the MATI.	4.00	4.00	4.33	3.60	3.71	3.79	3.76	0.78
5. I require more training in farm machinery to help me discharge my duties properly.	4.36	4.42	4.33	4.25	4.54	4.68	4.47	1.53
6. Farmers have vague understanding of the role of extension service.	3.50	3.54	4.67	3.36	3.76	3.55	3.58	1.45
7. Farmers' education facilitates adoption of new practices.	3.14	3.54	3.33	3.09	3.50	3.45	3.36	0.92
8. Farmers have a poor understanding of the role of the extension officer.	3.93	3.96	4.67	4.11	4.11	4.08	4.08	0.40
9. Farmers have a very strong desire to improve their living standards.	4.36	4.21	4.33	3.96	4.11	4.04	4.09	0.53
10. Village leadership has had great impact in the success of extension service in this area.	3.79	4.37	3.67	3.47	3.61	3.62	3.68	1.94

Rating Scale: 1 - SD - Strongly Disagree
2 - D - Disagree
3 - U - Undecided
4 - A - Agree
5 - SA - Strongly Agree

*Significant at the .05 level of confidence.

Strong agreement was expressed with regard to the statements, "I require more training in farm machinery to help me discharge my duties properly," "Farmers have a poor understanding of the role of the extension officer," and "Farmers have a very strong desire to improve their living standards."

These data unveil areas which, from the extension officers' point of view, MATIs could strengthen. It appears that extension officers feel they were not adequately prepared in livestock production and farm machinery.

Influence of Professional Training on Extension Officers' Attitudes toward Training and Clientele

An effort was made to determine influence of professional training on attitudes toward training and the clientele. Data presented in Table XIV reveal that responses were similar in most aspects regardless of training. A significant difference was detected in only one statement, "I require more training in farm machinery to help me discharge my duties properly." Oddly enough, the highest mean rating of 5 was given by extension officers who had professional training at the degree level, however, the reader will note that only two respondents had degrees.

The most striking difference was in regard to the statement, "I get adequate supervision and technical assistance from the DADO, DLDO and District Manager." Those who had degree qualification (mean 2.0) disagreed, while certificate holders (mean 3.34) expressed agreement. Certificate holders (mean 2.77) indicated some disagreement with the statement, "I have had adequate training in

TABLE XIV
 INFLUENCE OF PROFESSIONAL TRAINING ON EXTENSION OFFICERS' ATTITUDES
 TOWARD TRAINING AND CLIENTELE
 (N = 213)

Statements Rated	Professional Training			Overall Means	F Value
	Certificate N = 178	Diploma N = 33	Degree N = 2		
1. I get adequate supervision and technical assistance from the DADO, DLDO and District Manager.	3.34	3.06	2.00	3.29	2.01
2. I have had adequate training in crop production to discharge my duties properly.	3.53	3.64	4.00	3.55	0.27
3. I have had adequate training in livestock production to discharge my duties properly.	2.77	3.12	3.00	2.83	1.05
4. I have had adequate training in extension methodology at the MATI.	3.75	3.88	3.00	3.76	0.68
5. I require more training in Farm Machinery to help me discharge my duties properly.	4.54	4.06	5.00	4.47	5.13*
6. Farmers have vague understanding of the role of extension service.	3.57	3.70	3.00	3.58	0.49
7. Farmers' education facilitates adoption of new practices.	3.42	3.03	4.00	3.36	1.60
8. Farmers have a poor understanding of the role of the extension officer.	4.04	4.27	5.00	4.08	1.78
9. Farmers have a very strong desire to improve their living standards.	4.06	4.21	5.00	4.09	1.25
10. Village leadership has had great impact in the success of extension service in this area.	3.67	3.64	4.50	3.68	0.46

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Undecided
 4 - A - Agree
 5 - SA - Strongly Agree

*Significant at the .05 level of confidence.

livestock production to discharge my duties properly," whereas diploma holders (mean 3.12) somewhat agreed, and degree holders (mean 3.00) expressed indecision. Degree holders (mean 4.00) and certificate holders (mean 3.42) expressed agreement with the statement, "Farmers' education facilitates adoption of new practices," whereas diploma holders (mean 3.03) were not so sure.

Regional Influences on Extension Officers' Attitudes toward Training and Clientele

One of the reasons advanced against MATIs offering specialized courses for extension officers is the diversity of climatic conditions of Tanzania, and hence, the agricultural systems in various regions and/or districts. As a means of determining the influence of regional posting of extension officers and agricultural systems on attitudes of extension officers, the 10 statements relating to training and clientele were categorized and analyzed by region.

From information contained in Table XV, one will discover that respondents expressed similar attitudes in most aspects, and that significant differences among groups were detected in four of the 10 statements when the analysis of variance statistical test was applied. Extension officers in Dodoma (mean 3.28) perceived that they have had adequate training in livestock production to discharge their duties properly, while those in Mbeya region (mean 2.63) and Tabora region (mean 2.45) expressed disagreement, and extension officers in Tanga region (mean 3.16) were not so sure. Adequacy of training in extension methodology at the MATI was rated lowest by extension officers in Dodoma region (mean 3.40) and was rated highest by those

TABLE XV
REGIONAL INFLUENCES ON EXTENSION OFFICERS' ATTITUDES
TOWARD TRAINING AND CLIENTELE
(N = 213)

Statements Rated	Regions				Overall Means	F Value
	Dodoma N = 53	Mbeya N = 81	Tabora N = 47	Tanga N = 32		
1. I get adequate supervision and technical assistance from the DADO, DLDO and District Manager.	3.07	3.44	3.28	3.25	3.29	1.06
2. I have had adequate training in crop production to discharge my duties properly.	3.32	3.69	3.53	3.62	3.55	1.21
3. I have had adequate training in live-stock production to discharge my duties properly.	3.28	2.63	2.45	3.16	2.83	5.36*
4. I have had adequate training in extension methodology at the MATI.	3.40	3.89	3.89	3.84	3.76	2.65*
5. I require more training in Farm Machinery to help me discharge my duties properly.	4.58	4.42	4.47	4.41	4.47	0.49
6. Farmers have vague understanding of the role of extension service.	3.91	3.30	3.62	3.72	3.58	3.77*
7. Farmers' education facilitates adoption of new practices.	3.51	3.07	3.66	3.41	3.36	2.64*
8. Farmers have a poor understanding of the role of the extension officer.	4.07	4.15	4.06	3.97	4.08	0.28
9. Farmers have a very strong desire to improve their living standards.	4.07	4.22	3.96	3.97	4.09	0.97
10. Village leadership has had great impact in the success of extension service in this area.	3.41	3.80	3.70	3.75	3.68	1.11

Rating Scale: 1 - SD - Strongly Disagree
2 - D - Disagree
3 - U - Undecided
4 - A - Agree
5 - SA - Strongly Agree

*Significant at the .05 level of confidence.

in Mbeya region (mean 3.89) and Tabora region (mean 3.89). Extension officers in all four regions perceived that farmers have vague understanding of the role of the extension service, with the highest mean rating of 3.91 given by extension officers in Dodoma region, and the lowest mean rating of 3.30 given by those in Mbeya region. Indecision was expressed by extension officers in Mbeya region (mean 3.07) with respect to the statement, "Farmers' education facilitates adoption of new practices," whereas extension officers in the other regions (mean rating range 3.41-3.66) expressed agreement.

Further analysis of the information reveals that extension officers in Mbeya, Tabora and Tanga regions indicated agreement with the statement, "I get adequate supervision and technical assistance from the DADO, DLDO and DM," while those in Dodoma region (mean 3.07) expressed indecision. The role played by village leadership in the success of extension service was given the lowest mean rating of 3.41 by extension officers in Dodoma. The highest mean rating of 3.80 was given by extension officers in Mbeya region.

Influence of Employer on Extension Officers' Attitudes toward Training and Clientele

In this study, an effort was made to determine whether being an employee of either a Kilimo parastatal or the government would affect attitudes of extension officers toward training and clientele. Frequency analysis was utilized to determine the percentage of responses within each group of employees.

As is revealed by information contained in Table XVI, percentage responses among the two categories of employees were

TABLE XVI
 INFLUENCE OF EMPLOYER ON EXTENSION OFFICERS' ATTITUDES
 TOWARD TRAINING AND CLIENTELE
 (N = 213)

Statements Rated	Government Employees N = 185						Parastatal Employees N = 28					
	Disagree		Undecided		Agree		Disagree		Undecided		Agree	
	N	%	N	%	N	%	N	%	N	%	N	%
1. I get adequate supervision and technical assistance from the DADO, DLDO and District Manager.	61	33.0	24	13.0	100	54.0	5	17.9	2	7.1	21	75.0
2. I have had adequate training in crop production to discharge my duties properly.	43	23.2	22	11.9	120	64.9	6	21.4	1	3.6	21	75.0
3. I have had adequate training in livestock production to discharge my duties properly.	87	47.0	23	12.4	75	40.5	23	82.1	1	3.6	4	14.3
4. I have had adequate training in extension methodology at the MATI.	38	20.5	12	6.5	135	73.0	2	7.1	1	3.6	25	89.3
5. I require more training in Farm Machinery to help me discharge my duties properly.	8	4.3	12	6.5	165	89.2	1	3.6	--	--	27	96.4
6. Farmers have vague understanding of the role of extension service.	42	22.7	19	10.3	124	67.0	8	28.6	1	3.6	19	67.8
7. Farmers' education facilitates adoption of new practices.	64	34.6	13	7.0	108	58.4	13	46.4	--	--	15	53.6
8. Farmers have a poor understanding of the role of the extension officer.	18	9.7	7	3.8	160	86.5	5	17.9	--	--	23	82.1
9. Farmers have a very strong desire to improve their living standards.	18	9.7	16	8.6	151	81.6	5	17.9	--	--	23	82.1
10. Village leadership has had great impact in the success of extension service in this area.	40	21.6	16	8.6	129	69.7	6	21.4	1	3.6	21	75.0

remarkably similar in most aspects. The two categories of employees differed with regard to adequacy of training in livestock production. While 40.5 percent of the government employed extension officers felt adequately trained in this area, only 14.3 percent of the Kilimo parastatal employed extension officers considered their training adequate. Adequacy of supervision of extension officers by their superiors has often been questioned. Kilimo parastatal employees (75.0 percent) expressed agreement with the statement, "I get adequate supervision and technical assistance from the DADO, DLDO and District Managers," whereas only 54.0 percent of the government employees agreed. Strong agreement was expressed by both categories in respect of need for more training in farm machinery, farmers' poor understanding of the role of the extension officers, and farmers' strong desire to improve their living standards.

Influence of Age on Employers' Attitudes toward
Certificate Level Extension Officers

To determine attitudes toward certificate level extension officers, employers were asked to rate four statements relating to extension officers' training and performance. The analysis of variance statistical procedure was utilized to ascertain whether significant differences existed among mean ratings of various age groups. Mean responses are presented in Table XVII.

Although no significant differences in mean ratings among age groups were found, employers within age group 21-30 years tended to agree with one statement, "Certificate level extension officers are adequately prepared to discharge extension service duties," and

TABLE XVII

EMPLOYERS' ATTITUDES TOWARD CERTIFICATE LEVEL EXTENSION OFFICERS BY AGE
(N = 30)

Statements Rated	Age in Years					Overall Means	F Value
	21-30 N = 7	31-40 N = 15	41-50 N = 7	51-60 N = 1	> 60 N = 0		
1. Certificate level extension officers are adequately prepared to discharge extension service duties.	3.29	3.33	3.14	4.00	--	3.30	0.17
2. Certificate level extension officers are adequately prepared in teaching methods for agricultural development.	3.14	3.53	3.57	2.00	--	3.40	0.89
3. Certificate level extension officers prepare good extension plans of work.	3.14	3.13	3.43	2.00	--	3.17	0.53
4. Certificate level extension officers are creative in their work.	3.00	3.27	3.29	3.00	--	3.20	0.16

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Undecided
 4 - A - Agree
 5 - SA - Strongly Agree

indicated indecision regarding other aspects. Employers within age group 31-40 years agreed with most statements. They expressed indecision (mean 3.13) regarding the statement, "Certificate level extension officers prepare good extension plans of work." Disagreement was expressed by the single employer within age group 51-60 years, with respect to the statements, "Certificate level extension officers are adequately prepared in teaching methods for agricultural development," and "Certificate level extension officers prepare good plans of work."

Regional Influences on Employers' Attitudes toward
Certificate Level Extension Officers

Due to diversity of climatic conditions from one region to another, and varying agricultural systems, respondents were requested to indicate their respective regions in order to find out whether such diversities could influence employers' attitudes toward extension officers' training and performance.

Information contained in Table XVIII indicates that no significant differences among mean ratings were detected when analysis of variance statistical test was applied. However, further analysis of the information depicts that employers in Tabora region (mean rating range 3.40-3.90) expressed agreement with all statements; whereas employers in other regions indicated indecision, except those in Tanga region (mean 3.37) who expressed agreement with the statement, "Certificate level extension officers are adequately prepared in teaching methods for agricultural development." Lowest rating was given by employers in Dodoma region (mean 2.80) with

TABLE XVIII

REGIONAL INFLUENCE ON EMPLOYERS' ATTITUDES TOWARD
CERTIFICATE LEVEL EXTENSION OFFICERS
(N = 30)

Statements Rated	Regions				Overall Means	F Value
	Dodoma N = 5	Mbeya N = 7	Tabora N = 10	Tanga N = 8		
1. Certificate level extension officers are adequately prepared to discharge extension service duties.	2.80	3.14	3.90	3.00	3.30	1.63
2. Certificate level extension officers are adequately prepared in teaching methods for agricultural development.	3.20	2.86	3.90	3.37	3.40	1.56
3. Certificate level extension officers prepare good extension plans of work.	3.00	3.00	3.60	2.87	3.17	0.86
4. Certificate level extension officers are creative in their work.	3.00	3.14	3.40	3.12	3.20	0.24

Rating Scale: 1 - SD - Strongly Disagree
2 - D - Disagree
3 - U - Undecided
4 - A - Agree
5 - SA - Strongly Agree

respect to adequacy of extension officers' preparation to discharge extension service duties. Employers in Mbeya region gave lowest mean rating of 2.86 with regard to adequacy of preparation of certificate level extension officers in teaching methods for agricultural development; and employers in Tanga region gave lowest mean rating of 2.87 concerning certificate level extension officers' ability to prepare good extension plans of work.

Influence of Dates of Appointment on Employers' Attitudes toward Certificate Level Extension Officers

Employers were categorized according to dates of first appointment to determine if that factor influenced attitudes toward certificate level extension officers. These data can be observed in Table XIX. Information unveils differences of opinion among groups, although when analysis of variance statistical test was applied, a significant difference was detected in only one statement, "Certificate level extension officers are creative in their work." Strong agreement (mean 4.20) was expressed by employers appointed between 1971 and 1975, while disagreement (mean 2.40) was indicated by employers appointed between 1976 and 1978.

Indecision was expressed concerning three of the four statements by employers appointed before 1955 (mean 3.00), those appointed between 1955 and 1960 (mean rating range 2.80-3.00), and those appointed from 1976-1978 (mean rating range 3.00-3.20). Employers appointed between 1961 and 1965 (mean rating range 2.50-2.75) gave low rating to all four aspects, indicating dissatisfaction both with training received by extension officers and work performance.

TABLE XIX
 INFLUENCE OF DATES OF APPOINTMENT ON EMPLOYERS' ATTITUDES
 TOWARD CERTIFICATE LEVEL EXTENSION OFFICERS
 (N = 30)

Statements Rated	Dates of Appointment in Years						Overall Means	F Value
	< 1955 N = 2	'55-'60 N = 5	'61-'65 N = 4	'66-'70 N = 9	'71-'75 N = 5	'76-'78 N = 5		
1. Certificate level extension officers are adequately prepared to discharge extension service duties.	3.00	2.80	2.50	3.44	4.40	3.20	3.30	1.90
2. Certificate level extension officers are adequately prepared in teaching methods for agricultural development.	3.00	3.00	2.75	3.67	4.40	3.00	3.40	2.02
3. Certificate level extension officers prepare good extension plans of work.	3.00	3.00	2.50	3.11	4.20	3.00	3.17	1.47
4. Certificate level extension officers are creative in their work.	3.50	3.40	2.75	3.11	4.20	2.40	3.20	2.96*

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Undecided
 4 - A - Agree
 5 - SA - Strongly Agree

*Significant at the .05 level of confidence.

Influence of Professional Training on Employers' Attitudes toward Certificate Level Extension Officers and Performance

In order to more closely examine effects of professional training on employers' attitudes toward certificate level extension officers' training and performance, frequency of response are presented in Table XX.

An analysis of the information reveals that only between one or 11.1 percent, and three or 33.3 percent of the nine employers with degree qualification expressed agreement in respect of the four statements. On the other hand, five or 62.5 percent of the eight employers with certificate qualification agreed with all four statements; and no disagreement was indicated with regard to certificate level extension officers being creative in their work. A majority of employers with diploma qualification also expressed agreement with all four statements (percentage range 50-75). The highest rated was with respect to adequacy of preparation of certificate level extension officers in teaching methods for agricultural development.

Influence of Dates of Appointment on Trainers' Attitudes toward Extension Service and Training

As an item of analysis, trainers were requested to indicate their respective dates of appointment. From this information, categories of dates of appointment were determined as can be observed in Table XXI.

Although no significant differences among group mean ratings were detected when analysis of variance statistical test was applied,

TABLE XX

INFLUENCE OF PROFESSIONAL QUALIFICATION ON EMPLOYERS' ATTITUDES
TOWARD CERTIFICATE LEVEL EXTENSION OFFICERS
(N = 29)

Statements Rated	Professional Qualification																	
	Certificate N = 8				Diploma N = 12				Degree N = 9									
	Disagree N	Undecided Z	Agree N	% Z	Disagree N	Undecided Z	Agree N	% Z	Disagree N	Undecided Z	Agree N	% Z						
1. Certificate level extension officers are adequately prepared to discharge extension service duties.	1	12.5	2	25.0	5	62.5	3	25.0	2	16.7	7	58.3	4	44.5	2	22.2	3	33.3
2. Certificate level extension officers are adequately prepared in teaching methods for agricultural development.	2	25.0	1	12.5	5	62.5	1	8.3	2	16.7	9	75.0	4	44.5	3	33.3	2	22.2
3. Certificate level extension officers prepare good extension plans of work.	2	25.0	1	12.5	5	62.5	3	25.0	3	25.0	6	50.0	3	33.3	5	55.6	1	11.1
4. Certificate level extension officers are creative in their work.	-	--	3	37.5	5	62.5	4	33.3	2	16.7	6	50.0	2	22.2	5	55.6	2	22.2

closer analysis of data identifies areas of strong agreement as well as disagreement. Respondents tended to strongly agree with the statement, "More teaching in extension methodology should be done at the MATIs." The lowest mean rating of 3.72 was given by trainers appointed between 1976 and 1978, while the highest mean rating of 4.50 was given by trainers appointed between 1955 and 1960. Also rated highly were, "Failure of extension officers to adapt innovations to local conditions is a major extension problem," and "MATIs adequately teach crop production practical skills."

Trainers appointed between 1955-1960 (mean 2.50) expressed disagreement, whereas those appointed between 1961 and 1970 (mean rating range 3.28-3.33) indicated agreement with the statement, "Extension officers are prepared to act on their own initiative and judgement." Oddly enough, lowest mean ratings were given by all categories to the statement, "MATIs adequately supervise the one month certificate students' village apprenticeship." Probable reasons for these low ratings are revealed by comments and suggestions given by the trainers. Adequacy of teaching agricultural mechanization was rated lowest (mean 2.67) by trainers appointed between 1961-1965, while the highest (mean 3.28) was given by those appointed between 1976-1978. Other trainers were undecided as to whether agricultural mechanization practical skills were adequately taught.

Influence of Professional Qualification on Trainers' Attitudes toward Extension Service and Training

The eight statements relating to extension service and training of extension officers were categorized by trainers'

TABLE XXI
 TRAINERS' ATTITUDES TOWARD EXTENSION SERVICE AND
 TRAINING BY DATES OF APPOINTMENT
 (N = 65)

Statements Rated	Dates of Appointment in Years						Overall Means	F Value
	<1955 N = 0	'55-'60 N = 2	'61-'65 N = 3	'66-'70 N = 18	'71-'75 N = 24	'76-'78 N = 18		
1. Failure of extension officers to adapt innovations to local conditions is a major extension problem.	--	3.50	3.33	3.50	3.37	3.83	3.54	0.43
2. More teaching in extension methodology should be done in the MATIs.	--	4.50	4.33	3.83	3.96	3.72	3.89	0.58
3. Extension officers are prepared to act on their own initiative and judgement.	--	2.50	3.33	3.28	3.17	3.17	3.18	0.23
4. MATIs should primarily emphasize local agriculture in their training programs.	--	2.50	4.33	3.22	3.04	3.72	3.32	1.48
5. MATIs adequately supervise the one month certificate students' village apprenticeship.	--	2.00	1.00	2.39	2.87	2.89	2.63	2.11
6. MATIs adequately teach crop production practical skills.	--	4.00	3.00	3.39	3.54	3.61	3.51	0.38
7. MATIs adequately teach livestock husbandry practical skills.	--	3.00	3.00	3.39	3.46	3.56	3.43	0.27
8. MATIs adequately teach agricultural mechanization practical skills.	--	3.00	2.67	3.06	3.00	3.28	3.08	0.25

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Undecided
 4 - A - Agree
 5 - SA - Strongly Agree

professional qualifications to ascertain influence of qualification on attitudes. Frequency analysis was applied in order to determine percentage responses within each professional category for each statement. Since there was only one trainer with certificate qualification, responses given by that individual are only for observation. Only diploma and degree responses will be compared.

As may be seen in Table XXII, both groups of respondents tended to express similar attitudes toward most statements, with lower ratings given by trainers with diploma qualification. A sharp contrast was noted with respect to the statement, "MATIs adequately supervise the one month certificate students village apprenticeship." Only 23.9 percent of trainers with degree qualification agreed, and 56.5 percent disagreed with this statement compared to 38.9 percent of trainers with diploma qualification who agreed while only 27.8 percent of them expressed disagreement.

Both groups strongly agreed (diploma 72.2 percent and degree 73.9 percent) with the statement, "More teaching in extension methodology should be done in the MATIs." Less than half the trainers with diplomas (44.4 percent) and degrees (47.8 percent) expressed agreement with the statement, "Extension officers are prepared to act on their own initiative and judgement." Adequacy of teaching agricultural mechanization practical skills was also given a low rating by both groups.

One may conclude that trainers seem to agree that there is need to improve training in extension methodology and agricultural mechanization. They also seem to agree that more effort is needed in

TABLE XXII
 PERCENTAGE REPRESENTATION OF TRAINERS' ATTITUDES TOWARD EXTENSION SERVICE
 AND TRAINING BY PROFESSIONAL QUALIFICATION
 (N = 55)

Statements Rated	Certificate N = 1						Diploma N = 18						Degree N = 46					
	Disagree		Undecided		Agree		Disagree		Undecided		Agree		Disagree		Undecided		Agree	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1. Failure of extension officers to adapt innovations to local conditions is a major extension problem.	--	--	1	100	--	--	6	33.3	2	11.1	10	55.6	9	19.6	7	15.2	30	65.2
2. More teaching in extension methodology should be done in the MATIs.	--	--	--	--	1	100	2	11.1	3	16.7	13	72.2	5	10.9	7	15.2	34	73.9
3. Extension officers are prepared to act on their own initiative and judgement.	--	--	1	100	--	--	4	22.2	6	33.3	8	44.4	16	34.8	8	17.4	22	47.8
4. MATIs should primarily emphasize local agriculture in their training programs.	1	100	--	--	--	--	6	33.3	2	11.1	10	55.6	14	30.4	6	13.0	26	56.5
5. MATIs adequately supervise the one month certificate students' village apprenticeship.	1	100	--	--	--	--	5	27.8	6	33.3	7	38.9	26	56.5	9	19.6	11	23.9
6. MATIs adequately teach crop production practical skills.	--	--	--	--	1	100	6	33.3	3	16.7	9	50.0	8	17.4	8	17.4	30	65.2
7. MATIs adequately teach livestock husbandry practical skills.	--	--	--	--	1	100	3	16.7	6	33.3	9	50.0	13	28.3	7	15.2	26	56.5
8. MATIs adequately teach agricultural mechanization practical skills.	--	--	--	--	1	100	7	38.9	5	27.8	6	33.3	16	34.8	12	26.1	18	39.1

inculcating initiative and judgement into MATI trainees and supervising village apprenticeship.

Influence of Age on Trainers' Attitudes toward Extension Service and Training

In order to determine effects of trainers' age on their attitudes, responses to eight statements concerning aspects of extension service and training were categorized by age groups. The analysis of variance statistical procedure was utilized to determine whether significant differences existed among age groups. Data can be observed in Appendix M. No significant differences were detected among group mean responses; implying that respondents' age had little influence on their attitudes.

Comments and Suggestions from Participants

All participants responding to this study were encouraged to offer any comments regarding agricultural extension service and aspects related to it, or to make suggestions for the improvement of the Tanzania agricultural extension service. Their comments and suggestions, which were translated and/or edited; are given in Appendix N-Q.

A variety of opinions were expressed by participants from all four occupational groups. The majority of the comments were not as complimentary as might have been expected. They were rather critical but constructive, and provide an insight into various problems and defects of the extension service as perceived by the clientele, extension officers, employers and trainers. A summary of comments and

suggestions offered by participants in the study follows:

Respondents in all four occupational categories expressed the opinion that farmers' needs and problems did not determine programs in extension service; and that youths were not involved in agricultural extension programs and so extension officers paid them no attention except in some primary schools.

Many respondents felt that there was need to reorganize the agricultural extension service to provide for "national level coordination" that will insure equitable staffing and supervision. Several respondents stressed the fact that the clientele should be involved in extension program planning and evaluation.

Clientele and extension officers expressed their concern over failure of all levels of employers to effectively supervise the work of extension officers in the villages. They suggested that it was time this aspect was given serious consideration. Also of much concern was the delivery of agricultural tools and farm inputs which, in most cases, was said to be too late for early farming operations.

Participants in all groups opined that farmer classes should be established in villages; and that method demonstration should be used more extensively. Also pointed out was the problem of staffing in extension service and the recommendation that under the structure, the few extension officers should be provided with transport.

Extension officers and clientele expressed concern over Kilimo parastatals which employ extension officers who have no formal training in agriculture. Extension officers felt that this tendency might damage the good name of extension service.

Members of all groups expressed concern over some politicians whose understanding of agricultural extension service is so poor that they even oppose advice given by extension officers and/or are so uncooperative that they do not want to facilitate success of the extension service. But a few officers pointed out that it was the duty of extension officers to see to it that Party and Government leaders were made conversant with extension programs.

Trainers, extension officers, and employers remarked that there was need for a strong linkage between the MATI system and Extension Service; and also between Research and Extension Services.

Employers and extension officers pointed out that promotions of extension staff and recruitment for further training were not satisfactory.

Employers indicated that extension service was too difficult for female extension officers, and that there was little, if any, need for more female officers to work in villages. They also expressed belief that the previous agricultural/livestock extension officers were well prepared for extension but not the current Agro-Vet graduates.

Extension officers remarked that duration of Agro-Vet training program should be extended by a year for specialization rather than continuing the three month retraining program.

Employers, extension officers and trainers agreed that MATIs should improve their training in extension methodology, farm machinery and livestock production. It was also pointed out that MATIs should conduct refresher courses and organize seminars for extension staff.

CHAPTER IV

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Summary

The primary objective of this study was to determine the role of the Tanzania agricultural extension service, strategies, problems encountered, and methods used in extension service as perceived by clientele, extension officers, employers and trainers. It was also concerned with their attitudes toward extension service and toward training and performance of extension officers.

The descriptive method of research using the inquiry form and interviews was utilized. Information was obtained from 320 farmers, 213 extension officers, 30 employers and 65 trainers, making a study population of 628.

Statistical procedures used for analyzing data were analysis of variance and coefficient of correlation statistical tests. Null hypotheses were tested and were accepted or rejected at the .05 level of confidence. Frequency and percentage distributions were used where appropriate.

Findings of the study are summarized as follows:

1. Significant differences existed among group mean ratings in all aspects concerning the role of agricultural extension service. Respondents strongly agreed that extension service helps farmers to help themselves, and that convincing farmers to adopt new practices requires a great deal of patience. All groups perceived that current

local agricultural extension service programs were less than satisfactory. Trainers perceived that agricultural extension service did not adequately serve both youths and adult farmers, and that extension service should not be primarily concerned with introduction of new technology; whereas other groups thought differently.

Farmers considered extension service to be somewhat stable and steadfast in its goals, while other groups disagreed. It was the general opinion of respondents, with exception of the trainers, that programs in agricultural extension service should be organized and coordinated at the national level. Trainers did not consider extension officers to have acquired sufficient practical agricultural knowledge while farmers expressed uncertainty.

2. Respondents' mean ratings differed significantly in five of the six aspects relating to extension service strategies. All respondents strongly agreed that success of agricultural extension service requires change of attitudes of farmers, extension officers, administrators and political leaders. Only farmers agreed that agricultural extension service goals and objectives are well known by farmers, while all other respondents disagreed. Employers and trainers did not perceive farmers to be involved in extension program planning, while farmers thought they were somewhat involved. Whereas extension officers and employers indicated that periodic extension program evaluations were used to improve extension service, farmers and trainers disagreed. Team work among employers and extension officers was perceived by extension officers and employers to exist, whereas farmers and trainers were uncertain. Farmers and trainers

perceived that young farmers' activities received considerably less attention than adult farmers' activities, while employers and extension officers thought both activities received equal attention.

3. Significant differences were detected in six of the eight aspects relating to problems in extension service. All respondents agreed that communication of new technology to farmers is still a problem. Trainers and employers perceived that customary beliefs of local farmers were a problem in extension service, while farmers disagreed. All groups, except trainers, felt that farmers' reluctance to accept new ideas has made agricultural extension service less than successful. Extension officers tended to think that there were enough farmer visits by extension officers, the other groups felt number of visits were insufficient.

Although 65 percent of the farmers expressed the belief that political leaders really understand the role of agricultural extension service, only approximately 20 percent of the extension officers, employers and trainers agreed.

4. Significant relationships existed between academic qualifications of respondents and expressed perceptions. Strongest correlations, both negative, appeared within the statements, "Customary beliefs of local farmers are not a problem in agricultural extension service," and "Political leaders really understand the role of agricultural extension service." As agreement with each statement tended to rise, the respondents' academic qualifications tended to decline.

5. Farmers perceived that only exhortation and village visitation methods are somewhat extensively used by extension officers. Other groups also perceived these as being the major methods used. Extension officers credited themselves with considerable use of method demonstration, group discussion, team approach and use of Ukulima wa Kisasa and Kilimo pamphlets in carrying out extension service mission.

6. Respondents strongly felt that there was need for linkage between extension service and the MATIs, starting of farmer classes in the villages, organizing refresher courses in specific subject matter areas for extension officers by MATIs, use of extension problems by MATIs in designing new training strategies, holding seasonal seminars on extension methodology, and cooperation between MATIs and RADOs/DADOs in designing extension methodology seminars.

Trainers felt that extension officers were not provided with fully detailed programs by their superiors, while extension officers and employers disagreed. Only extension officers expressed belief that strong linkages exist between extension service and research institutes.

7. Extension officers and employers expressed strong belief that local extension service staffing is inadequate, and the happier the extension officers the harder they tend to work. Both groups strongly felt that promotions in extension service are not rational and do not give hope to extension officers. They also indicated dissatisfaction with current recruitment procedures for higher training.

Extension officers opined that female extension officers perform as competently as male extension officers in the villages; employers indicated the opposite. Employers felt strongly that extension service is too difficult for female extension officers; extension officers themselves were not so sure. Extension officers were of the opinion that more female extension officers were needed to work in the villages, while employers disagreed.

8. Female extension officers expressed strong belief that they perform as competently as male extension officers in the villages, while males were somewhat less enthusiastic. Females also rated recruitment procedures, morale of extension officers and adequacy of staffing significantly higher than male officers. Both groups were of the opinion that more female extension officers are needed to work in the villages.

9. All age groups of farmers strongly indicated that they would attend farmers' classes if offered an opportunity. All groups were uncertain as to whether the extension officers know most basic skills in livestock production. They were also uncertain regarding extension officers' knowledge of basic skills in farm machinery use. Most age groups of farmers were somewhat satisfied with the work of the extension officers.

10. Farmers in all four regions expressed desire for the opportunity to attend farmers' classes. They also expressed strong belief that extension officers know most basic crop production skills and that agricultural extension service has helped them develop and succeed in farming. Farmers in Tabora and Tanga regions indicated

belief that agricultural extension service should provide farmers with free farm inputs, while those in Dodoma and Mbeya regions were not so sure. Farmers in Dodoma and Tabora regions thought extension officers were more competent in basic livestock production skills than did farmers in other regions.

Extension officers' knowledge of basic skills in farm machinery use was rated lower in Dodoma region than in Mbeya region. Farmers in Mbeya, Tabora and Tanga felt that extension officers were competent in advising farmers on new practices, while those in Dodoma were not certain. Use of local leadership in extension service was rated lower in Dodoma than in other regions. Farmers in Mbeya and Tabora regions expressed greater satisfaction with the work of the extension officers than those in Dodoma and Tanga regions.

11. Agreements in attitudes toward various aspects of extension service, training and clientele was found among all age groups of extension officers. All extension officers felt that they need more training in farm machinery to help them execute extension duties. They also indicated that farmers have a poor understanding of the role of extension officers, and that farmers have a very strong desire to improve their living standards. Age group 41-50 years felt that they have had adequate training in livestock production; other age groups disagreed. Only extension officers in age group 51-60 years opined that they did not have adequate training in extension methodology at the MATIs.

12. Dates of appointment were found to significantly influence extension officers' perceptions with respect to adequacy of

supervision and technical assistance from DADOs, DLDOs and DMs, and adequacy of training in livestock production. Extension officers appointed between 1966-1970 and 1976-1978 considered supervision and technical assistance to be less adequate than did other groups. Extension officers appointed between 1971-1975 considered their training in livestock production to be inadequate.

13. Extension officers expressed similar attitudes toward extension service, training and clientele regardless of their professional training. Significant differences existed in only one statement, "I require more training in farm machinery to help me discharge my duties properly." Certificate level extension officers considered supervision and technical assistance from DADOs, DLDOs, and DMs adequate, while degree holders did not agree.

14. Only extension officers in Dodoma region indicated adequacy of training in livestock production. Adequacy of training in extension methodology at the MATIs was rated lowest by extension officers in Dodoma and highest by those in Mbeya and Tabora regions. Extension officers in Dodoma expressed strong belief with respect to farmers' vague understanding of the role of extension service. Only extension officers in Mbeya were not sure whether farmers' education facilitated adoption of new practices, others thought it did. Extension officers in Mbeya, Tabora and Tanga considered supervision and technical assistance from their superiors adequate, while those in Dodoma were uncertain. The role played by village leadership in extension service was rated lowest by extension officers in Dodoma and highest in Mbeya.

15. More than 40 percent of the government employed extension officers felt adequately trained in livestock production, while 14.3 percent of Kilimo parastatal employed extension officers considered their training adequate. Seventy five percent of Kilimo parastatal extension officers expressed belief that supervision and technical assistance from their superiors was adequate, while 54 percent of the government employed extension officers agreed. Both categories expressed strong agreement with respect to need for more training in farm machinery, farmers' poor understanding of the role of extension officers, and farmers' strong desire to improve their living standards.

16. There were no significant differences in mean ratings regarding competence of certificate level extension officers among various age groups of employers. Age group 21-30 years agreed that certificate level extension officers were adequately prepared to execute extension service duties. Age group 31-40 years expressed dissatisfaction with plans of work prepared by certificate level extension officers.

17. Findings relative to regional influences on employers' ratings of certificate level extension officers, indicated that there were no significant differences among mean ratings. Employers in Tabora region gave high marks concerning adequacy of preparation of certificate level extension officers to discharge extension duties, adequacy of preparation in teaching methods, preparation of good plans of work, and creativeness in their work. Employers in other regions were uncertain, except those in Tanga who felt that certificate level

extension officers are adequately prepared in teaching methods for agricultural development. Adequacy of extension officers' preparation to discharge extension service duties was rated lower in Dodoma than in other regions. Employers in Tanga gave lowest rating with respect to certificate level extension officers' ability to prepare good extension plans of work.

18. Significant differences among employers' dates of appointment were found with regard to creativity of certificate level extension officers in their work. Employers appointed between 1971 and 1975 strongly agreed with the statement regarding adequacy of preparation of certificate level extension officers to discharge extension duties, adequacy of preparation in teaching methods, preparation of good plans of work, and creativeness of certificate level extension officers in their work; whereas those appointed between 1961 and 1965 and between 1976 and 1978 disagreed with the last statement.

19. Only between 11.1 percent and 33.3 percent of employers with degree qualification expressed agreement with the four statements concerning performance of certificate level extension officers; while 62.5 percent of employers with certificate qualification agreed. Seventy five percent of employers with diplomas felt that certificate level extension officers were adequately prepared in teaching methods.

20. Results relative to the influence of dates of appointment on trainers' attitudes toward extension service and training of extension officers showed no significant differences among mean ratings. All groups strongly felt that more teaching in extension

methodology should be done at the MATIs. They also felt that failure of extension officers to adapt innovations to local conditions is a major extension problem. They expressed belief that MATIs adequately teach crop production practical skills. Trainers appointed between 1955 and 1960 thought that extension officers were not prepared to act on their own initiative and judgement. All groups opined that MATIs did not adequately supervise the one month certificate students' village apprenticeship. Trainers appointed between 1961 and 1965 felt that teaching agricultural mechanization was inadequate, while those appointed between 1976 and 1978 disagreed.

21. Trainers, both diplomates and degree holders, expressed similar attitudes toward extension service and training of extension officers, although diplomates tended to be more critical in their ratings of some aspects of extension service and training.

22. Attitudes of trainers toward various aspects of extension service and training of extension officers were not influenced by age.

Conclusions

From analysis of information obtained from 628 respondents, the following conclusions were drawn:

1. The agricultural extension service policy and organization requires review, revision and adoption so as to eliminate differences in perceptions of the role of agricultural extension service and its strategies.

2. Method demonstration, group discussions, team approach, Ukulima wa Kisasa magazine and other Kilimo bulletins, and agricultural

cinemas should be used much more extensively than is presently the case.

3. Strong linkage and cooperation between MATIs and Extension Service is needed to relate training programs to extension programs and problems. Linkage between Research Institutes and Extension Service should be strengthened.

4. Attitudes of farmers and extension officers vary significantly among the regions.

5. Employers are more critical about the usefulness of and need for female extension officers in agricultural extension service than extension officers themselves.

6. Extent of professional training and dates of appointment have little influence on attitudes of extension officers, employers and trainers toward most aspects of extension service.

7. MATIs need to strengthen their training programs in live-stock production, farm machinery, and extension methodology, and in inculcating initiative and judgement into MATI trainees.

Implications

The following are some implications of this study based on its findings:

The overall findings of the study reveal vital concerns of clientele, extension officers, employers and trainers which most likely influenced disparity of their perceptions of the extension service. Data indicate that extension service programs have neither been very successful nor have they been a complete failure. Although

the study did not check for it, the magnitude of disparity in responses draws attention to the policy of extension service and its organization. The findings relative to the role of extension service indicate that extension service personnel do help farmers to help themselves, and that patience is essential in convincing farmers to adopt new technology.

Analysis of the findings further indicate that current extension service programs are not entirely satisfactory, a finding supported by evidence contained in related literature. Lack of efficient transport is partially to blame. The study raises questions regarding competence of extension officers and employers in developing and implementing good extension programs.

Youth activities are seldom served by extension officers, probably due to lack of youth clubs or organizations related to agriculture. Data seem to reveal that there is virtually no distinction between young and adult farmers' activities, even though the two groups have differing problems and needs.

Clientele understanding of extension service goals and objectives and their involvement in extension program planning and evaluation is quite important. The findings relative to the strategies of extension service suggest that this aspect has not been very well utilized by extension officers and employers, and it is a challenge to which they should address themselves.

Findings relative to problems of extension service indicate that extension officers, employers and, to a lesser extent, the trainers need to seriously address the problem of communication of new

technology to farmers. This problem could partly be responsible for the differences in perceptions of the extension service. Farmers' reluctance to accept new ideas appears to be one of the causes for the extension service being less than successful, implying that efforts aimed at winning the confidence of farmers would be a breakthrough.

Data gathered in this study, like others reviewed, indicate that politicians have not yet acquired an understanding of basic agricultural practices and that only some of them are familiar with the role of the agricultural extension service. Since this appears to be the opinion of agricultural technicians, it can probably be explained by a possible difference between agricultural technicians and politicians with regard to their respective perceptions of what is expected of agricultural extension service. Since extension service programs are best accomplished through group interaction, both agricultural technicians and politicians should endeavor to narrow the differences so as to cooperate in a spirit of team work for the success of the service.

Findings indicate the need for extension officers and employers to devise and use various methods and/or approaches that could help in the communication of recommended practices to farmers. More extensive use of method demonstration, group discussions, team approach and use of Ukulima wa Kisasa and other agricultural bulletins, and agricultural cinemas would be helpful in this respect.

Data also indicate the importance of strong linkage between the MATI system and Extension Service, and the Research Services. The findings point out the need for MATIs to organize refresher courses

for extension officers in specific subject matter areas; and that through consultations with RADOs, RLDOs and RMs, or DADOs, DLDOs and DMs, extension service problems could be used in designing new training strategies.

Findings relative to extension officers' morale and performance underline the fact that adequacy of staffing, high morale of extension staff, rational promotions and recruitment for further studies are quite important for satisfactory performance. These findings have important implications for the employers and those responsible for recruitment for further studies. Guidelines should be developed and used for promotions and recruitment and made explicitly clear to the officers. The findings also point out the need to investigate further the probable reasons for employers' rather negative feelings about performance and need for more female officers in extension service.

Findings relative to farmers' attitudes toward the extension service emphasize the need for establishing farmer classes in the villages. The opinions of various age groups were not significantly different. This is probably due to the nature and organization of extension service which treats farmers as a single group. The influence of regions on attitudes of farmers could possibly be explained by variation of extension staffing in the regions, extension service policy being vague or nonexistent (although the study did not check for this) hence different and uncoordinated approaches, and/or the nature of agricultural systems whose needs for technical assistance are variable. This poses a challenge to which agricultural

administrators must address themselves.

These findings gave evidence of a negative correlation between perceptions of problems of extension service and academic qualifications. The exceptions were the positive correlation between academic qualification and ratings of communication of new technology; and between academic qualification and ratings of adequacy of government financial commitment to extension service. This implies that the higher the education one acquires the higher the cognitive ability he/she portrays, and hence the respondents with lower education and, therefore, lower ability to be more discreet tended to express higher agreement with the statements. Alternatively this data would imply tendency of counter accusation between clientele and extension officers and employers; with the latter failing to identify the actual problems.

The findings relative to employers' attitudes toward certificate level extension officers indicate that employers are not pleased with most aspects pertaining to their performance. One might speculate, with support of the comments by clientele and extension officers themselves, that the contact between employers and field extension staff is poor. This would imply that there is little follow-up or supervision of extension service programs by employers, and as such they would not know for certain how these officers perform in the field. These findings could also underline the need for trainers to review their training programs, and the importance of workshops and refresher courses for extension officers which can help improve performance.

Recommendations

This study was designed to determine the role of Tanzania's agricultural extension service and factors influencing its effectiveness as perceived by farmers, extension officers, employers and trainers.

Analysis of responses of farmers, extension officers, employers and trainers, as well as their comments and/or suggestions, point out many possibilities for improvement of the extension service. These were further supported by the review of related literature and background and experience of the researcher. The most relevant are presented as recommendations enumerated below:

1. There is need for reviewing agricultural extension service policy and organization such that the nature of duties of extension officers should reflect a practical, non-formal educational effort based on programs that originate from felt needs and problems of clientele. These programs should be well defined and adequately supported. Clientele involvement and participation is, therefore, essential and invaluable.

2. Efforts should be made to introduce "youth clubs," that will initiate programs related to various jobs in agriculture as an effort toward developing committed young agriculturists and more progressive future farmers. This might be best achieved in collaboration with the Ministry of National Education through primary and secondary schools.

3. Newly appointed extension officers should receive "on-the-job training" under an experienced extension officer to improve their

practical skills and develop self-confidence before being allocated villages to serve. Cooperation of DADOs, DLDOs and DMs would be of prime importance in this regard.

4. Extension service programs should be reviewed to determine reasons for their being perceived as unsatisfactory. It is not enough to blame transportation problems as the main reason since even in those villages which have extension officers, this opinion was expressed.

5. The diversity of opinions reflected in this study leaves one to wonder as to which direction Tanzania's agricultural extension service is taking. There is a general feeling, among extension workers, of being uncertain of what it is that ought to be done in extension service. Even within the decentralized system, need for restructuring and coordinating extension service is apparent. It is, therefore, recommended that a "National Agricultural Extension Service Coordinating Office" be created within Kilimo to be headed by either a "Director" or a "Commissioner," to:

- a) Strengthen and coordinate farmers' education.
- b) Coordinate educational aspects of the programs in extension service in the country.
- c) Issue guidelines on policy governing government funded extension programs.
- d) Monitor, through follow-up on extension at both regional and district levels, progress made in extension and problems encountered.

e) Facilitate extension service through equitable staffing, production of Kilimo bulletins, magazines, agricultural cinemas, seminars and inservice training programs.

f) Facilitate linkage between Research Stations, Extension Service and the MATI system.

g) Emphasize clientele involvement in extension program development to insure its success.

h) Specify minimum qualification for extension officers.

i) Specify job descriptions of the RADOs, RLDOs, DADOs and DLDOs that will enable these officers to more effectively administer extension service activities.

6. It appears to be taken for granted that if a program is decentralized and has an extension component it will automatically be participatory. However, even under decentralization, participation does not occur unless there is sharing in planning, decision making and evaluation within local communities. The writer strongly recommends that clientele must be made aware of goals and objectives of extension service; and be involved through non-formal educational techniques that will allow them to define and examine their problems and needs, and decide on possible action to solve the problems or meet the needs. On this basis, extension program development and periodic evaluations can be made at the grass roots level to be approved at district and regional levels, and coordinated at national level.

7. Employers should be offered workshops on agricultural extension service program formulation, implementation and evaluation.

8. Agricultural extension service must be oriented in such a way that it can, through demonstrations based on available research recommendations on crops and respective inputs and the use of ox-drawn equipment, show appreciable results which explicitly show that production and efficiency can be improved to the benefit of the farmer himself. The same should be done with regard to livestock production.

9. There should be a system whereby RADOs, RLDOs and RMs work as a team, and make follow-up on DADOs, DLDOs and DMs respectively. The DADOs, DLDOs and DMs, in a spirit of team work, should make follow-up or supervise Bwana Shambas' activities in the field and assist them with technical advice to make their efforts even more meaningful. This will motivate the Bwana Shambas to work harder; and should provide the basis for performance evaluation to be used in recommending officers for promotions and further training.

10. The writer further recommends that while there are few fringe benefits in extension service to boost morale of its workers, policy for promotions should be clearly spelled out to avoid complaints. To this effect, "Mass promotions" should be eliminated. Extension officers should be promoted on a merit system based on field performance rather than entirely on seniority.

11. Efforts should be made to determine the average number of years that female extension officers can serve successfully so as to plan for replacements to maintain staff strength and avoid fluctuations in the regions and districts.

12. While it is agreed that the number of extension officers is not sufficient to cover all villages in a district, it is not unusual in some cases to find several extension officers at the district agricultural office, while nearby villages are getting little attention. It is, therefore, recommended that where this situation prevails, deployment should be undertaken to assign such villages an extension officer. The investigator believes that the DADOs/DLDOs can be assisted by their deputies and office supportive staff in administrative work.

13. Farmer classes should be started in the villages to supplement efforts of the extension officers. The village school should provide classroom facilities. Farmer classes will provide an opportunity for extension officers to invite experts in various agricultural aspects to present programs as determined by needs and problems of farmers. Experts may include Tanzania Rural Development Bank (TRDB) officers who could explain loan policies, and how TRDB loans benefit the farmers. Other speakers may include RADOs/RLDOs, DADOs/DLDOs, trainers and researchers.

14. MATIs should have a strong linkage with extension service. This may be facilitated by periodic consultations with RADOs, RLDOs and/or DADOs/DLDOs in matters relating to extension service programs and evaluations, organization of seminars for local extension staff, establishing refresher courses for Bwana Shambas in specific subject matter areas, and periodic follow-up on MATI graduates' performance in the field. Such relationship would help MATIs become better acquainted with extension, and better understand

the nature of duties for which they prepare Bwana Shambas, and enable them to use extension service problems in designing new training strategies.

15. MATIs should review and revise training programs to allow for more training in:

a) Extension methodology--with more emphasis placed on program formulation, need identification, how to set goals and objectives, program implementation and evaluation.

b) Livestock production--to emphasize good husbandry practices and pasture and range management.

c) Farm machinery--with more emphasis on oxenization.

d) Leadership training--inculcating creativeness, judgement and self-confidence in MATI trainees.

e) Village apprenticeship--which should be a requirement for graduation. The apprenticeship should be adjusted to fit in the cropping season in the region where the MATI is located. It is, therefore, recommended that apprenticeship be held during the second year of a certificate course rather than between 1st and 2nd years unless the cropping season does not coincide with this rescheduling.

16. Practical competencies of extension officers have been questioned insofar as field performance is concerned. Yet one of the reasons for MATIs to de-emphasize local agriculture is that MATI graduates are posted all over the country, therefore, training should be generalized. This study suggests that such belief will no doubt lead to even less competent officers because they will tend to be taught many aspects of agriculture with equal emphasis, implying

shallow acquisition of knowledge, especially practical skills. The investigator questions the philosophy behind a desire for MATIs to train more competent officers in practical skills to fit into Tanzanian agricultural systems, when they are actually taught theoretically all agricultural practices which are not applicable in the region or district where the MATI is located. It is most desirable, therefore, that:

a) Local agriculture should be emphasized so as to enable trainees to acquire, much better, practical competencies. Even with adequate facilities, the best MATIs can do in agriculture will be the agricultural practicals common within the locality. This should enable MATIs to practice the best agriculture to serve as an example to neighboring farmers.

b) Competencies which graduates have not acquired at the MATI should be acquired during the "on the job training" period.

c) Alternatively, MATI graduates' posting in the regions should be made relative to climatic conditions where a MATI is located in order to benefit from new officers' service with the minimum of delay.

d) All changes to MATI curriculum should be supported by relevant evidence in respect of need for change.

e) The RADOs/RLDOs, DADOs/DLDOs and RMs/DMs should be invited to participate in curriculum or syllabi review panels.

17. Extension officers must be reminded that demonstrations and exhortation of farmers without follow-up visits do not necessarily insure that what has been discussed and demonstrated is actually

practiced. The investigator recommends that extension officers should actually visit farmers to see whether the improved practices have been adopted and how they are implemented, identify problems with the practices and determine their solutions.

18. For the success of agricultural extension service, the investigator strongly recommends that:

- a) The RADOs/RLDOs, DADOs/DLDOs, RMs/DMs and Extension Officers should have a system whereby they periodically meet with political leadership in their respective areas to brief them on various aspects of their extension programs.
- b) Village entourage by politicians should include the RADOs/RLDOs, or RM, and DADOs/DLDOs or DMs and should be conducted in a spirit of team work.
- c) The government should insure that efficient transport is made available to extension staff to enable them to do the work as spelled out in the policy. Without efficient transport RADOs/RLDOs cannot easily visit their districts, DADOs/DLDOs will find it next to impossible to make village follow-ups and extension officers will fail to visit with farmers.
- d) Loan policies for purchasing motorcycles and bicycles should be reviewed so as to enable many extension staff to acquire their own.
- e) Reorganization of extension service at regional and district levels should help prevent unreasonable local interference with extension staff transport system.

19. Loan policies and farm inputs deliveries have frustrated extension officers' efforts. The Ministry should:

a) Study agricultural loan policies, and advise the government on possible adjustments, more so on interest rates charged as compared with the average income of farmers; so that more farmers may benefit from these loans.

b) Insure that farm inputs distribution bodies immediately stop their tendency to delay delivery of farm implements and inputs, particularly those which are available within Tanzania.

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APPENDICES

APPENDIX A

EXTENSION OFFICERS

Manpower Development Division
P.O. Box 2066
Dar es Salaam
December 22, 1978

Ref. No. TA.1.

Ndugu _____

TANZANIA AGRICULTURAL EXTENSION SERVICE AS PERCEIVED BY
TRAINERS, EMPLOYERS, EXTENSION OFFICERS AND CLIENTELE

The Ministry of Agriculture is conducting a study pertaining to the subject above. It is anticipated that this study will provide an insight into the perceived role, problems and success of agricultural extension service.

As one who is engaged in agricultural extension service, we are sure you realize the importance of reliable and up to date information on the agricultural extension service. We believe that this information can only be obtained through your participation.

Enclosed herewith please find a copy of the questionnaire to be used for this study. A good response to this questionnaire will be most helpful in determining some solutions to problems of extension service, and new strategies for our training programs. Please complete it and return it, using the enclosed self-addressed envelope, not later than 25th March 1979.

We realize that you are quite busy at the moment, but we are hopeful that you will be kind enough to spend a few minutes of your time to fully participate in this study.

Thanking you in advance for your cooperation, we remain

Yours sincerely,

(Signed) Ibrahim, A. K. K.

(Signed) J. E. U. Mchechu

Ibrahim, A. K. K.

Dr. J. E. U. Mchechu
Director of Manpower

APPENDIX B

EMPLOYERS

Manpower Development Division
P.O. Box 2066
Dar es Salaam
December 22, 1978

Ref. No. TA.1

Ndugu _____

TANZANIA AGRICULTURAL EXTENSION SERVICE AS PERCEIVED BY
TRAINERS, EMPLOYERS, EXTENSION OFFICERS AND CLIENTELE

The Ministry of Agriculture is conducting a study pertaining to the subject above. It is anticipated that this study will provide an insight into the perceived role, problems and success of the agricultural extension service.

As one of the employers of extension officers, and being involved in some phase of agricultural extension, we are sure you realize the importance of reliable and up to date information on the agricultural extension service. We believe that this information can only be obtained through your participation.

Enclosed herewith please find a copy of the questionnaire to be used for the study. A good response to this questionnaire will be helpful in determining some solutions to problems of extension service, and new strategies for our training programs. Kindly complete it, and return it using the enclosed self-addressed envelope, not later than 25th March, 1979.

We realize that you are quite busy at the moment, but we are hopeful that you will be kind enough to spend a few minutes of your time to fully participate in this study.

Thanking you in advance for your cooperation, we remain

Yours sincerely,

(Signed) Ibrahim, A. K. K.

Ibrahim, A. K. K.

(Signed) J. E. U. Mchechu

Dr. J. E. U. Mchechu
Director of Manpower

APPENDIX C

TRAINERS

Manpower Development Division
P.O. Box 2066
Dar es Salaam
December 22, 1978

Ref. No. TA.1.

Ndugu _____

TANZANIA AGRICULTURAL EXTENSION SERVICE AS PERCEIVED BY
TRAINERS, EMPLOYERS, EXTENSION OFFICERS AND CLIENTELE

The Ministry of Agriculture is conducting a study pertaining to the subject above. It is anticipated that this study will provide an insight into the perceived role, problems and success of the Agricultural extension service.

As one of the trainers of the Agricultural Extension Officers, we are sure you realize the importance of reliable and up to date information on the agricultural extension service in your teaching program. We believe that this information can only be obtained through your participation.

Enclosed herewith, please find a copy of the questionnaire to be used for the study. A good response to this questionnaire will be helpful in determining new strategies for our training programs.

We are most hopeful that you will be kind enough to spend a few minutes of your time to participate in the study. Kindly complete the questionnaire and return it, using the enclosed self-addressed envelope, not later than 25th March 1979.

Thanking you in advance for your cooperation, we remain

Yours sincerely,

(Signed) Ibrahim, A. K. K.

(Signed) J. E. U. Mchechu

Ibrahim, A. K. K.

Dr. J. E. U. Mchechu
Director of Manpower

APPENDIX D

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF AGRICULTURE

Telegrams: "Kilimo", Dar es Salaam.

Telephone: 27231.

In reply please quote:

Ref. No. TA.1.....

Manpower Development.....Division

Pamba House,

P.O. Box 2066,.....

DAR ES SALAAM

23rd December, 1978.

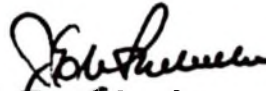
Kwa yeyote Anaehusika,
Mikoani Tabora, Tanga,
Dodoma na Mbeya.

Wakuu wa Vyuo vya Kilimo,
Tanzania Bara.

YAHUSU NDUGU A.K.K. IBRAHIM

Mwenye barua hii ametoka Wizara ya Kilimo anashughulika na kutafuta maoni kwa wakufunzi wa Kilimo, Maafisa wa Kilimo/Mifugo, Mikoani na Wilayani Tabora, Tanga, Dodoma na Mbeya, na maoni ya mabwana shamba, wakulima na Mameneja wa Mashirika ya Kilimo yahasikanayo na huduma ya uenezaji wa Maarifa ya Kilimo katika Mikoa iliyotajwa. Atatembelea sehemu zenu kuanzia January hadi May mwaka 1979.

Tafadhali apewe msaada wowote anaohitaji kutoka kwa wote waliotajwa hapo juu ili kazi hiyo iweze kufanikiwa.



Dr. J.E.U. Mchechu,
MKURUGENZI WA MAENDELEO YA WATUMISHI.

APPENDIX E

MINISTRY OF AGRICULTURE

MANPOWER DEV. DIVISION,
P.O. BOX 2066
DAR ES SALAAM.

REF. NO. TA.I

1st April, 1979

Ndugu.....

u.f.s.....

.....

.....

QUESTIONNAIRE RETURN

Reference is hereby made to the Manpower Development Division letter Ref. No. TA.I of December 22, 1978.

To date I have not received the questionnaire duly completed by you. I hope you received it and have worked on it accordingly. The importance of your cooperation cannot be overemphasized.

I trust that you will, upon receipt of this letter, send the questionnaire to me duly completed by you as requested.

Thank you for your cooperation, I remain,

Yours sincerely,

Ibrahim, A. K. K.
for; DIRECTOR OF MANPOWER DEV. DIVISION

IAKK/Ib.

APPENDIX F

Manpower Development

TA.1

2066,

19 Aprili, 1979.

Mkurugenzi wa Maendeleo (M),
S.L.P. 5095,
TANZA. (Aishughulikia Nd. Mwanente, RADO).

YAH: UTAFITI WA MAONI YA WAKULIMA, MABWANA/RIMI
SHAMBA, WAAJIRI NA WAKUFUNZI JUU YA HUDUMA YA
UMENZAJI MAARIFA YA KILIMO (AGRIC. EXT. SERVICE).

Waraka wa Idara hii Kumb. Na. TA.1 wa tarehe 22.12.78 uliotumwa kwa Maafisa Waendelezi Kilimo/Wifugo Nkoani na Wilayani wahusika.

2. Ndugu Ibrahim kutoka Idara hii na ambaye aashughulikia suala hili alishindwa kumaliza mahojiano na Wakulima katika Wilaya ya Korogwe. Inaaminika kutomalizika kwa shughuli hiyo kulitokana na kutopatiwa usafiri wa kutambalea vijiji vilioyehusishwa katika shughuli hii kulikosababishwa na kutopewa umuhimu unaostahili shughuli hii na ofisi ya Kilimo, Korogwe. Ndugu huyu alijitahidi kutumia mabasi lakini kwa vile si vijiji vyote vinafikika kwa njia hiyo, alishindwa. Kwa vile shughuli hii ni muhimu Idara italazimika kumrudisha Ndugu Ibrahim huko Korogwe ili kukamilisha kazi hii, Mei, 1979.

3. Kutokana na 2 hapo juu, ofisi yake inambwa isaidie ili wahusika wa Korogwe walipe suala hili umuhimu unaostahili na kuhakikisha kukamilika kwa shughuli hii katika vijiji vya: Ubiri, Ambangulu, Mzumbara na Bombo Majimoto/Evankolô.

4. Tarehe ya mhusika kufika Korogwe tutakufahamisha.

Natoa shukurani zangu za swazo kwa msada wako.


Dr. J. E. U. Mchochu,
MKURUGENZI WA MAENDELEO YA VATUMISHI.

APPENDIX G

Manpower Development

2066,

TA.1

19 Aprili, 1979.

Mkurugenzi wa Maendeleo (M)
J.L.P. 914,
RODOLPH

YAHUSU UTAFAITI WA MAONI YA WAKULIMA, MABWANA/BIBI SHAMBA, WAAJIRI NA WAKUFUNZI JUU YA HUDUMA YA HENEZAJI MAARIFA YA KILIMO (AGRIC. EXT. SERVICE).

Waraka wa Idara hi Kumb. Na. TA.1 wa tarehe 22.12.78 uliotumwa kwa Naafisa Waendelezi Kilimo/Mifugo Mikweni na Wilayani wahusika.

2. Idara hi imelazimika kuomba msaada wa ofisi yako baada ya Ndugu Ibrahim kutoka Idara hi anayeshughulikia suala hili kushindwa kumaliza mahojiano na wakulima katika baadhi ya vijiji kumi vya Wilaya ya Kondoa alipokuwa huko kuanzia tarehe 15 hadi 22 May 1979. Inaminika Ndugu huyu hakuweza kupewa usafiri ili atembelee vijiji vya Pahi na Mtakuja.
3. Kwa vile shughuli hi ni muhimu Idara hi itamrudisha Ndugu Ibrahim Kondoa kumaliza shughuli hiyo katika vijiji alivyotaja.
4. Tafadhali naimba ofisi yako isaidie ili wahusika huko Kondoa walipe suala hili umuhimu unaostahili na kufamikiwa shughuli hi.

Tarehe za kurudia wilaya ya Kondoa tutakufahamisha.

Naamini kwa ushirikiano shughuli hi itakamilika.


Dr. J.E.U. Mshacha,
MKURUGENZI WA MAENDELEO YA VATUMISHI.

APPENDIX I

SURVEY FORM

PART 1

COMMON QUESTIONNAIRE

Please complete this questionnaire according to the given instructions. There are no right or wrong answers, only your opinion concerning your feelings, views and experiences with agricultural extension service. Kindly feel free to record your comments on the reverse side of questionnaire pages. Your opinions, views and comments will be treated "CONFIDENTIALLY". Please complete each item.

A. GENERAL PERSONAL INFORMATION

1. Name of the Village/MATI.....Parastatal.....

2. Please check Correctly your region and district:

<u>Region</u>		<u>District</u>		
Dodoma <input type="checkbox"/>		Kondoa <input type="checkbox"/>		Mpwapwa <input type="checkbox"/>
Mbeya <input type="checkbox"/>		Mbeya <input type="checkbox"/>		Rungwe <input type="checkbox"/>
Tabora <input type="checkbox"/>		Tabora <input type="checkbox"/>		Igunga <input type="checkbox"/>
Tanga <input type="checkbox"/>		Koroqwe <input type="checkbox"/>		Muheza <input type="checkbox"/>

3. Your age in years:

21 - 30 yrs. <input type="checkbox"/>	41 - 50 yrs. <input type="checkbox"/>	Over 60 yrs. <input type="checkbox"/>
31 - 40 yrs. <input type="checkbox"/>	51 - 60 yrs. <input type="checkbox"/>	

4. Your academic qualification (highest reached):

Adult Educ. <input type="checkbox"/>	Form IV <input type="checkbox"/>
Primary Educ. <input type="checkbox"/>	Form VI <input type="checkbox"/>

5. Professional or technical qualifications:

Certificate <input type="checkbox"/>	Diploma <input type="checkbox"/>	Degree <input type="checkbox"/>
--------------------------------------	----------------------------------	---------------------------------

6. Date of 1st Appointment.....

7. Occupation:

Farmer <input type="checkbox"/>	DLDO <input type="checkbox"/>	RLDO <input type="checkbox"/>
Ext. Officer <input type="checkbox"/>	DM <input type="checkbox"/>	RM <input type="checkbox"/>
DADO <input type="checkbox"/>	RADO <input type="checkbox"/>	Principal <input type="checkbox"/>
Head of Department <input type="checkbox"/>		

8. Sex: Male Female

B. PERCEPTION OF EXTENSION SERVICE

Please read each statement carefully and encircle only one letter or letters that best reflects your perception of the way you feel about agricultural extension service in your area. The rating scale is designed as follows (except section E.):

- SA - Strongly Agree
- A - Agree
- U - Undecided
- D - Disagree
- SD - Strongly Disagree

Example:

Transportation is a problem of Extension Officers.

<i>Strongly Agree</i>	<i>Agree</i>	<i>Undecided</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
SA	A	U	D	SD

(SD) This means I believe transportation is definitely not a problem of Extension Officers.

1. Extension service helps farmers to help themselves.

SA	A	U	D	SD
----	---	---	---	----

2. Farmers' needs and problems determine agricultural extension service programs in this locality.

SA	A	U	D	SD
----	---	---	---	----

3. Agricultural extension service provides a continuing educational experience for farmers.

SA	A	U	D	SD
----	---	---	---	----

7. There are not enough farmer visits by the extension officers.	SA	A	U	D	SD
8. Extension officers are unable to communicate effectively with people not directly related to agriculture.	SA	A	U	D	SD
E. PERCEPTIONS OF AGRICULTURAL EXTENSION METHODS					
1. Method demonstration is used by the extension officers.	<i>Always</i> A	<i>Often</i> O	<i>Sometimes</i> ST	<i>Seldom</i> S	<i>Never</i> N
2. Exhortation (telling) is a method used by the extension officers.	A	O	ST	S	N
3. Extension Officers use group discussions as a teaching method.	A	O	ST	S	N
4. The extension officers use "team approach" as an agricultural extension method in this area.	A	O	ST	S	N
5. Village visitation is a method used by the agricultural extension officers in this area.	A	O	ST	S	N
6. Selling of Ukulima wa Kisasa and other Kilimo Pamphlets is an extension approach in this area.	A	O	ST	S	N
7. Agricultural cinema (films) are used in agricultural extension in this area.	A	O	ST	S	N

PART 2

EXTENSION OFFICERS', EMPLOYERS' AND TRAINERS'
ATTITUDES TOWARD EXTENSION SERVICE

1. Agricultural extension officers are provided with fully detailed programs from their superiors.	<i>Strongly Agree</i> SA	<i>Agree</i> A	<i>UnDecided</i> U	<i>Disagree</i> D	<i>Strongly Disagree</i> SD
2. Agricultural extension officers normally prepare a plan of work for each program.	SA	A	U	D	SD
3. There is strong linkage between Extension and Research Services.	SA	A	U	D	SD
4. There should be a strong linkage between Extension Service and the MATIs.	SA	A	U	D	SD
5. Extension officers who live in villages should introduce farmers' classes in their villages.	SA	A	U	D	SD
6. MATIs should make periodic follow-up on their graduates' field performance.	SA	A	U	D	SD
7. MATIs should organize refresher courses for extension officers in specific subject matter areas.	SA	A	U	D	SD
8. MATIs should use extension problems in the field in designing new strategies for instruction.	SA	A	U	D	SD
9. RADOs and DADOs should hold seasonal seminars in extension methodology.	SA	A	U	D	SD
10. MATIs should cooperate with RADOs and DADOs in designing extension methodology seminars.	SA	A	U	D	SD

PART 3

EXTENSION OFFICERS' AND EMPLOYERS' ATTITUDES TOWARD EXTENSION
STAFF, MORALE, SEX AND PERFORMANCE

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Undecided</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1. Local extension service staffing is inadequate.	SA	A	U	D	SD
2. Promotions in extension service are rational and give hope to extension officers.	SA	A	U	D	SD
3. Extension officers are satisfied with present recruitment procedures for higher training.	SA	A	U	D	SD
4. Morale of extension officers is quite high.	SA	A	U	D	SD
5. The happier the extension officers the harder they tend to work.	SA	A	U	D	SD
6. Female extension officers perform as competently as male extension officers in the village.	SA	A	U	D	SD
7. Extension service is too difficult for female extension officers.	SA	A	U	D	SD
8. There is little need for more female extension officers to work in village.	SA	A	U	D	SD

PART 4

FARMERS' ATTITUDES TOWARD EXTENSION SERVICE AND EXTENSION OFFICERS

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Undecided</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1. I usually get agricultural technical assistance from the extension officer when I need it.	SA	A	U	D	SD
2. Agricultural extension service has helped me to develop and succeed in farming.	SA	A	U	D	SD
3. Extension service should provide us with free farm inputs.	SA	A	U	D	SD
4. The extension officer knows most basic skills in crop production.	SA	A	U	D	SD
5. The extension officer knows most basic skills in livestock production.	SA	A	U	D	SD
6. The extension officer knows basic skills in farm machinery use.	SA	A	U	D	SD
7. The extension officer is competent in advising farmers on new practices.	SA	A	U	D	SD
8. The extension officer uses local leadership to help him in his work.	SA	A	U	D	SD
9. I am satisfied with the work of the extension officer.	SA	A	U	D	SD
10. If offered an opportunity to attend farmers' classes, I will attend.	SA	A	U	D	SD

PART 5

EXTENSION OFFICERS' ATTITUDES TOWARD TRAINING AND CLIENTELE

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Undecided</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1. I get adequate supervision and technical assistance from the DADO, DLDO and District Manager.	SA	A	U	D	SD

2. I have had adequate training in crop production to discharge my duties properly.	SA	A	U	D	SD
3. I have had adequate training in livestock production to discharge my duties properly.	SA	A	U	D	SD
4. I have had adequate training in extension methodology at the MATI.	SA	A	U	D	SD
5. I require more training in Farm Machinery to help me discharge my duties properly.	SA	A	U	D	SD
6. Farmers have vague understanding of the role of extension service.	SA	A	U	D	SD
7. Farmers' education facilitates adoption of new practices.	SA	A	U	D	SD
8. Farmers have a poor understanding of the role of the extension officer.	SA	A	U	D	SD
9. Farmers have a very strong desire to improve their living standards.	SA	A	U	D	SD
10. Village leadership has had great impact in the success of extension service in this area.	SA	A	U	D	SD

PART 6

EMPLOYERS' ATTITUDES TOWARD EXTENSION OFFICERS' TRAINING AND PERFORMANCE

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Undecided</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1. Certificate level extension officers are adequately prepared to discharge extension service duties.	SA	A	U	D	SD
2. Certificate level extension officers are adequately prepared in teaching methods for agricultural development.	SA	A	U	D	SD
3. Certificate level extension officers prepare good extension plans of work.	SA	A	U	D	SD
4. Certificate level extension officers are creative in their work.	SA	A	U	D	SD

PART 7

TRAINERS' ATTITUDES TOWARD EXTENSION AND TRAINING

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Undecided</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1. Failure of extension officers to adapt innovations to local conditions is a major extension problem.	SA	A	U	D	SD
2. More teaching in extension methodology should be done in the MATIs.	SA	A	U	D	SD
3. Extension officers are prepared to act on their own initiative and judgement.	SA	A	U	D	SD
4. MATIs should primarily emphasize local agriculture in their training programs.	SA	A	U	D	SD
5. MATIs adequately supervise the one month certificate students' village apprenticeship.	SA	A	U	D	SD
6. MATIs adequately teach crop production practical skills.	SA	A	U	D	SD
7. MATIs adequately teach livestock husbandry practical skills.	SA	A	U	D	SD
8. MATIs adequately teach agricultural mechanization practical skills.	SA	A	U	D	SD

APPENDIX J

SWAHILI VERSION OF THE SURVEY FORM

SEHEMU YA 1

FOMU YA MASWALI YA WOTE

Tafadhali jibu maswali yafuatayo kufuatana na maagizo uliyopewa. Hakuna jibu sahihi ama lisilo sahihi. Kinachotakiwa ni maoni yako tu kutokana na uonavyo, mawazo yako, uzoefu au ujuzi wako katika huduma ya uenezaji maarifa ya kilimo. Tafadhali kuwa huru kuandika maoni na ushauri wako katika kurasa za nyuma ya karatasi za maswali haya iwapo ni lazima. Maoni yako, mawazo na ushauri wako vitachukuliwa kama "SIRI." Tafadhali jibu kila swali.

A. HABARI BINAFSI.

1. Jina la Kijiji/Chuo.....Shirika.....

2. Tafadhali weka alama ya "V" mbele ya mkoa na wilaya ulimo kwa sasa:

<u>Mkoa</u>	<u>Wilaya</u>	
Dodoma <input type="checkbox"/>	Kondoa <input type="checkbox"/>	Mpwapwa <input type="checkbox"/>
Mbeya <input type="checkbox"/>	Mbeya <input type="checkbox"/>	Rungwe <input type="checkbox"/>
Tabora <input type="checkbox"/>	Tabora <input type="checkbox"/>	Igunga <input type="checkbox"/>
Tanga <input type="checkbox"/>	Korogwe <input type="checkbox"/>	Muheza <input type="checkbox"/>

3. Weka alama ya "V" katika sehemu yenye umri wako:

Miaka 21 - 30 Miaka 41 - 50 Miaka zaidi ya 60
 Miaka 31 - 40 Miaka 51 - 60

4. Weka alama "V" kuonyesha elimu ya juu uliyofikia:

Kisomo (Watu Wazima Kidato cha IV
 Elimu ya msingi Kidato cha VI

5. Onyesha mafunzo ya juu uliyopata katika kilimo:

Cheti cha Kilimo Stashahada Shahada

6. Tarehe ya kuajiriwa.....

7. Onyesha kazi yako kwa alama ya "V":

Mkulima <input type="checkbox"/>	Meneja Wilaya <input type="checkbox"/>	Mkufunzi <input type="checkbox"/>
Bwana/Bibi-Shamba <input type="checkbox"/>	RADO <input type="checkbox"/>	Mkuu wa Chuo <input type="checkbox"/>
DADO <input type="checkbox"/>	RLDO <input type="checkbox"/>	
DLDO <input type="checkbox"/>	Meneja Mkoa <input type="checkbox"/>	

8. Mume Mke

B. NIIELEWAVYO HUDUMA YA UENEZAJI MAARIFA YA KILIMO

Tafadhali soma kila swali kwa uangalifu na weka alama kuzunguka herufi inayo/zinazoonyesha vyema jinsi uelewavyo ama uonavyo kuhusu huduma ya uenezaji wa maarifa ya kilimo katika sehemu yako. Alama ama herufi za kuchagua, isipokuwa katika sehemu E, Zimepangwa kama ifuatavyo:

NK - Nakubali Kabisa
 N - Nakubali
 SU - Sina Uamuzi
 S - Sikubali
 SK - Sikubali Kabisa

Mfano:

Usafirishaji ni tatizo la Mabwana Shamba.

Nakubali Kabisa	Nakubali	Sina Uamuzi	Sikubali	Sikubali Kabisa
NK	N	SU	S	SK

(SK) Hii ina maana naamini usafirishaji siyo tatizo la Mabwana Shamba hata kidogo.

1. Huduma ya uenezaji maarifa ya kilimo husaidia Wakulima kujisaidia wenyewe.	NK	N	SU	S	SK
2. Mahitaji na matatizo ya Wakulima ndiyo huamua mipango ya huduma ya uenezaji maarifa ya kilimo katika sehemu hii.	NK	N	SU	S	SK
3. Huduma ya uenezaji maarifa ya kilimo hutoa elimu ya ujuzi unaoendelea kwa wakulima.	NK	N	SU	S	SK

4.	Huduma ya uenezaji maarifa ya kilimo hutumikia watu Wazima na vijana wa sehemu hii.	NK	N	SU	S	SK
5.	Kuchukua na kutumia njia mpya za kilimo kunahitaji uvumilivu mkubwa wa Waajiri Mabwana Shamba na viongozi wa Chama na Serikali.	NK	N	SU	S	SK
6.	Huduma ya uenezaji maarifa ya kilimo imesaidia wakulima kutaka kujifunza.	NK	N	SU	S	SK
7.	Mabwana Shamba wanaonekana wanajiamini vya kutosha kazini.	NK	N	SU	S	SK
8.	Huduma ya uenezaji maarifa ya kilimo lazima ishughulike kwanza kabisa na uletaji wa maarifa mapya.	NK	N	SU	S	SK
9.	Huduma ya uenezaji maarifa ya kilimo imebadilisha fikira za wakulima kuelekea utaalum mpya.	NK	N	SU	S	SK
10.	Huduma ya uenezaji maarifa ya kilimo imefanikiwa sana katika uzalishaji mazao kuliko ufugaji.	NK	N	SU	S	SK
11.	Mipango ya huduma ya uenezaji maarifa ya kilimo sasa inatosheleza katika sehemu hii.	NK	N	SU	S	SK
12.	Mabwana Shamba kwa kawaida hutokeleza miradi ya kitaifa hata kama wakulima hawako tayari.	NK	N	SU	S	SK
13.	Mipango katika huduma ya uenezaji maarifa ya kilimo imekuwa imara na thabiti kabisa katika malengo yake.	NK	N	SU	S	SK
14.	Mipango ya huduma ya uenezaji maarifa ya kilimo ipangwe na kuratibiwa kitaifa.	NK	N	SU	S	SK
15.	Mabwana Shamba wanaujuzi wa vitendo katika kazi za kilimo kiasi wana wafundisha wakulima sawa sawa.	NK	N	SU	S	SK
C. FIKIRA KUHUSU SHABAHA ZA HUDUMA YA UENEZAJI MAARIFA YA KILIMO						
1.	Malengo na madhumuni ya huduma ya uenezaji maarifa ya kilimo yanaeleweka vyema kwa wakulima.	NK	N	SU	S	SK
2.	Wakulima wanahusishwa sana katika kutayarisha mipango ya huduma ya uenezaji wa maarifa ya kilimo.	NK	N	SU	S	SK
3.	Mipango ya huduma ya uenezaji maarifa ya kilimo huimarishwa kwa kupimwa mara kwa mara katika sehemu hii.	NK	N	SU	S	SK
4.	Msingi wa huduma ya uenezaji maarifa ya kilimo umokatika ushirikiano wa maafisa kilimo Mkoani/Wilayani, Mameneja Mkoani/Wilayani na Mabwana Shamba.	NK	N	SU	S	SK
5.	Mafanikio ya huduma ya uenezaji maarifa ya kilimo huhitaji mabadiliko ya fikira za Wakulima, Mabwana Shamba, Viongozi wa Siasa na Serikali.	NK	N	SU	S	SK
6.	Mabwana Shamba wanajitahidi katika shughuli za vijana wakulima kama vile katika shughuli za Wakulima watu wazima.	NK	N	SU	S	SK
D. FIKIRA KUHUSU MATATIZO YA HUDUMA YA UENEZAJI MAARIFA YA KILIMO						
1.	Mawasiliano ya utaalumu kwa wakulima bado ni tatizo sehemu hii.	NK	N	SU	S	SK
2.	Mila za Wakulima sitatizo kwa huduma ya uenezaji maarifa ya kilimo.	NK	N	SU	S	SK
3.	Ugumu wa Wakulima katika kukubali maarifa mapya kumesababisha kushindwa kwa huduma ya uenezaji maarifa ya kilimo.	NK	N	SU	S	SK
4.	Wakulima huelekea kukwepa wajibu wao katika mipango ya kilimo.	NK	N	SU	S	SK
5.	Viongozi wa siasa kweli wanaelewa sawasawa huduma ya uenezaji maarifa ya kilimo.	NK	N	SU	S	SK

6. Serikali haltoi fedha za kutosha kwa huduma ya uenezaji maarifa ya kilimo.	NK	N	SU	S	SK
7. Mabwana Shamba hawawatembelei wakulima vya kutosha.	NK	N	SU	S	SK
8. Mabwana Shamba hawawezi kuzungumza vyema na watu wasiohusika na kilimo.	NK	N	SU	S	SK

5. FIKIRA KUHUSU NJIA ZINAZOTUMIKA KATIKA HUDUMA YA UENEZAJI MAARIFA YA KILIMO

	<i>Makati wote</i>	<i>Mara kwa Mara</i>	<i>Mara nyingine</i>	<i>Kidogo</i>	<i>Hata Kidogo</i>
1. Njia ya vielelezo/maonyesho hutumiwa na Mabwana Shamba kueneza maarifa ya kilimo.	WW	MK	MN	K	HK
2. Kuelezea ni njia inayotumiwa na Mabwana Shamba katika kueneza maarifa ya kilimo.	WW	MK	MN	K	HK
3. Mabwana Shamba hutumia vikundi vya majadiliano kama njia ya kufundishia wakulima.	WW	MK	MN	K	HK
4. Kushauri Kwa vikundi hutumiwa na Mabwana Shamba kama njia ya uenezaji maarifa ya kilimo.	WW	MK	MN	K	HK
5. Kutembelea vijiji ni njia kuu inayotumiwa na Mabwana Shamba.	WW	MK	MN	K	HK
6. Uzaji wa Ukulima wa Kisasa na vijitabu vya kilimo ni njia muhimu ya uenezaji maarifa ya kilimo sehemu hii.	WW	MK	MN	K	HK
7. Sinema za kilimo hutumika katika uenezaji wa maarifa ya kilimo sehemu hii.	WW	MK	MN	K	HK

SEHEMU YA 2

FIKIRA ZA MABWANA SHAMBA, WAAJIRI, NA WAKUFUNZI KUHUSU HUDUMA YA UENEZAJI MAARIFA YA KILIMO

	<i>Makubali Kabisa</i>	<i>Makubali</i>	<i>Sina Uamuzi</i>	<i>Sikubali</i>	<i>Sikubali Kabisa</i>
1. Mabwana Shamba hupewa na maafisa wao mipango inayooleweka sawa sawa.	NK	N	SU	S	SK
2. Mabwana Shamba, kwa kawaida, hutayarisha ratiba za kazi kwa kila mpango.	NK	N	SU	S	SK
3. Kuna uhusiano mkubwa kati ya huduma ya uenezaji maarifa na utafiti wa kilimo.	NK	N	SU	S	SK
4. Lazima uwepo uhusiano mkubwa kati ya huduma ya uenezaji maarifa ya kilimo na vyuo vya kilimo.	NK	N	SU	S	SK
5. Mabwana Shamba waishio vijijini waanzishe madarasa ya Wakulima katika vijiji vyao.	NK	N	SU	S	SK
6. Vyuo vya kilimo vifuatie kuona jinsi vijana waliofuzu vyuoni wafanyavyo kazini.	NK	N	SU	S	SK
7. Vyuo vya kilimo vipange kozi fupi za Mabwana Shamba katika masomo maalum.	NK	N	SU	S	SK
8. Vyuo vya kilimo vitumie matatizo ya uenezaji maarifa ya kilimo katika kutunga shabaha mpya za kufundisha.	NK	N	SU	S	SK
9. RADO na DADO wafanye semina za utaalum wa uenezaji maarifa ya kilimo.	NK	N	SU	S	SK
10. Vyuo vya kilimo vishirikiane na RADO na DADO katika kutayarisha semina kuhusu njia za uenezaji maarifa ya kilimo.	NK	N	SU	S	SK

SEHEMU YA 3

FIKIRA ZA MABWANA SHAMBA NA WAAJIRI KUHUSU MABWANA SHAMBA,
MABIBI SHAMBA NA UFANYAJI KAZI

	<i>Nakubali Kabisa</i>	<i>Nakubali</i>	<i>Sina Uamuzi</i>	<i>Sikubali</i>	<i>Sikubali Kabisa</i>
1. Idadi ya Mabwana Shamba haitoshi katika kueneza maarifa ya kilimo.	NK	N	SU	S	SK
2. Kupanda vyeo kwa Mabwana Shamba kunaridhisha na huwapa Mabwana Shamba matumaini.	NK	N	SU	S	SK
3. Mabwana Shamba wanaridhika na mtindo wa sasa wa kuchaguliwa kwenda kuchukua mafunzo ya juu.	NK	N	SU	S	SK
4. Moyo wa kazi wa Mabwana Shamba uko katika hali ya juu.	NK	N	SU	S	SK
5. Mabwana Shamba wenye furaha hufanya kazi kwa bidii.	NK	N	SU	S	SK
6. Mabibi Shamba hufanya kazi nzuri kama Mabwana Shamba katika vijiji.	NK	N	SU	S	SK
7. Kazi ya uenezaji maarifa ya kilimo ni ngumu sana kwa mabibi shamba.	NK	N	SU	S	SK
8. Mabibi shamba hawahitajiki sana kufanya kazi vijijini.	NK	N	SU	S	SK

SEHEMU YA 4

FIKIRA ZA WAKULIMA KUHUSU HUDUMA YA UENEZAJI
MAARIFA YA KILIMO NA MABWANA SHAMBA

	<i>Nakubali Kabisa</i>	<i>Nakubali</i>	<i>Sina Uamuzi</i>	<i>Sikubali</i>	<i>Sikubali Kabisa</i>
1. Kwa kawaida ninapata msaada wa kitaalamu kutoka kwa Bwana Shamba kila ninapouhitaji.	NK	N	SU	S	SK
2. Huduma ya uenezaji maarifa ya kilimo imenisaidia kuendelea na kufanikiwa katika kilimo.	NK	N	SU	S	SK
3. Huduma ya uenezaji maarifa ya kilimo itupatie vifaa vya kilimo bure.	NK	N	SU	S	SK
4. Bwana Shamba wetu anao ujuzi muhimu katika uzalishaji mazao.	NK	N	SU	S	SK
5. Bwana Shamba wetu anao ujuzi muhimu katika ufugaji.	NK	N	SU	S	SK
6. Bwana Shamba wetu anao ujuzi muhimu katika utumiaji wa zana za kilimo.	NK	N	SU	S	SK
7. Bwana Shamba wetu yu-hodari kushauri Wakulima juu ya maarifa mapya ya kilimo.	NK	N	SU	S	SK
8. Bwana Shamba wetu hutumia viongozi wa kijiji kumsaidia katika kazi yake.	NK	N	SU	S	SK
9. Ninaridhika na kazi ya Bwana Shamba wetu.	NK	N	SU	S	SK
10. Kama nikipewa nafasi ya kuhudhuria darasa la Wakulima nitahudhuria.	NK	N	SU	S	SK

SEHEMU YA 5

FIKIRA ZA MABWANA SHAMBA KUHUSU MAFUNZO NA WAKULIMA

	<i>Nakubali Kabisa</i>	<i>Nakubali</i>	<i>Sina Uamuzi</i>	<i>Sikubali</i>	<i>Sikubali Kabisa</i>
1. Ninapata usimamizi wa kutosha na msaada wa kitaalam toka kwa DADO na Meneja Wilaya.	NK	N	SU	S	SK

2.	Nimepata mafunzo ya kutosha katika uzalishaji mazao kiasi na fanya kazi zangu vizuri.	NK	N	SU	S	SK
3.	Nimepata mafunzo ya kutosha katika uzalishaji mifugo kiasi nafanya kazi zangu vizuri.	NK	N	SU	S	SK
4.	Nimepata mafunzo ya kutosha juu ya njia za uenezaji maarifa ya kilimo huko Chuoni.	NK	N	SU	S	SK
5.	Ninahitaji mafunzo zaidi katika zana za kilimo kunisaidia kufanya kazi zangu vizuri.	NK	N	SU	S	SK
6.	Wakulima hawaelewi sawasawa wajibu wa huduma ya uenezaji maarifa ya kilimo.	NK	N	SU	S	SK
7.	Wakulima wanaelewa kidogo sana wajibu wa Mabwana Shamba.	NK	N	SU	S	SK
8.	Elimu ya Wakulima husaidia katika utumiaji wa maarifa mapya katika kilimo.	NK	N	SU	S	SK
9.	Wakulima wana ari kubwa ya kuendeleza hali yao ya maisha.	NK	N	SU	S	SK
10.	Uongozi wa vijiji umehusika sana katika mafanikio ya huduma ya uenezaji maarifa ya kilimo sehemu hii.	NK	N	SU	S	SK

SEHEMU YA 6

FIKIRA ZA WAAJIRI KUHUSU MABWANA SHAMBA,
MAFUNZO NA JUHUDI YAO KAZINI

	<i>Nakubali Kabisa</i>	<i>Nakubali</i>	<i>Sina Uamuzi</i>	<i>Sikubali</i>	<i>Sikubali Kabisa</i>	
1.	Mabwana Shamba wenye cheti cha kilimo wametayarishwa vya kutosha kutekeleza kazi yao.	NK	N	SU	S	SK
2.	Mabwana Shamba wenye cheti cha kilimo wako imara kufundisha kwa ajili ya maendeleo ya kilimo.	NK	N	SU	S	SK
3.	Mabwana Shamba wenye cheti cha kilimo hutayarisha mipango mizuri ya kazi.	NK	N	SU	S	SK
4.	Mabwana Shamba wenye cheti cha kilimo ni hodari katika kuvumbua kazini mwao.	NK	N	SU	S	SK

SEHEMU YA 7

FIKIRA ZA WAKUFUNZI KUHUSU HUDUMA YA UENEZAJI
MAARIFA YA KILIMO NA MAFUNZO

	<i>Nakubali Kabisa</i>	<i>Nakubali</i>	<i>Sina Uamuzi</i>	<i>Sikubali</i>	<i>Sikubali Kabisa</i>	
1.	Kushindwa kwa Mabwana Shamba kuingiza maarifa mapya katika mazingira yao ni tatizo kubwa la huduma ya uenezaji maarifa ya kilimo.	NK	N	SU	S	SK
2.	Njia za uenezaji maarifa ya kilimo zifundishwe zaidi katika vyuo vya kilimo.	NK	N	SU	S	SK
3.	Mabwana Shamba wawe tayari kufanya kazi kwa nia na uamuzi bora.	NK	N	SU	S	SK
4.	Vyuo vya kilimo kwanza kabisa visisitize kilimo kilichopo karibu na chuo katika mipango ya mafunzo.	NK	N	SU	S	SK
5.	Vyuo vya kilimo hukagua vya kutosha mazoezi ya mwezi mmoja ya Wakurufunzi wa cheti cha kilimo katika vijiji.	NK	N	SU	S	SK
6.	Vyuo vya kilimo hufunza vya kutosha ujuzi wa vitendo katika uzalishaji mazao.	NK	N	SU	S	SK
7.	Vyuo vya kilimo hufunza vya kutosha ujuzi wa vitendo katika ufugaji.	NK	N	SU	S	SK
8.	Vyuo vya kilimo hufunza vya kutosha ujuzi wa vitendo katika utumiaji zana za kilimo.	NK	N	SU	S	SK

APPENDIX K

PARTICIPATING REGIONS, DISTRICTS, VILLAGES AND DATES ON WHICH INTERVIEWS WERE CONDUCTED IN THE VILLAGES

REGION	DISTRICT	VILLAGE	DATE OF INTERVIEWS
Dodoma	Kondoa	1. Kwamafunchi	17 March, 1979
		2. Atta	18 March, 1979
		3. Mnenia	18 March, 1979
		4. Dalai	19 March, 1979
		5. Kingale Juu	20 March, 1979
		6. Kelema	20 March, 1979
		7. Mngoroma	21 March, 1979
		8. Unkuku	21 March, 1979
		9. Mtakuja	9 June, 1979
		10. Pahi	10 June, 1979
	Mpwapwa	1. Mwanakianga	1-2 March, 1979
		2. Mlali Iyegu	4 March, 1979
		3. Chamkoroma	4 March, 1979
		4. Dodoma Road	5 March, 1979
		5. Hojoro	6 March, 1979
		6. M'koka	6 March, 1979
		7. Songambele	7 March, 1979
		8. Nghambi	8 March, 1979
		9. Chunyu	8 March, 1979
		10. Kiegea	8 March, 1979
Mbeya	Mbeya	1. Itezi	24 April, 1979
		2. Ruanda	25 April, 1979
		3. Njelenje	25 April, 1979
		4. Ilindi	26 April, 1979
		5. Utengule/Usongwe	26 April, 1979
		6. Igawilo	27 April, 1979
		7. Chimala	27 April, 1979
		8. Ilongo	28 April, 1979
		9. Igurusi	28 April, 1979
		10. Mabadaga	28 April, 1979
	Rungwe	1. Kahembe	2 May, 1979
		2. Mbigili	3 May, 1979
		3. Mbambo	3 May, 1979
		4. Isabula	4 May, 1979
		5. Kipande	5 May, 1979
		6. Itete	5 May, 1979
		7. Kifunda	7 May, 1979
		8. Lulasi	8 May, 1979
		9. Bujela	9 May, 1979
		10. Rugoba	10 May, 1979
Tabora	Tabora	1. Lolangulu	3 February, 1979
		2. Itonjanda	4 February, 1979
		3. Ndono	6 February, 1979
		4. Uyui	8 February, 1979
		5. Mkolye	23 February, 1979
		6. Chabutwa	23 February, 1979
		7. Itetemia	24 February, 1979
		8. Imalampaka	3 June, 1979
		9. Ipululu	18 June, 1979
		10. Isila	21 June, 1979
	Igunga	1. Usongo	14 February, 1979
		2. Igoweko	15 February, 1979
		3. Sunqwizi	16 February, 1979
		4. Chibiso	16 February, 1979
		5. Bulumbela	17 February, 1979
		6. Itundururu	17 February, 1979
		7. Igurubi	18 February, 1979
		8. Mwamashimba	18 February, 1979
		9. Ndembezi	19 February, 1979
		10. Igogo	19 February, 1979
Tanga	Korogwe	1. Kitifu	30 March, 1979
		2. Lewa	30 March, 1979
		3. Kwamsisi	31 March, 1979
		4. Kwsemangube	31 March, 1979
		5. Makorola	1 April, 1979
		6. Makuyuni	14 April, 1979
		7. Kwetonge	14 May, 1979
		8. Mkumbara	18 May, 1979
		9. Kwagunda	21 May, 1979
		10. Kwashemshi	22 May, 1979

REGION	DISTRICT	VILLAGE	DATE OF INTERVIEWS
Tanga	Muheza	1. Kwe Msala	8 April, 1979
		2. Mgoma	9 April, 1979
		3. Mindu	9 April, 1979
		4. Mapatano	10 April, 1979
		5. Zinjibai	10 April, 1979
		6. Kisiwani	11 April, 1979
		7. Kwamhosi	11 April, 1979
		8. Mlesha	12 April, 1979
		9. Mpirani Potwe	23 May, 1979
		10. Mamboleo	26 May, 1979

APPENDIX L

MATIs WHICH PARTICIPATED IN THE STUDY

1. MATI - Tumbi
2. MATI - Ukiriguru
3. MATI - Mtwara
4. MATI - Ilonga
5. MATI - Mpwapwa
6. MATI - Mbeya (UAC)
7. MATI - Tengeru
8. MATI - Mlingano
9. MATI - Maruku
10. MATI - Nyegezi
11. MATI - Morogoro

The following training institutes did not participate in the study for reasons given hereunder:

1. C.V.L. Temeke - Trains only Laboratory Technicians
2. MATI - Butiama - Trains only Artificial Inseminators

APPENDIX M

TRAINERS' ATTITUDES TOWARD EXTENSION SERVICE AND TRAINING BY AGE
(N = 65)

Statements Rated	Age in Years					Overall Means	F Value
	21-30 N = 28	31-40 N = 36	41-50 N = 1	51-60 N = 0	> 60 N = 0		
1. Failure of extension officers to adapt innovations to local conditions is a major extension problem.	3.61	3.50	3.00	--	--	3.54	0.18
2. More teaching in extension methodology should be done in the MATIs.	3.82	3.92	5.00	--	--	3.89	0.81
3. Extension officers are prepared to act on their own initiative and judgement.	2.96	3.36	3.00	--	--	3.18	1.04
4. MATIs should primarily emphasize local agriculture in their training programs.	3.50	3.22	2.00	--	--	3.32	0.92
5. MATIs adequately supervise the one month certificate students' village apprenticeship.	2.89	2.44	2.00	--	--	2.63	1.13
6. MATIs adequately teach crop production practical skills.	3.54	3.44	4.00	--	--	3.51	0.22
7. MATIs adequately teach livestock husbandry practical skills.	3.57	3.31	4.00	--	--	3.43	0.65
8. MATIs adequately teach agricultural mechanization practical skills.	3.18	2.97	4.00	--	--	3.08	0.56

Rating Scale: 1 - SD - Strongly Disagree
 2 - D - Disagree
 3 - U - Undecided
 4 - A - Agree
 5 - SA - Strongly Agree

APPENDIX N

COMMENTS BY CLIENTELE

- (5) Extension service does not exist in this locality, because we don't have a Bwana Shamba even for the Ward. We have requested for one to no avail. Some farmers don't know who the Bwana Shamba is.
- (12) Farmers' problems and needs are not taken into consideration such that advice given is not geared toward solving our problems. Farmers wish to prepare their shambas before rains start but sometimes tractor hire services aren't available on time. Farm inputs--seeds, fertilizers, insecticides, and tools--are made available when it is too late for early operations.
- (10) The government should insure that farmers get all inputs and implements--modern and/or improved--so as to increase productivity. Estimates for seeds, fertilizers, insecticides and tools should be done during the setting of production targets and not at planting as appears to be the case.
- (5) Advice is given in Ujamaa or Block farms only and not on individual farms where youths participate, hence youths are not served.
- (6) Before the appointment of "Village Managers," the extension officer was serving both youths and adults, but not now.
- (5) Limited patience is all right since there may be farmers who may be late in adopting new practices. These farmers should be urged to adopt the practices.
- (6) During BAT days, before 1965, there was an educational aspect in extension service. When Tabora Tobacco, and later on the government, through TAT, took over the tobacco industry advising farmers by doing virtually ceased.
- (2) Farmers have the desire to learn but this is not due to agricultural extension service because extension officers do not advise us in this locality.
- (15) We doubt the self-confidence of Bwana Shambas because even after it was directed that they should advise farmers in groups like Ujamaa Villages, we only hear them at public meetings. They don't visit our farms.
- (3) We are not being visited by Bwana Shambas even from the Ward or Division, and are still asking for a Village Bwana Shamba.
- (3) Farmers started adopting new technology when we had a government officer up to 1977. Since he left, this trend is diminishing.
- (5) It is two years now that our livestock dip has had a serious water problem due to pump breakdown. We have not dipped our livestock which are being infested by ticks. Regional and District officers should make follow-up on village project problems.
- (9) Extension service programs are unsatisfactory due to lack of Bwana Shambas. Our extension officer is alone in the ward where he serves more than six villages which is too much for him. A few years ago we had two Bwana Shambas in a village and their service was quite good. We need at least one Bwana Shamba per village.
- (13) We try our best to implement recommendations given by Bwana Shambas but these officers do not make any follow-up on how implementation is done.
- (3) Implementation of national projects is explained and supervised by village leadership. The Bwana Shamba--a Tanzania Cotton Authority (TCA) employee--does not bother such projects. The government Bwana Shamba we had four years ago worked hard in this regard, however.
- (2) While farm input loan policy is welcome, it would be better for Bank officials to insure that farmers' farms are ready for such investment so that loan payments can be made to the benefit of farmers.
- (3) Extension service has not been stable and steadfast in its goals. We were brought fertilizers in 1976, and were told how to use the fertilizer in a public meeting. Thereafter, no follow-ups were made by the Bwana Shambas to see whether farmers were using it correctly.
- (9) Tanzania depends on the success of agriculture for her economic development. The present set up is such that each district is on its own and regions alike. It is virtually impossible for anyone to tell what is going on in agricultural extension service in this country. This justifies the setting up of "National Agricultural Extension Service Coordination Office" that will monitor the pace at which farmers adopt technical practices.
- (5) This move will help villages get equal attention in allocating extension officers. Presently, it is clear that some villages get technical advice while others don't, and it appears neither the Ministry nor the government cares.
- (8) A reorganization of extension service will streamline extension service policy and may stabilize extension service and encourage Bwana Shambas to work harder. It may also require RADOs/RLDOs to make follow-up on RADOs/DLDOs who will ultimately supervise activities of village extension officers and assist them technically--something that is not happening now.
- (2) The Bwana Shamba who left used to show farmers by doing, the now one we have just tells us.

(Nn.) preceding a statement refers to the number of farmers who expressed that opinion.

- (3) Coffee Authority officers have not paid for 1977 crop, and we don't know when they will pay us; which is discouraging.
- (2) Before Village Managers' appointments, extension goals and objectives were made known to farmers. Now things have changed since we don't have a Bwana Shamba.
- (4) Farmers are involved in agricultural program planning by the village council, but not the Bwana Shamba because we do not have one.
- (3) There is virtually no evaluation of extension programs because the Bwana Shambas do not visit farms nor do they want to see implementation progress.
- (3) In some villages evaluation is done by the field extension officers, not district officers.
- (5) Extension officers and their supervisors should value and conduct program evaluations to determine their successes, failures and problems.
- (8) More than ten years ago, we used to see Regional and District Agricultural Officers and Extension Officers cooperating in extension. The regional officer made follow-up on district officer who in turn followed-up on field personnel. Extension officers used to spend most of their time in the farms with farmers. Nowadays the tendency is to advise right in offices and at meetings. Their superiors do not make follow-up on what field officers are doing and how they do it, although supervision should be easier now that agricultural departments have vehicles to enable them to move far and wide in the districts. Extension staff should work as a "team".
- (5) The extension officer does not get involved with young farmers' activities, and does not advise them.
- (6) It is difficult for farmers to separate crops into pure stands due to inefficient equipment or tools and seasonality aspect of our farming. As a result, farmers use mixed cropping.
- (5) Farmers are not reluctant, but we fail to follow recommended practices due to extension officers' failure to advise us properly. In the past we used to get practical advice. Nowadays, there is no advice and farmers use knowledge they acquired long ago.
- (9) Many political leaders do not have basic agricultural knowledge and do not understand extension service. Some of them direct farmers and general public to undertake programs which are of no use to us. Some, including Bwana Shambas, neglect economic aspects of agriculture. In certain cases when farmers come forward to prepare their fields, some leaders discourage them instead--implying that they don't care about our needs and development.
- (5) Some political leaders give speeches on agriculture that are not technically oriented at all. When political leaders tour villages, they should be accompanied by agricultural experts who should be allowed to explain technical aspects to farmers.
- (8) Bwana Shambas cannot visit with farmers adequately because Bwana Shambas are few; and most of them serve either Division or Wards with up to ten villages which is too much for one person; more so when they don't have transport. The number of farmers in a village is also too large (sometimes over 500).
- (4) Some Bwana Shambas don't visit farmers because of negligence. Some wouldn't respond to farmers' call for him to tend animals or crops problems. If it is a carcass case he may issue instructions for disposal of the carcass and nothing else.
- (3) Bwana Shambas should visit farmers during peak of season so that they can practically show farmers recommended techniques.
- (12) Farmers would easily accept recommended practices that are demonstrated to them before they adopt the practices. Telling us by word of the mouth would not help.
- (3) Demonstrations were used more frequently more than five years ago in the control of cotton stainers. We have suggested that Bwana Shambas should establish demonstration plots where proper application of fertilizers and manures and planting can be demonstrated, but nothing has been done.
- (4) ARI-Tumbi is conducting demonstrations in villages through experimental trials. It is important that Bwana Shambas should use demonstrations more than is the case now.
- (5) Ukulima wa Kisasa magazine was fully sold in villages in 1976. The 1978 September and October issues of Ukulima wa Kisasa were sold in a few villages between January and March 1979--they were out of date. Only Adult Education bulletins and books are available to farmers in the villages, while Kilimo bulletins and books, if availability, never reach the villages.
- (8) Agricultural cinemas have not been used in extension service, although we've requested for them several times.
- (3) The extension officer advises us during public meetings, not on group or team approach basis.
- (5) We used to get technical assistance readily before the village manager's appointment. This has ceased now. Due to lack of technical awareness, farmers rarely identify a problem and go for the Bwana Shamba's assistance.
- (5) In some villages farmers don't know their Bwana Shambas.
- (10) We are eager to develop ourselves and under the self-reliance policy, we shall not develop if we get farm inputs freely. All we are asking the Ministry of Agriculture is that the farm inputs should be readily and easily available to farmers at reasonable prices. Agricultural inputs loan policies should be reviewed to cover both crops (food and cash) and livestock enterprises under reasonable loan terms.

(19) Agricultural implements and farm inputs--hoes, plows and shares, in particular--are difficult to get, and when they are available it is usually late in the season and in inadequate supplies. Kilimo should insure that farm implements and respective spare parts are available in sufficient supplies and on time.

(3) We are afraid of accepting farm inputs brought by extension officers. At one time we were brought seed, fertilizers and pesticides which farmers bought by cash. At the end of the season, village council dues from crop sales were slashed on pretext that we had an agricultural inputs debt. When we proved that we had no debt we were told our dues were in the bank account but there was just a portion of the seasonal dues and about Sh. 6000.00 was not included.

(2) We have been refused fertilizer loans because 26 out of 576 farmers had not paid a previous loan.

(8) If possible, the idea of free inputs is welcome since some farmers would not be able to buy farm inputs.

(4) The extension officer we have was a Veterinary officer who is currently serving both crops and livestock. Obviously, he is of little help in crop production.

(6) While we accept the fact that we have fewer Bwana Shambas in the country, it is better to have one who knows agriculture and extension work rather than having a person who had no proper training. This situation is prevalent in Kilimo parastatals--TCA in particular--which employ these people without considering their competencies for the work. These young men are of little help to us since they have no interest in livestock and crops--except to a lesser extent, in cotton production.

(4) We have both tobacco and maize as our main crops. Unfortunately, we have a TAT officer whose only interest is in tobacco production. Other crops and livestock are not tended.

(5) It appears that extension service in livestock production is failing since livestock extension officers are scarcely available. Some villages are served by a divisional extension officer. This area should get due emphasis in order to improve livestock industry.

(5) Village farm implements are not given any attention by Bwana Shambas. Some oxenization programs have failed in villages due to lack of advice. Since the hoe is tiresome and inefficient, tractor hire services should be introduced to be supplemented by oxenization to facilitate efficient farm operations. Agricultural mechanization should be emphasized.

(4) Extension officers should be given periodic seminars so that they can also remember us.

(4) Farmers' classes should be started in the villages so that we can learn new farming practices, and related subjects.

(5) We suggest that at least two young people from each village be given some agricultural training so that when they return to the village their farms could serve as examples to the rest.

(7) The government should make a program under which a number of farmers and village leaders are offered agricultural tours to progressive agriculture and livestock areas; because "to see is to believe," which is better than being told.

(1) I do not see why maize and sorghum should be planted separately since they have common pest "Lusomi" (stalk borer). I think the two should be planted together so that if maize is hit by drought, sorghum will survive. After all, the most knowledgeable Bwana Shamba is the farmer himself.

APPENDIX O

COMMENTS BY EXTENSION OFFICERS

- (5) Farmers' needs and problems make up a very small portion in deciding agricultural extension service programs. Most of the programs constitute targets of the village and individual farmers, and available farm inputs, implements and ability of villagers.
- (5) Only adults are involved in agriculture in this area. Youths who have completed school (15 + years) just loiter around or are involved in pet business that earn some little money for personal use. Agriculture does not ring bells in their minds. Hence, they don't participate at agricultural meetings; and those who participate in the Ujamaa farm are fewer than adults. Since extension officers are not sufficient, very few youths are served.
- (2) Traditionally youths do not own land, hence don't participate in agricultural activities. Some parents may not be in a position to handle their various farms, but wouldn't apportion some to be under their children.
- (5) Normally new practices take time before they are adopted. The time lapse during which farmers get an opportunity to evaluate the usefulness of the new practice requires unusual patience of Party and government officials and more so, of the extension officers. Extension officers are required, in their efforts to educate farmers, to be very patient. They should also maintain high morale and unflinching desire to serve the farmers, because achievements in extension service is usually slow--starting with innovators, early adopters, early majority, late majority and laggards. Very rarely shall farmers adopt a practice en masse. The slow pace shouldn't be regarded by the government as spending money for little results.
- (4) Manpower misallocation, where a veterinary officer is assigned to serve both crops and livestock production or an agromechanization officer is assigned to unrelated duties leads to low self-confidence of these officers. It also causes problems to the clientele because the extension officers will appear ignorant, desperate, purposeless and incapable, and farmers may consider him/her incompetent and a liability.
- (5) If communication of new technology to farmers is not followed by or does not go hand in hand with availability of farm inputs and tools, it will not be effective and will necessitate repetitions. Our employers fail us by not insuring that essential farm inputs are available in sufficient amounts and on time, although we submit our requirements in good time. Some deliveries are made out of schedule making farmers even more frustrated.
- (7) Some farmers have started changing their attitudes toward recommended practices but others are still conservative and hence a problem in the introduction of new technology. Some political leaders don't cooperate fully with extension staff to help alleviate this problem. Unless something is done in this regard, our efforts won't make much difference at all.
- (10) Agricultural extension service has succeeded in crop production more than in livestock production in most areas because of the nature of agricultural systems and the likes of decision makers; that is, there are areas where farmers do not keep livestock. Besides, programs and targets set by villages are crop oriented even in those villages where livestock is part and parcel of the agricultural system; although some herdsmen are willing to follow advice of the livestock extension officers and treat their herds. The number of livestock officers is much less than that of agricultural officers; and the few officers are not facilitated by employers to do advisory service properly; and as such grazing according to land carrying capacity is a problem.
- (2) At livestock centers, the whole range of livestock improvement relating to extension is lacking since they keep improved bulls only. They should include improved dairy cows, goats, sheep, pigs and poultry, so that they become learning centers in livestock.
- (7) Extension service is not satisfactory because the number of extension officers is not sufficient. As such, one is expected to serve several villages or the entire ward. At the same time, these officers do not have means of transport, hence cannot make proper follow-up on farmers, most of whom have not yet adopted new technology brought by the extension officers. On top of this, extension officers do not get good cooperation from district administrators and Kilimo administration. Cooperation between extension officers themselves is little or nonexistent.
- (3) Success of extension service will be impossible unless there is cooperation and participation of farmers. If farmers are not ready to undertake a project, nothing will be done. Buana Shambas should convince farmers on the importance of the project.
- (1) Since farmers tend to be reluctant, extension officer then takes action to insure the project is implemented regardless of farmers' readiness.
- (3) Theoretically Kilimo programs have been stable but not in practice. Some DADOs write reports that would reflect stability of agricultural programs or progress. But these officers do not visit the villages. Their reports are written on assumptions and are likely to be false. Extension officers were called to attend seminar on "Kilimo cha Sayansi" (Technical Agriculture) at UAC, in 1977; to date farmers have not had the opportunity to see how research recommendations can increase crop production.
- (3) Agricultural extension service has been very difficult following decentralization. Most transport facilities intended by government to be used for extension service are pooled under RDDs/DDDs offices and often used for work other than extension. As a result, delivery of farm inputs, tools, implements becomes very difficult. A reorganization that will give RADOs/RLDOs and DADOs/DLDOs full authority over their departmental duties is necessary.

(No.) preceding a statement refers to the number of extension officers who expressed that opinion.

- (3) Some regions like Mbeya have many well trained extension staff, while others like Ruvuma have very few well trained staff, implying that farmers in Ruvuma are not well served, and it appears nobody cares. Hence, agricultural extension service programs should be planned, organized and coordinated at national level, but should leave room to allow involvement of village leadership, district and up to regional and then national level, so as to take climate variations into account.
- (4) Due to diversity in climatic conditions and the cropping patterns, it is advisable that extension programs, crops and livestock targets be set by village extension officers in consultation with DADOs and ULDOs. Extension programs should be planned and executed at district level.
- (3) Extension officers have the necessary competencies, but they are being discouraged by their district superiors. In fact, for extension service to succeed, farmers ought to be taught through method demonstration and agricultural shows. MATIs should intensify practical training.
- (3) If farmers knew goals and objectives of extension service, implementation of programs and target realization wouldn't have been difficult. Party and government leaders should assist extension staff.
- (1) Program evaluations are done in some villages by village extension officers, and it has been successful in tea and coffee production where crop targets are known by farmers.
- (8) Farmers tend to readily accept advice given or supported by explanation from higher authority DADOs, DADOs, etc. rather than Bwana Shambas alone. The employers should make follow-up on (supervise) what extension officers are doing, identify problems they face, assist with technical advice and emphasize to farmers the important aspects of the work done by extension officers. Employers should consider extension officers as their colleagues who are out in the field to execute the same mission and refrain from reprimanding extension officers before the farmers. Also diplomats and degree holders should be sent to work in the villages to boost extension morale and strengthen our efforts.
- (1) If employers with transport fail to visit us, how about those without any means of transport?
- (1) Some young farmers prefer going for paid jobs in towns.
- (6) Insufficient number of extension officers, lack of proper training of some extension staff (Field Auxiliaries) lack of transport, except those in special projects, to enable them cover their villages properly make communication of new technology a problem. The government should revive loans for the purchase of motorcycles so that many officers can acquire their own.
- (3) Availability of transport would help us visit farmers easily to determine implementation of the recommended practices.
- (2) Parastatals provide transport to other staff but neglect the extension staff.
- (2) Some customary beliefs are a problem in extension service. The Wagogo tribe dislikes training bulls as oxen, and bull castration by Wanyakyusa tribe is bad since to them bulls are for paying dowry, and must not be castrated. They also wouldn't accept dairy proven bulls with no hump for dairy herd improvement programs.
- (2) Farmers avoid program responsibility by deliberately disregarding technical advice. Since their cooperation with Bwana Shambas is essential, the agricultural by-laws should be tightened and used against those who do not want to follow advice of the Bwana Shambas.
- (1) I think farmers do not avoid program responsibility. Extension officers should first work with those who are ready to follow (innovators) then involve the rest.
- (6) Not all politicians understand extension service. Those in higher positions appear to have a good idea. From District, Division, Ward to Village level they don't appear to know extension service. Most of them don't know the basics of agricultural practices; and when they address farmers they ignore extension officers, and pretend to know best, although in most cases they don't know what they talk about.
- (2) Some of them would trap extension officers by convincing farmers to grow a crop which is not adaptable to their locality, like growing wheat in Kondoa just because it grows at Galapo in Manang. The officer's advice is ignored but he will be blamed for any failure of the crop.
- (4) Some politicians cause personality conflicts to show who has more power over others, and they tend to give extension last priority. As such they don't want to facilitate the success of the service. Some of them are very stubborn. Extension officer may remind farmers to have farms ready for the season, the politician will ask them to build a classroom on self-help promising them that their farms will be ploughed by tractors regardless of the condition of the field; and the tractor may not be available. The politician forgets the fact that extension service will succeed if operations are timely.
- (2) Politics has penetrated extension service so much so that it appears everybody is responsible for extension. In the final analysis the Bwana Shambas are blamed for all shortcomings.
- (5) It will be advisable for political and government leaders and extension staff to have a common stand on agricultural programs. Extension officers should insure that they enlighten politicians and involve them in extension programs so that they be advantageously used in disseminating technology.
- (6) Funds given for extension service are not adequate. The small fund given is not properly used, more so for enterprises that are not under parastatals. Mevdes, other services like nutrition and home economics are virtually forgotten. The government should provide tractors (5-10/district) to replace the old ones so that extension efforts can cope up with demand for farm ploughing.
- (13) The number of extension officers is insufficient, which worsened with the appointment of village managers a year ago leaving one extension officer to serve a Ward or a Division, i.e., 5 to more than 15 villages. The few extension officers do not have transport, hence cannot visit individual farmers, although we try to do so in block farms. Due to lack of extension staff special campaigns involving all levels should be launched to help farmers get some technical advice.

- (1) Demonstration plots should be a required method for teaching farmers, hence extension officers should establish them in the villages.
- (2) Village visitation is the main method used in extension, but due to transport problems villages that are far away are not visited adequately.
- (7) Ukulima wa Kisasa seldom reach the farmers, and when they do they are usually too late and farmers don't buy them. In some villages farmers have never seen the magazine. Kilimo bulletins and relevant pamphlets for use in extension do not exist. They should be developed for farmers based on Tanzania's farming systems and made available to places where library services are not available. Other audio-visual aids should be made available to help in teaching farmers, particularly those who do not know how to read.
- (8) Some districts, like Igunga, are forgotten in agricultural cinema programs which could help Buana Shambas' efforts. There should be a cinema van per region, and regional program should cover all villages according to farming enterprises. Only local films should be used to avoid confusing our farmers with highly mechanized Western agriculture. These should encourage farmers to adopt recommended practices.
- (3) When filling this form agricultural cinema was being shown for the first time in this village.
- (4) Extension officers use their own understanding in conducting extension service. We don't get programs of any nature from our superiors, and some of these superiors do not know what is going on in extension and will not listen to extension staff problems. In some cases a program can be given but will lack detail and is usually out of schedule for implementation. The person to take the blame is the Buana Shamba.
- (3) Officers who have been in extension service since the 1950s and early 1960s should be offered some retraining in extension methodology, program planning target projections, timetable of work and program execution. However, devotion to work is an individual's concern.
- (9) Agricultural practices would always change according to research recommendations which normally take long before they reach the farmers. But in districts it is very rare to find a research report on any subject. This means linkage between Extension and Research is nonexistent or may exist only at high levels. The two departments should have an effective communication system through which research findings can be communicated to extension staff and clientele. Also research findings should be tried in the villages.
- (2) There should be strong linkage between MATIs and Extension Service. MATIs should send students for one month village apprenticeship at the on-set of the season so that they can participate and observe dissemination of technology to farmers from land preparation, planting, to fertilizer and insecticide application; and how these operations are supervised.
- (4) Farmer classes should be started in villages as a requirement. Alternatively, extension officers should be given periods during adult literacy classes to teach agriculture to enhance extension theoretically and practically.
- (2) If possible extension officers should be given classes in primary schools to teach agriculture to standard VII students, to help them acquire agricultural knowledge when they graduate.
- (4) Trainers tend to believe that their work ends on graduation day although they know that passing MATI examination does not necessarily reflect examinee competence. MATIs should follow-up on their graduates to become familiar with extension service and identify some areas where training programs need improvement.
- (1) MATIs shouldn't follow-up on their graduates since the latter have other people to work with.
- (4) Refresher courses should be organized to enable both government and parastatal employees keep pace with new developments. In organizing the courses MATIs should consider cropping patterns so that only officers in coffee growing areas should attend refresher courses in coffee production, so that the knowledge gained is put to immediate use.
- (1) Refresher courses shouldn't be on specific subject matter areas because officers will be posted to work in certain areas only. Current long courses pattern is better.
- (2) Agro Vet course should last for 3 years because in 2 years the syllabus is inadequately taught. First 2 years should be used in teaching general agriculture, the 3rd year should be specialization according to tutors' assessment of students' ability.
- (1) The three month retraining program does not in any way solve farmers' problems.
- (3) MATIs should use extension problems so that their training is geared toward solving the problems. As such should give extension officers opportunity to give them periodic feedback on work-course relationship in order to determine subjects to add or drop.
- (3) Just like short courses, seminars should be organized by MATIs because they have facilities. These will help long serving officers who had no opportunity for further training. The Ministry should endeavor to implement part 2 of this study.
- (2) Because Buana Shambas are not enough, MATIs should be expanded, or the 1-2 year courses for ex-standard VIIs be reintroduced because with proper training they can do a good job.
- (5) Promotions in extension service normally take quite a long time such that some officers reach retirement age without having been promoted even once. This is indeed very discouraging.
- (14) Promotions in extension service are not rational, and under decentralization they are uncoordinated. It appears once you join extension service that is the end of it because DADOs don't recommend us for promotions. Some officers have served for 10-15 years and have not been promoted even once, and salaries remain at bar point; while junior officers with 2-3 years of service, particularly in MATIs and Research

Stations, have been promoted. In some regions, personnel administration is terrible. An officer will have two different personal file numbers, one at the district the other at the regional office. We don't know where our personal records end up in this regard. Low cadre officers are virtually forgotten in promotions. Officers who graduated together, especially those in the villages, are treated differently. All these are demoralizing and frustrating.

(2) In parastatals, promotions are quite rare. Usually it takes up to 7 years for one to be promoted regardless of his efforts at work.

(3) Misunderstanding with district bosses normally costs one his promotion or end up in unnecessarily frequent transfers.

(12) Recruitment for further training is bad, for it seems one has to know someone in higher authority to be called for interviews which encourages demanding for favors. An officer can attend up to 5 interviews without success, yet some are offered training without interviews. Those who go through may find themselves in courses they don't like. Worse still, junior officers are recruited when senior officers are left out. Kilimo officials simply disregard this.

(7) Recruitment procedure is good but is misused by our DADOs, DLDO and DMs--who recommend juniors instead, and only those in the offices, not field staff; particularly field auxiliaries.

(3) Senior officers should be offered training without interviews.

(2) Kilimo parastatals do not have training programs. They should use programs offered by Kilimo.

(2) Farmers should participate in selecting officers for further training.

(3) Extension officers' morale is high but most of us are discouraged by sizes of areas we serve without transport. Even with a bicycle, one can't serve 15 villages adequately; and some don't have plans of work. On the contrary, World Bank Project officers serving a village each have bicycles. Kilimo should seriously consider transportation of extension staff.

(13) Female extension officers can perform just like males in the villages, but tend to shy off when their advice is resisted by farmers. Single officers are just as competent, but this dwindles with the arrival of a baby, since they will demand staying near hospitals. When they get married the problem worsens, for they will move out following husbands leaving villages unattended. Some decide to get married so as to get out of the villages, as such they increase number of extension officers in the district or regional agricultural offices with very little to do. Some DADOs post these officers nearer or in the towns where they advise urban-housewives on gardening.

(3) Female extension officers should be posted to work in MATIs, Research and/or State farms where they will be fully employed.

(3) Extension is not too difficult for female officers. In fact they are much better in convincing farmers than male officers; although sometimes they are weaker for the job and wouldn't stay long enough to complete programs.

(4) Female officers are needed to work in the villages since most rural women are engaged in agriculture. They also carry out services like nutrition, child care, needle work, home economics, etc., besides normal extension. Women would readily accept advice given by female officers.

(2) Female officers are needed to serve in the villages--the nation's grassroots--which is intended to be served by both sexes.

(4) There is no supervision and technical assistance from our superiors, particularly material assistance which requires money, like chemicals, syringes, refrigeration facilities. Farm inputs are usually not available on time. Some DADOs and DMs do not even know their extension staffs and the latter work on their own.

(2) Training in livestock production was not satisfactory.

(1) I need the 3 month retraining course in livestock production.

(3) Facilities for farm surveys are not available, making pacing the only alternative. Consequently, farm sizes given are mere estimates. Such facilities, along with rainfall gauges should be provided.

(1) Land use training at diploma level should be considered.

Most officers have adequate knowledge of farm equipment and machinery only they are not available in most villages.

(2) Farmers who know how to read and write are easier to advise than those who don't know. Such farmers can advance through reading.

I need the 3 month retraining in crop production because all I had at the MATI was training in animal husbandry.

(3) Farmers are failing to follow our advice due to lack of inputs, lower prices of certain crops, poor movement of crops to godowns; and setting crop factories where the crop does not grow frustrates producers.

(2) Village leadership had impact in the success of extension following establishment of production committees which use and enforce their agricultural by-laws. These committees need seminars pertaining to their responsibilities.

(2) Farmers should be offered opportunity to visit progressive agricultural and livestock areas like MATIs, Research and State farms.

(2) The respect accorded extension service in certain cases is no longer because parastatals like Pyrethrum Board and CAT employ untrained extension officers. Consequently, the type of service rendered to farmers degrades the good name of extension service, particularly in Mbaya region.

(2) Extension officers should be offered study tours in the regions to study approaches used in extension in other regions; and their posting in villages should be for a minimum number of years.

Parastatals like TAT do not care about personnel problems, their extension officers are demoralized and tend to be negligent of crop targets. Kilimo should consider having extension staff under one employer although they will serve the parastatals.

APPENDIX P

COMMENTS BY EMPLOYERS

(3) Extension officers have adequate self-confidence, but they fail to fulfill their duties because most by-laws in village councils do not protect them. Besides, they need agricultural seminars and workshops so as to keep them aware of new technology and remind them of some relevant aspects of courses taken at the MATIs.

(4) Agricultural research stations should have a system through which to disseminate research findings and researched recommendations to enable extension officers to advise farmers, while they themselves are fully aware of the changes.

(2) Effectiveness of agricultural extension service depends on the locality and enterprises like crops or livestock. In case of the latter enterprise, herdsmen tend to lead some kind of nomadic life which makes it difficult for officers to follow them.

(1) The Prime Minister's directive that each village should have one Bwana Shamba has not been effected to date.

(3) Sometimes national projects have to be implemented without farmers' readiness because farmers tend to be very slow at accepting reality until at a much later stage.

(4) Due to climatic variations in various parts of the country, it would be better for extension programs to be organized at regional level, and hence be peoples' programs, that should be coordinated at national level.

(3) The practical competence of extension officers is inadequate. Extension officers need seminars or refresher courses at the MATIs or some higher training to make them practically more competent.

(3) The extension officers work with primary school children because it is not easy to find youth groups who have completed primary education involved in agriculture.

(2) Farmers cannot adopt new technology as they have failed to heed the basic aspects of crop husbandry; that is no proper spacing, haphazard intercropping, no proper weed control. Therefore, improved seed or fertilizers, whenever provided, become uneconomical.

(4) There are few politicians who have any agricultural knowledge leave alone awareness of extension service although political input is essential in promoting extension service.

(2) The enforcement of the agricultural by-laws is not backed up by politicians, as a result there has been an extensive land mismanagement in Lushoto, exemplified by excessive soil erosion, depletion of natural forests and bush fires.

(3) There is need to involve politicians in agricultural seminars.

(2) In order to improve audio visual aids use and demonstrations in extension more money is needed. Lack of money could be the reason for the failure of demonstrations.

(3) Extension officers are few, and normally serve many farmers in several (3) villages located fairly far apart. At the same time these officers have no means of transport, roads are sometimes impassable, and officers are not paid allowances if they have to spend nights out in the villages. As a result extension officers have failed to visit farmers as they are usually expected to do.

(2) Extension officers show farmers the practices in the letters' farms. Otherwise not many, if any, demonstrational plots are used in extension service.

(3) Ukulima wa Kiassa magazine, which is not available nowadays, Kilimo pamphlets, and agricultural cinemas are a tool in extension service. More people would like to read them or watch cinemas rather than attending meetings where the extension officer can express some of his principles to farmers.

(5) Although village visitation is the method of choice in carrying out extension service in this area, the frequency of visiting villages is very much limited by lack of transportation.

(3) There is weak linkage between some research stations and extension service. In some stations, linkage does not exist. A research institute in a certain locality with a number of villages around has never assisted either farmers or extension officers on technological aspects. Some do not even produce annual reports which could help officers understand what is happening in research. Hence, an extension liaison office should be re-introduced at research stations with counterparts at regional/district or parastatals to establish a stronger linkage.

(3) Agricultural classes for farmers in the villages is an important idea whose implementation has already started in some districts. The main problem is that there are too few extension officers to cover all the villages in the areas under their jurisdiction.

(4) MATIs and Regions should have a better and stronger linkage in the area of extension. This can be done through periodic consultations between MATIs and RADOs, RLDGs, DADOs and DLDOs.

(5) The extension personnel has been frustrated for quite long now, especially the Agricultural Field Assistants cadre such that their output is lowered. Promotions are not forthcoming. Although the Ministry of Agriculture failed to promote the extension staff rationally in the past, under decentralization it is even worse.

(No.) preceding each statement refers to the number of employers who expressed that opinion.

(3) Extension officers under decentralization and those working with Kilimo parastatals are virtually forgotten in recruitments for further studies, especially abroad. The majority of them are not in favor of current recruitment procedures.

(2) Extension service is a tough job which is hard for female officers, more so in areas of field work. However, females could be of much use in the area of human nutrition and home-economics.

(3) The only time a female extension officer will be useful is when each village has an extension officer, but not now when extension officers are required to serve up to five or more villages.

(3) The former certificate courses (specialized in crops and veterinary medicine) were perfect in extension. The present Agro-Vet certificate graduates are incompetent.

APPENDIX Q
COMMENTS BY TRAINERS

- (4) Although the objectives of good extension program should be based on farmers' needs and problems, in practice this is not always the case. It is essential that extension officers should determine farmers' major needs, how these change over time and reasons for the changes.
- (5) Youth programs are not covered in extension except for school children, since there are no young farmers' or youths' clubs and organizations in Tanzania. After school, youths do not have special programs under the umbrella of extension service. But in most cases youths work with their parents and there is no separation between adults and young farmers. Although emphasis is placed on adults who have families to care for, they are all treated in one group of farmers.
- (3) Some youths go to towns and cities seeking for paid jobs.
- (4) Initiation of youth programs other than those purely political could help prepare youths to be progressive future farmers.
- (3) There are recommended practices that require unusual patience and some do not. Patience, therefore, depends on the type of innovation (practice), the clientele and time. If time is limiting, patience is sacrificed. Farmers should be given time to learn the new innovation or recommended practice.
- (4) There are differences in the degree to which extension service has changed farmers' attitudes and practices, according to locality. Farmers in Kilimanjaro will naturally accept advice more easily than those in Dodoma. In Kilimanjaro region there are more progressive farmers and an educational process is already taking place such that farmers are more willing to change.
- (2) Nonetheless, there are cases where extension service is reported to have completely demoralized farmers by introducing an innovation to a wrong community, like encouraging a moslem community to start a pig project.
- (6) Self-confidence of extension officers depends on individual officers' talents. Although extension officers may not have self-confidence due to inadequate training at the MATIS, they are often pushed around by some politicians such that their self-confidence is virtually diminished.
- (1) Traditional practices could be suitable if they are evaluated and improved. Real change will be brought by adopting new technology.
- (6) The difference in changing farmers' attitudes toward new technology is between change of attitudes with or without adopting the technology. For instance, extension has demonstrated and emphasized the use of ox-carts--cheap and easy to maintain by village standards, but there are not many of them (carts) in the villages.
- (5) The crops sector is more advanced than the livestock sector. This suggests that there has been inadequate emphasis placed on livestock sector by extension service in the past.
- (7) Farmers' readiness to implement agricultural projects is quite essential. In order to succeed, all agricultural projects should have the farmers' support and full participation.
- (3) Tanzania is a large country with different ecological zones, hence different crops and different livestock breeds which have varied climatic requirements. The nature of extension problems and their solutions is naturally intricate. A decentralized extension program would be much more meaningful than a nationally centered extension program.
- (5) If extension programs are nationally coordinated, it will be easier to monitor progress and work out areas which lack the service, and thus do the needful. In Tabora one farmer is attended by three extension officers--one for Tobacco, the second for Livestock and the third for National Maize Project--this is because TAT has its own tobacco specialists, and likewise the National Maize project at district and regional levels. Considering training received at the MATIS, the TAT officer can adequately handle the village alone. Therefore, national coordination of extension service--with a national officer responsible for agricultural extension--will help avoid duplicated staffing, and an extra officer can be utilized elsewhere.
- (7) Most of the extension staff is made up of young men and women who graduated from MATIS. Their problem is not practical knowledge but practical experience. Few extension agents have had experience of managing even their own farms successfully and as such self-confidence is lacking. Ultimately most of them resort to the use of meetings and seminars which hardly involve practical skills.
- (3) Newly appointed officers should be given understudying periods during which they get to know basic practices needed in advising farmers. Furthermore, extension officers should be given short seminars concerning their field work. RADOs, RLDOs, DADOs and DLDOs could be of invaluable help in this regard.
- (2) Farmers are only aware of goals and objectives of extension service which concern them directly rather than the entire range of extension service.
- (5) Program evaluation in extension service is not being done. In Mbeya region periodic evaluation of extension programs has never been conducted for the last six or more years.
- (4) Kilim parastatals have systems of training their extension staff; and due to parastatal's unique organizational patterns, their extension officers are more independent and probably are doing better than government extension officers; the field staff should meet to make necessary adjustments at grass roots

(No.) preceding each statement refer to the number of trainers who expressed that opinion.

level.

(3) Team work, therefore, should include officers from all disciplines in agriculture, i.e., RADOs, RLDOs, DADOs, DLDOs, RMs, DMs and Kwana Shambas.

(3) The success of extension service requires change of "approach" rather than change of attitudes of extension officers, administrators and politicians.

(6) Young farmers have limited resources and little say in decision making. In most cases they are not available for advice because they will be in towns looking for paid jobs. They don't have interest in agriculture. Hence more attention is given to adult farmers' activities.

(2) Farmers' reluctance to accept new ideas is partially caused by the extension service itself and partially by farmers.

(5) Extension service approach is wrong because it has failed to motivate farmers to adopt new ideas and allow them time to evaluate their advantages and disadvantages.

(3) Extension service rarely uses most common and readily available tools and inputs like manures in demonstrating recommended practices.

(5) Extension service needs material support in form of farm inputs like fertilizers, insecticides, seeds and tools, that are readily available to farmers at reasonable prices.

(1) Some projects are introduced without feasibility studies. For instance, due to unfavorable soil conditions, the government had to abandon National Maize Project in Mtwara region.

(2) Most farmers have a good field practical experience. This element needs delicate handling because a farmer would not risk a practice he/she is not sure of.

(4) Farmers' purchasing power for all farm inputs is quite small. This calls for more government intervention such that inputs are subsidized, and loan policies reviewed to help many farmers.

(2) Extension service has not been a complete failure, rather it had its ups and downs which led to its slow development that makes it appear stagnant.

(1) In Mwapwa remarkable success has been achieved in the use of high quality maize and sorghum seed and fertilizers.

(3) Extension needs skilled personnel that will evaluate its programs. Essential facilities--financial, transport and educational--should be provided.

(9) Not all political leaders really understand the role of agricultural extension service.

(5) Confrontations between village/ward leadership and extension officers in some areas has generally resulted in serious setbacks in the introduction of recommended practices.

(5) Politically-oriented agricultural directives given at national, regional, district or at village levels have in some cases jeopardized some of the already established foundations for achieving certain extension goals, leaving the extension officers and farmers confused.

(8) The problem of government funding is essentially that of bad organization of the extension service itself following decentralization; and the implementation of extension programs. The entire organization needs streamlining and thereafter funding would be more direct and hence lessen the problem.

(3) Trainers have inadequate experience with the nature of programs that extension officers get from their superiors.

(4) Regional and district agricultural/livestock officers should be involved in MATI syllabi review panels since they are the people who actually know what and how much of each skill is needed in the villages.

(13) Strong linkage should exist between Extension Service and MATIs, Research Institutes and to a lesser extent Folk Development Colleges and Primary schools.

(2) If time allows, farmer classes should be introduced in the villages.

(6) Periodic follow-up on MATI graduates is a good idea though expensive. Extension officers should also make periodic reports to MATIs to include opinion as to the field usefulness or uselessness of some aspects of MATI training programs. This information can be used in reviewing MATI syllabi and make them more realistic to the Tanzanian situations, and one that will attempt to solve extension problems.

(5) Time allocated for agricultural extension subjects is inadequate. There is need to review the Agro-Vet syllabus such that extension--with emphasis on extension methodology--becomes backbone to the training program.

(3) Trainers and students still have a strong bias toward classroom work although the syllabi provide adequately for both practicals and theory work.

(4) Extension officers in the villages usually have no chance to plan and develop programs that can be effective under local conditions. In most cases they put to action only that which is provided by their superiors. If they are encouraged to decide and develop programs that are approved at district and regional levels for funding purposes, they will be motivated and their output would be remarkable.

(6) MATI training programs should prepare trainers to work on their own initiative since different villages will have different systems that will pose different degrees of challenge to extension officers. They have to be technically confident to enable them to make correct technical decisions in the villages.

- (3) The usefulness of the one month village apprenticeship is questionable. The quality of supervision by MATIs makes little or no difference.
- (2) Tutors should stay with students in the villages for at least a week so as to adequately supervise the exercise.
- (4) Although MATIs send tutors to assess what students are doing, time given is inadequate to do the work effectively.
- (8) Transport and financial problems are major bottlenecks, more so, as students go to the villages during the last quarter of the financial year.
- (3) Since MATI graduates are posted to all regions in Tanzania, primary emphasis on local agriculture would render them useless if posted outside the region where the MATI is located.
- (1) Considering facilities available at the MATIs, tutors try their level best to teach practical skills adequately.
- (5) It is not easy for an Agro-Vet graduate to be competent and confident in his practical skills due to many things he/she is supposed to do. Either duration of the course should be increased by one year or strike off some subjects in the syllabus.
- (3) There is very poor coordination of various activities assigned to the extension officers and as such extension officers and farmers get confused.
- (3) Achievements of extension service in Tabora and Tanzania at large have been far from satisfactory due to lack of adequate transport to reach villages. This has forced extension staff to confine themselves in their offices--rural or urban--and consequently farmers follow traditional practices.
- (6) Demonstrational plots have often failed because of lack of funds.
- (7) Coordination of activities a farmer is supposed to implement is often disregarded by extension staff, and patience tends to be overlooked.
- (6) Over the years the Ministry has been very callous to improving the morale of its employees and most employees have lost hope and appear to have no purpose to accomplish.
- (3) Extension service is part and parcel of an individual's personality. One improves in his/her dissemination of new technology as he/she becomes familiar with his/her clientele. Commitment in one's job bears a lot to the satisfaction of oneself.
- (1) It would have been important to determine if MATI tutors themselves were sufficiently trained practically to graduate competent Swana Shambans; and levels of confidence that should be attached to tutors and MATI graduates.

APPENDIX R

Secretary's Office--Isabula Village
Kisiba Ward
Pakati Masoko Division
Tukuyu
May 3rd, 1979

Agricultural Expert,
Kilimo Headquarters,
DAR ES SALAAM.

SPECIAL STATEMENT
(Translated)

CONGRATULATIONS

On my own behalf and the Villagers of Isabula, we heartily wish to congratulate His Excellency President J. K. Nyerere for his wisdom, bravery and ability to confront Iddi Amin Dada and overthrow his regime. Likewise we congratulate our Armed Forces whose bravery has startled the entire world. God almighty give our President long life, Amen.

SHORT HISTORY OF THE VILLAGE

Ndugu, our visitor, I beg your pardon, the following is the short history of this village. This is a permanent village and was formed by four small communities--Ikomelo, Ikama, Isabula and Iseselo. The reason for calling it Isabula is that in Rungive District, there is no village with this name, and if there is, then it is only one. The village has 700 villagers and was formed in 1976. Besides, the

village has two schools each with three classes, and both were built on a "nation building program." Not only that the village has a water furrow of about five miles long. The furrow services are not satisfactory because of lack of know-how in maintaining the furrow such that water breaks through banks and the water flows back to the river--Mwalisi river.

VILLAGE PROJECTS

Unfortunately the Village did not have projects at the beginning except a shop which was started with a capital of sh. 1000.00. Shop development is staggering because of three reasons (1) Difficulties in securing goods, (2) Transport, (3) Lack of know-how in the running of the shop. This year the Village has plans for the following projects:

- (1) Cocoa farm of 10 acres.
- (2) Tea farm of 10 acres.
- (3) Construction of cattle dip.

Villagers have a strong desire for farming, they are not for pushing. Village farm enterprises are bananas, maize, beans, rice, pigeon peas and groundnuts. They also grow cocoa, coffee, mangoes and orange trees. Villagers have a problem with the marketing of mangoes, oranges, and bananas, which discourages them because they end up rotting. Also villagers try to grow cardamom which grows well but production is low due to lack of expertise; leaving villagers just surprised.

REQUESTS

Ndugu, Agricultural Expert, it is with great pleasure to see the delegation accompanying you and various party and government leaders; hence, it is our opportunity to say all we have, so please be patient. There is the saying that goes "when luck leaves you it will never return". Our problems are:

(i) CLEAN WATER--It is very sad indeed to see that water programs people have eyes to see other places, but in our case they are blind. Surprisingly enough just across Masukulu, there is clean water and on the other side Mbambo they have clean water, too. The water official transeverses our area from one village to another, but so far we do not know our mistake. We are ready to handle the pipe trench if that is the reason.

(ii) EXPERTS--It has been announced that each village will get various experts, but this village does not have even one expert except our two schools teachers.

(iii) POLITICAL EDUCATION--As a matter of fact this village, and maybe others too, require political education regardless of CCM-membership. Politics changes a person's views and thinking from an old environment to new environment that fits into mankind development.

(iv) RURAL DEVELOPMENT BANK

We request that we be educated about the programs and procedures of the Rural Development Bank. This is because the time of thatched houses is no more, and it is also difficult to get thatching grass. Hence, villagers with cash crops could solve this problem.

Chama Cha Mapinduzi Kidumu

Yotham

Village Secretary Isabula

ABSTRACT

Objective

The primary objective of this study was to determine perceptions of the role of the Tanzania agricultural extension service, its strategies, problems and methods used from the points of view of the clientele, extension officers, employers and trainers. It was also concerned with respondents' attitudes toward the extension service and extension officers' training, competence and performance.

Procedure

The descriptive method of research using the questionnaire form and interviews was utilized. Information was obtained from 320 farmers, 213 extension officers, 30 employers of extension officers, and 65 trainers (MATI tutors), making a study population of 628. Farmers from 80 villages randomly selected from within eight districts in four regions were interviewed by the investigator. Extension officers and employers from the same four regions, and trainers provided information through mailed questionnaires.

Analysis of variance and coefficient of correlation statistical tests were used in data analysis to determine significant differences among responses. Null hypotheses were tested and were accepted or rejected at the .05 level of confidence. Frequency and percentage distributions were used where appropriate.

Findings

Respondents expressed significantly different perceptions of the role of the Tanzania agricultural extension service, extension service strategies and extension service problems. A sharp contrast among group responses was reflected with regard to political leaders' understanding of agricultural extension service, and customary beliefs of local farmers being a problem in extension.

Respondents, with the exception of the trainers, expressed the general opinion that programs in agricultural extension service should be organized and coordinated at the national level--suggesting a reorganization of the Tanzania agricultural extension service.

Respondents were not in complete agreement with the extent to which various extension methods are used. They generally perceived that exhortation and village visitations are the major methods. Farmers feel that method demonstration, group discussions, team approach, Ukulima wa Kisasa and agricultural cinemas should be used more extensively than is presently the case.

Significant regional influences were found on the attitudes of farmers and extension officers. A regional pattern of responses is displayed with farmers in Dodoma reflecting a trend of lower ratings on their attitudes toward extension service and extension officers; followed by Tanga, then Tabora and Mbeya with higher ratings. Farmers indicated that they would attend farmer classes if offered an opportunity, and that extension service has helped them to develop and succeed in agriculture. Extension officers feel they were not adequately trained in farm machinery, livestock production and extension

methodology.

Farmers feel that extension officers are not fully competent in farm machinery and livestock production.

Employers do not appear to be fully satisfied with performance of certificate level extension officers.

Respondents strongly feel that there should be strong linkage between the MATI system and Extension Service, periodic follow-up on MATI graduates by trainers, starting of farmer classes in the villages, organization of refresher courses, use of extension problems in designing training strategies, and establishment or strengthening of linkage between Research and Extension services.

Trainers agree that there is a need to improve training in extension methodology and agricultural mechanization, and that more effort is needed in inculcating initiative and judgement into MATI trainees and supervising village apprenticeship.

VITA

Andrew Kibula Kijangwa Ibrahim is the second child of Mr. and Mrs. Marko I. N. Kijangwa, farmers of Lutindi-Magoma in Korogwe District, Tanga Region in Tanzania. He was born on 1st January, 1947.

He entered Mziya Lower Primary School in 1957, where he successfully completed in 1960. The following year he was enrolled at Lwandai Boys Upper Primary School in Mlalo Division Lushoto District. He successfully completed primary education after passing the Entrance Examination, and in 1965 he entered Tanga Government Secondary School where he graduated in 1968. He was then earmarked for a career in Agriculture which was his first choice in career selection, and returned to Magoma Division where he underwent an apprenticeship for about a month. In March, 1969, he was enrolled at Egerton Agricultural College, Njoro, Kenya, on a government sponsorship. He graduated in 1971 with a Diploma in Agricultural Education and Extension.

That same year he returned to Tanzania, was appointed Training Field Officer III, and posted to teach crop science at MATI-Ukiriguru. Eight months later he joined the National Service for a period of five months.

In September 1973, he was recruited for further training under the Nordic-Tanzania Agricultural Project at Uyole in Mbeya Region. He entered California Polytechnic State University, San Luis Obispo, and received his Bachelor of Science Degree in Crop Science (with Honors) in March, 1975. Back in Tanzania that same month, he was appointed as

an Agricultural Training Officer III, and posted to teach crop agronomy at the Uyole Agricultural Centre, Mbeya.

May 11th, 1975, he was married to Joyce Mary Kihyo, a stenographer, then Personal Secretary to the DDD Korogwe District. On September 26th, 1976, he and Joyce became the parents of a baby boy, Albert Alex Sozi Kihyo.

In October, 1975, he was appointed Principal for MATI-Tumbi Tabora, then under the Tobacco Authority of Tanzania (TAT). He remained in that position until December, 1977, when he enrolled in graduate school of West Virginia University where he is a candidate for the Master of Science Degree in Agricultural Education and the Master of Public Administration.

APPROVAL OF EXAMINING COMMITTEE

David G. Williams

David G. Williams, Ph.D.
Professor of Public Administration

Warren G. Kelly

Warren G. Kelly, Ed.D.
Professor of Agricultural Education

Nov 2, 1979

Date

Layle D. Lawrence

Layle D. Lawrence, Ph.D.
Associate Professor of Agricultural Education
CHAIRMAN

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