

EFFECTIVENESS OF THE TANZANIAN MINISTRY OF
AGRICULTURE TRAINING INSTITUTES AS
PERCEIVED BY TUTORS AND PRINCIPALS

THESIS

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George G. D. Lulandala

Dipl. A. Husb. (Kenya)
Dipl. Ed. (Tanzania)
Cert. Ed. (England)
B.Sc. Ag. (USA)

Morgantown

West Virginia

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Chapter 1

INTRODUCTION

The Ministry of Agriculture is the agency whose personnel have responsibility to ensure that all agricultural units nationwide operate smoothly and profitably to maintain a constant food availability for every Tanzanian. It also coordinates all agricultural research work, monitors crop yields, stores and distributes food, distributes inputs and seeds and processes cash crops for export through its various agricultural parastatal organizations. This means that it supervises the implementation of the National Agricultural Policy. Proper planning, implementation of planned programs, supervision and provision of highly skilled agricultural technical manpower are vital in its efforts to boost agricultural production in the country. This is a very sensitive and heavy responsibility because 70 percent of the entire economy is a contribution from agricultural produce alone. A small mistake in its implementation strategies triggers an immediate mass alarm for inquiry.

Personnel in the Manpower Development Division have been assigned the responsibility to train and allocate manpower to all extension units, agricultural parastatal organizations, agricultural research stations, agricultural training centers, bird control units, agricultural mass media units and seed production farms, in addition to provision of manpower to the other divisions of the Ministry.

According to the Ministry's Training Guidelines (1982:1) the

Manpower Division was established with the following responsibilities:

1. To identify and keep under review the training and manpower requirements for the agricultural sector so as to increase the agricultural production of the country.
2. To recruit appropriate staff in order to implement required training programs and meet the manpower requirements of the agricultural sector.
3. To set standards within training programs so that the trained staff are of the calibre required for various agricultural production activities.
4. To monitor and modify as appropriate training programs so that the training aims are fulfilled.

To implement the above aims, the Division established Ministry of Agriculture Training Institutes (MATIs) in different parts of the country. MATIs offer post-secondary instruction in the various agricultural sciences. The first Institute came into existence in the 1940s, currently ten are operational. Originally, these Institutes were established on the basis of predominantly grown cash crops in a given area, and therefore were meant to conduct specialized courses in tobacco, tea, coffee, cashew nuts, pyrethrum, sisal, beef production, dairy production, poultry production and veterinary science. At the present time, seven Institutes are conducting General Agricultural Certificate courses and one Institute is conducting a certificate course in Land Use Planning. From the ten Institutes, four conduct both Diploma and Certificate courses, and two conduct Diploma courses only.

According to the Ministry's Training Guidelines (1982:1), the aims of establishing the Institutes were:

1. To train technical personnel in the field of agriculture who would man the agricultural production programs in the country.

2. To assist the Ministry of Agriculture in the implementation of its extension programs through demonstration plots so as to assist farmers in increasing production.
3. To offer vocational training for farmers so as to improve their receptivity to new technology.
4. To provide a suitable environment for the students so that the learning process is effective and enjoyable.
5. To produce various crop and livestock products as part of the training process so as to effectively implement the policy of self-reliance.
6. To provide facilities and support within the resources of the MATI for the benefit of the surrounding community.

The student capacity of MATIs now stands at 1812 for both Diploma and Certificate courses. At 100 percent efficiency this produces an annual output of 906 students. All ten MATIs are administered centrally by a body known as the Curriculum Development Section which was established through a consultancy report compiled by Armbrester and Lawrence (1977) of West Virginia University. Activities of the section are coordinated by a Chief Training Officer, who works under a Director of Manpower Development. Diagrammatically the structure of the Curriculum Development Section is as indicated below:

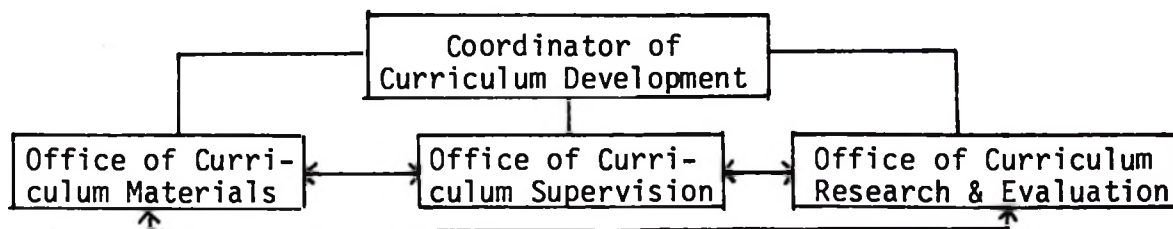


Figure 1. Organization of Curriculum Development Section

Source: Ministry of Agriculture, Manpower Development Division Special Report (1977), Dar-Es-Salaam, Tanzania.

Statement of the Problem

MATIs are a source of middle and low level agricultural manpower in the country. What they teach is what extension agents can and should apply in the field. Effective teaching means an effective extension service and, therefore, efficient agricultural production. This study is designed to determine the effectiveness of agricultural training institutes in respect to graduating competent extension agents.

Objectives of the Study

This study is designed to:

1. Evaluate instructional approaches in the MATIs as perceived by tutors and principals.
2. Determine the adequacy of theoretical and practical training in MATIs as perceived by tutors and principals.
3. Determine the level of job satisfaction and dissatisfaction as perceived by tutors and principals.
4. Determine teaching staff improvement requirements as perceived by tutors and principals.
5. Identify major problems that influence MATIs as perceived by tutors and principals.

Definition of Terms

Parastatal Organizations - Government owned companies

Kilimo - Agriculture

MATI - Ministry of Agriculture Training Institute

Tutor - Instructor

C.C.M. - Chama Cha Mapinduzi (Revolutionary Political Party)

Ujamaa Villages - Communal villages

Bwana Shamba - Extension agent at village level

Research Methods and Procedures

Method. Data for this study were obtained by the use of the descriptive method of research using the questionnaire technique. Self-administered forms (see Appendix III) were prepared, following a review of pertinent literature and with assistance from the Graduate Committee, and administered to the study population. The investigator prepared instructions for principals regarding the distribution of common questionnaires to tutors, and completion of their own forms. Principals were asked to administer the research materials only in arranged staff meetings to assure opportunity for tutors to complete the forms. Sandwich type of presentation of survey forms was discouraged. Respondents were provided with envelopes in which to place their completed questionnaires as per the instructions that appeared in the last page of the questionnaire.

Procedures. Data and information relating to this study were obtained through the administration of a common questionnaire comprised of seven sections, each containing questions specifically designed to meet the objectives of the study. The questionnaire was developed from seven major categories following a review of pertinent literature. The categories included:

1. General personal information.
2. Instructional approaches.
3. Adequacy of theoretical training.
4. Adequacy of practical training.
5. Trainers' needs for self improvement programs.

6. Trainers' job satisfaction levels.

7. Major problems that influence MATI effectiveness.

Rating and ranking scales were given to each statement listed on the questionnaire. The research study was done in Tanzania Mainland, East Africa. Ten agricultural institutions (see Figure 2) were involved. The target populations were principals and tutors employed in MATIs as of November 1982 to April 1983. All 202 MATI tutors and all 10 principals were involved in the study. A survey form checklist (see Table 1) was prepared. This was used to keep records of the research materials administered and duly completed. One questionnaire was excluded because the respondent did not fill it according to the instructions. Locations of MATIs are as indicated in Figure 2.

TABLE 1

CHECKLIST OF RESEARCH MATERIALS
ADMINISTERED AND DULY COMPLETED

MATI	Administered Materials		Completed Materials	
	Tutors N=202	Principals N=10	Tutors N=175	Principals N=8
1. Mtwara	19	1	15	0
2. Mlingano	20	1	16	1
3. Tengeru	23	1	20	1
4. Uyole	30	1	21	0
5. Mubondo	10	1	9	1
6. Ukiriguru	24	1	22	1
7. Nyegezi	33	1	33	1
8. Maruku	12	1	12*	1
9. Tumbi	16	1	12	1
10. Ilonga	15	1	15	1

*one questionnaire was not included

Treatment of Data

Data were organized and analyzed in the following ways:

1. Responses from the study population were coded on IBM code

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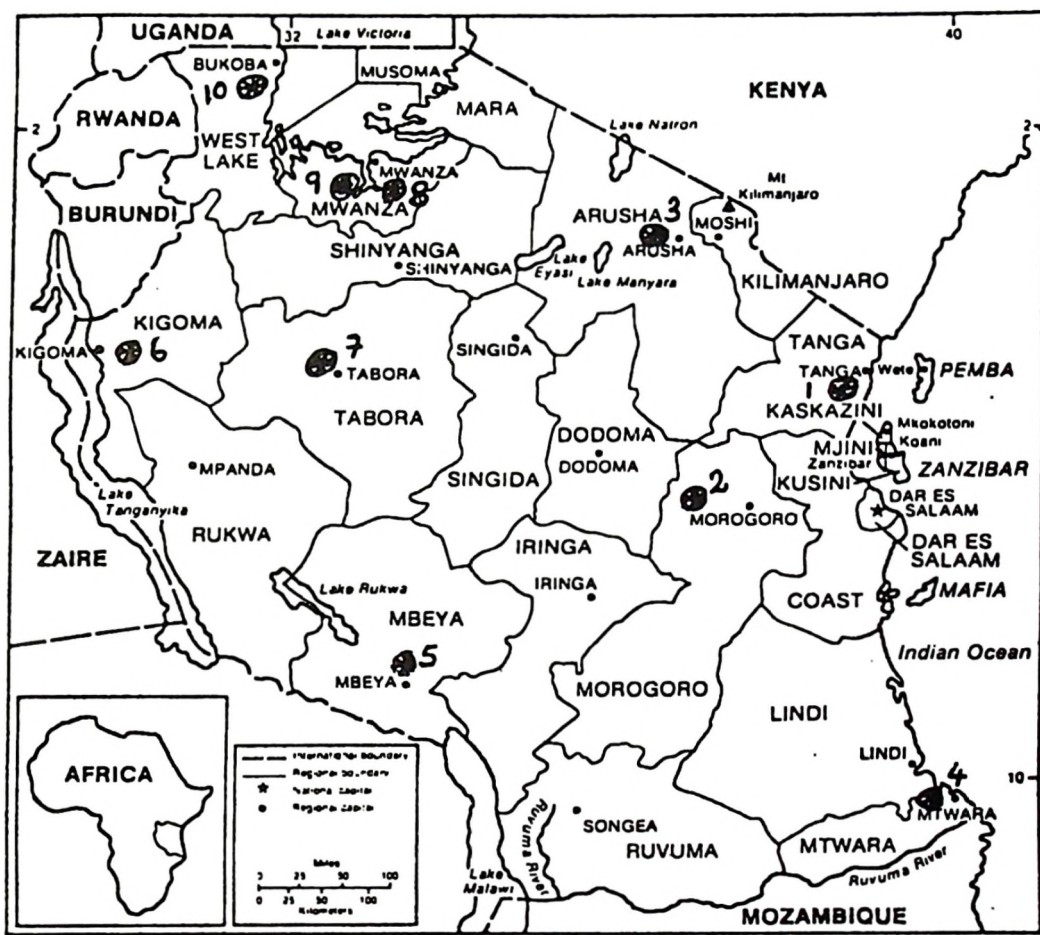


Figure 2. Schematic map showing the locations of Ministry of Agriculture Training Institutes.

KEY

- MATIs Locations:
- | | |
|-------------|--------------|
| 1. Mlingano | 6. Mubondo |
| 2. Ilonga | 7. Tumbi |
| 3. Tengeru | 8. Nyegezi |
| 4. Mtwara | 9. Ukiriguru |
| 5. Uyole | 10. Maruku |

sheets were then keypunched on IBM 80 column computer cards.

Cards were sorted for analysis, using the West Virginia University's Computer Center facilities.

2. Preparation of the pertinent results in narrative and tabular form.
3. Data were summarized as to means, standard deviations, frequencies and percentages.
4. Analysis of data was based on the following variables:
 - (i) by MATI differences;
 - (ii) field of speciality differences;
 - (iii) educational differences;
 - (iv) differences in years of experience; and
 - (v) differences in occupational positions.

Use of Findings

The need of well trained extension agents and agricultural tutors in Tanzania is becoming increasingly important in helping young and adult farmers understand and utilize new agricultural technology and practices and thereby increase food output. To determine how well the Ministry of Agriculture is doing in producing high quality extension agents, it is necessary to evaluate the training program to identify its strengths and weaknesses. Data and information compiled in this study may be useful in promoting and maintaining training strategies. From the findings, training program revisions may be made as needed. Data and information may be used by the Ministry of Agriculture Headquarters Staff, Principals and Tutors to strengthen identified weaknesses.

Limitation of the Study

The study was limited to tutors and principals employed in MATIs as of the months of November 1982 and April 1983.

Chapter 2

REVIEW OF THE LITERATURE

The literature reviewed in this chapter exposes concepts related to agricultural training and its role in agricultural development as studied by various writers. Some of the concepts dwell on training problems while others are related to suggested approaches toward improvement. Reports from different public organizations were also reviewed to cite various recommendations that were of relevance to this study. Limited research has been done regarding Kilimo Secondary Schools and Extension in Tanzania, but very little information is available regarding effectiveness of MATIs.

Through effective agricultural training the researcher believes that extension agents in Tanzania may be able to:

1. encourage farmers to accept technological change. Most farmers are still largely bound by tradition and afraid to take risks that may involve financial loss unless they are convinced that the changes are economically viable, technically feasible and compatible with their farming system.
2. disseminate among farmers the results of research and carry the farmers' problems back to research institutions. Extension agents in Tanzania are inadequately trained to fulfill this role.
3. help farmers to acquire managerial skill which will enable them to operate in a commercial economy by providing training and guidance in decision making.
4. maintain an active participation of farmers in the entire planning process.

The central objective of any agricultural extension training program is to develop professional extension agents who can successfully induce

farmers to accept new agricultural practices and teach them the necessary techniques.

For any agricultural training to be of value, teaching and practical exercises have to take into consideration the community needs and problems. Agriculture is dynamic, and therefore all training approaches must be current and flexible. Teaching in any field is a complex task. It is confidence, self-realization, and competence that makes a teacher. Training an extension agent requires both theoretical and practical approaches. Lulandala (1978:2) emphasizes that:

When a student cannot castrate a calf or make a wagon for manure in his animal science and agricultural engineering courses respectively, we say the Institute has no facilities. When a student cannot raise a bull calf from birth to slaughter and compare his costs and returns as a reference when he starts working with farmers, we say we cannot leave the good animals to the students. All these excuses are a burden to the farmers in the villages.

To educate students who will merely fill notebook pages will defeat the purposes of agricultural training institutions because teachers are required to operate as a resource.

Learning may be defined as a change in behavior that takes place in the course of practice. The change in behavior takes place while one is performing the activity. Binkley and Rodney (1981:155) contend that:

Since practice is necessary to learning, there should be a close relationship between the experience programs of students in vocational agriculture and the course of study. It is easily possible for courses of study in agriculture to contain too much that has no bearing on what the students do outside the classroom. Often students may have no oppor-

tunity to do the things included in the course. Or so much may be crammed into the course that nothing is taught well enough to function in practice.

The chief reason for having practical experience in agriculture is the opportunity to learn what it provides. Binkley (1970:50) emphasizes this by saying:

You cannot learn agriculture by just talking about it or by just watching somebody. If you are to learn agriculture, you must do the things that you want to learn; you must do them the right way or as nearly right as you can.

In the study, tutors' instructional approaches to assigned subjects were investigated to determine the impact on training. In 1972, the Ministry of Agriculture in Tanzania formed a 'Working Party of Five' to determine how practicals should be organized in MATIs. A report was written by the group and recommendations were made. The Kilimo Report (1972:ii) contains one recommendation which reads:

It is recommended that tutors should have had at least two years practical experience in the field after their graduation before they can be appointed to the training institutes.

The same report also analyzed the importance of having a viable institute farm on which MATI tutors and trainees can practice.

It is recommended that the existing and future institute (training) farms are made training/production farms. In this way we can achieve manual dexterity in agricultural practices, competence in the economics and organization of socialist production, and training in agricultural extension.

Knowledge is the result of an active interaction between learner and his environment, and therefore the necessity of direct experience along with a mentally active learning have to be stressed

in teaching. Nelson (1973:25) contends that: "The students must be active on the content to be learned and there must be peer interaction."

The researcher was interested to know how a combination of discussion and laboratory as a teaching strategy was being applied by MATI-tutors. A discussion creates a problem type of thinking. The student attempts to answer a problem or question raised, or to synthesize and integrate the ideas being considered by relating a specific to some abstraction, by reconciling conflicting points, or by relating the ideas being considered to the general problem which has been posed. Bloom (as quoted by Nelson, 1975:25) postulates that:

The discussion typically centers on the attack on problems. In such attacks the major task for the student is to find relationships between what is said and the problem which has been posed. It is, thus, not the following or comprehending which is important but the evaluation, finding answers or solutions, and synthesizing which is significant in the discussions.

Lecture is the more widely used and strongly criticized teaching method in most institutions according to Birkele's (1973:298) research. He found out that many educational methods classes lack "organization delivery and evaluation." The lecture objectives are not directed so much toward the use of the lecture method, but rather its misuse. Birkele argues that a lecture focuses mainly on "lowest level of cognition" but also feels that the objection applies to other instructional methods as well, and should not be interpreted as a weakness of the lecture method per se. Birkele (p. 299) contends that:

Variations in teaching techniques apply to nearly every teaching method. Remedy is to

improve instructor's skill in the technique to be used.

In his research summary, Birkel (300) recommends that:

If lecture is to be used:

1. Should not be used to cover information from a textbook or syllabus.
2. Should not be dominant teaching method . . . interaction and individualization cannot be met where lecture predominates.
3. Should be done well.
4. Length, complexity, and vocabulary must be suited to the maturity level of the students.
5. Lecture is improved by accompanying demonstration or visual aids.
6. Good planning and delivery are essential.
7. We should use an informal-lecture, i.e., instructor stops frequently to allow students to ask questions.

The lecture method is at its best when the desired cognitive learning is not readily available to students in other forms, e.g., very recent information not widely disseminated. Bloom (as quoted by Birkel, 1973:300) concludes that:

Good lectures illustrate the application of facts and principles to practical situations; organize factual data into new relationships which make learning more meaningful, and illustrate the application of objective criteria in the evaluation of systems of facts and concepts.

On the same issue (lecture) Savile (1965:54) asserts that:

"The sequence of a lecture should be: introduction; description; demonstraton; and practice." From the sequences above, discussion and visual aids should be used as needed.

This study was also aimed at determining how MATI tutors utilize existing institute training facilities in their theoretical and practical teaching. A member of the resource team of the Commonwealth Association of Polytechnics in Africa, told the

Faculty Development Workshop in Dar-Es-Salaam (Daily News, 1982)

that:

Provision of quality education greatly depends on improved performance of individual teachers and efforts should be made to maintain and improve them.

Tutors in agriculture have to be extremely precise in their teaching because any teaching information liable to misinterpretation by the students might lead to an immediate loss in production. In their assessment of the Tanzanian MATIs situation, Armbrester and Lawrence (1977:7-13) identified four critical problems:

1. The depth of teaching materials was constantly expressed as a major problem. Due to lack of instructional materials many tutors admitted to teaching from notes taken during previous attended classes. It therefore becomes critical that teaching materials and aids be prepared and made available to MATI tutors.
2. The need for pedagogical training prior to assumption of teaching responsibilities, as well as inservice pedagogical and technical refresher training for MATI staff, was expressed during each visit.
3. MATI Principals agree that regardless of academic level, personnel selected to tutorial posts should have at least two years of field experience between the completion of their most advanced training and the assumption of teaching duties.
4. Principals and tutors agree unanimously that the frequent reassignment of personnel to different MATI locations, changes in teaching responsibilities, and transfers out of the MATI system create confusion, uncertainty and low morale for MATI instructors.

From the above observation, a study of the material used by MATI tutors in their day-to-day teaching seemed appropriate, and also the source of technical information used in classes. A general report of the advisory council on vocational education (1968:

151) points out that:

The concept of each teacher developing his own materials has been found to be inefficient in that many teachers have not had adequate training in the development of materials, time is usually limited, and often a teacher's background in an occupation is not of sufficient breadth to make him highly expert in all phases of the occupation for which materials are to be provided.

Lack of a basic training resource in an institution may lead to poor performance in the field on the part of graduates. This study examined the adequacy of training facilities, including the training farm. Reporting on the training facilities at MATI-Ukiriguru, Maxwell (1977:78) noted that: "At present there are no facilities for laboratory work, and the development of physical facilities and purchase of equipment are top priorities."

Regarding importance of the school training farm, Tullock (1968:134) proposes that:

The land laboratory serves as an excellent means for students to learn by doing. The proper use of a land laboratory tends to keep instructors learning along with students.

A Tanzania Manpower Study Report (1980:ix-2) observes that:

Many MATIs have been created in the last 10 years. Several have operated for only one to three years in their present form. Generally speaking, they are characterized by inadequacies of staff, equipment, and facilities but are making a steady progress in correcting these weaknesses. Their most chronic and continuing problem is that of inadequate recurrent funds.

In the same Manpower Study Report (ix-9) it was observed that:

Too little time has been left for thorough topic coverage and sufficient problem-solving practice; both of these are considered necessary for a qualitative practical education.

It continues by saying:

During informal discussions, comments from former Bwana Shambas (now Diploma students) seemed to indicate a serious lack of pride and dignity in the role. Extension work seemed to be viewed as a temporary assignment which should be escapable within two to five years.

This study looked into the need for the trainer to have enough extension materials as a resource for MATI students to match the farmers' needs. A study carried out by Swanson (1979:92) in Guyana and Jamaica stated:

the need of well trained field level extension agents and agricultural teachers is becoming increasingly important in helping young and adult farmers understand and utilize new agricultural technology and thereby increase food output.

One aspect emerged from the latest study above that the training should emphasize an appropriate balance between the classroom and practical skill training.

During the study, Swanson felt that effective training depends on the capability of the trainer, training program in existence, included evaluation, preparation of suitable literature and a balance between training classes and practicals. Success of training depends also on effective teaching based on a sound educational philosophy; the use of good teaching methods by teachers; an adequate curriculum based on the need of students supported by appropriate and properly used instructional material; and adequate facilities for implementing other components.

Although training was expressed as part of teaching by most writers, Hyman (1974:11) distinguished teaching from training and asserted that:

In short, the teacher, if his activity is to be called teaching, must act in a certain manner. Since manner is important, not every activity will count as teaching. . . . teaching must clearly be distinguished from a host of allied activities such as indoctrinating and drilling, conditioning training refers to a method of shaping habits. Training suggests the acquisition of appropriate habits of response in a limited situation.

Agricultural training ought to seriously consider the student's ability to perform learned skills in the field and employability after they graduate. The ability measurement could be based on the understanding, participation, practice and capability to advise farmers while at the institute. This should finally be matched with a criteria of employability, i.e., attitude and interest toward rural agriculture. Critics continue to accuse the institutions of not doing their job and this applied to public schools as well. Ogletree and Welfare (1979:16) assert that "today, schools are moving a group of youth through an assembly line and literally producing lemons who are souring the society." This quotation could also be interpreted to mean that "agricultural training is not talk and chalk." The instructional practice should contain the necessary balance of class time, laboratory work, field trips and occupational experience to adequately prepare students for employment or advanced educational programs. This study was similarly designed to ascertain an "ideal student practical group; or number of students per practical group."

In its class size recommendations to the West Virginia vocational, technical and adult education institutions, the State Department of Education, Charleston, (1983:4) notes that:

Because of extensive laboratory work and individual student supervision required in vocational agriculture/agribusiness classes, class size should not exceed sixteen (16) students per teacher. For special classes for exceptional students, class size is limited to 8 students. A minimum of ten (10) students should be required to organize a young or adult agriculturalist class.

Training provided by MATIs should be extension oriented as reflected in the course syllabus. In his study of Tanzanian extension work, Ibrahim (1979:81, 91) found that "Trainers did not consider extension officers to have acquired sufficient practical knowledge while farmers expressed uncertainty." He recommended that: "MATIs need to strengthen their training programs in livestock production, farm machinery, and extension methodology."

Ideally what students are taught in MATIs must further student understanding, encourage participation, allow for practice and produce graduates capable of advising farmers. This being the case, success of students will largely depend on the extent to which they are--or can be--motivated. Making the student aware of his opportunities in various areas of agriculture, getting him involved in sound practical experience, offering up-to-date instruction and continuous supervision designed to assure growth and success should result in highly motivated students. Undoubtedly, the greatest motivating factor of all is the infectious enthusiasm and dedication of a competent teacher, one who

believes in the importance of agriculture and who indicates by his actions his love for students and teaching. Even politicians in Tanzania are now questioning the effectiveness of agricultural technicians. His Excellency, President Nyerere (1977:33) furiously addressed an audience in Arusha saying:

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 husbandary in their areas, and to join with 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 relationship of mutual respect.

In addition to the above observation MATI tutors should be production oriented, utilizing fully all the available resources. Byrnes (1973:223) emphasizes five major competencies required by a production specialist:

1. technical (knowledge of the subject matter)
2. scientific (how to obtain or validate knowledge)
3. economic (how to make decisions and recommendations in the light of economic and management relationships such as cost/benefit ratios)
4. farming (skills involved in growing the crop or raising the animal), and
5. communication (how to teach or share with others what you know).

Few MATI tutors have had instruction regarding teaching methods and materials development. This situation undoubtedly creates problems and anxieties, particularly in the first years of teaching. Lindahl and Crawford (1980:52) recommend that: "New instructors need professional competencies to be qualified. Therefore programs should be developed to provide these competencies for aspiring instructors."

Although the teacher workload contributes to the success or failure of effective teaching, various researchers think that time management is also important. Reilly and Welton (1980:51) recommend that:

Steps should be taken to increase salaries and fringe benefits for vocational agriculture teachers. Teacher workload such as long hours, evening responsibilities and paperwork should be diminished whenever possible. Maximum loads with defined limits should be established in those areas.

The study tested the dual factor theory formulated by Herzberg et al. (1957, as quoted by Bowen, 1981:44). Herzberg suggests that job satisfaction and job dissatisfaction are two independent concepts. Herzberg, et al. (1957) postulated that: "Job satisfaction is influenced by a set of motivator or satisfier factors, and job dissatisfaction is correlated with a set of dissatisfier factors." In teaching, the satisfier factors are achievement, recognition, responsibility and the work itself. Dissatisfier factors are interpersonal relations, policy and administration, salary, supervision (technical) and working conditions.

Historically, agricultural education programs have emphasized the cognitive and psychomotor domains of learning. However many positions in agricultural occupations are service oriented. More people fail or lose their jobs because of personal qualities or general attitudes than because of insufficient job skills or inadequate performance in their duties. Campbell (1974:13-14) states that:

The message is seemingly clear enough. Our schools must begin producing students who are not only capable of inquiry and the problem solving process (cognitive), but who have also developed the emotional stability and interpersonal skills necessary for a humanized

existence (affective).

Whatever we call success in Tanzania is largely a success created by the peasants of Tanzania. For the first time in the history of agricultural training in the country, President J. K. Nyerere has publicly expressed his concern over Tanzania's poor training approach and poor performance of extension officers. This is a very critical observation and agricultural educators have to take the challenge. Addressing a Second Ordinary Party National Conference in Dar-Es-Salaam to commemorate Tanzania's five years of C.C.M. government, His Excellency, President Mwalimu J. K. Nyerere (The Daily News, 1982) stressed that:

The problem of poor agricultural production can hardly be caused by a shortage in the number of Agricultural Extension staff employed by the Government. There is such a shortage, but not to an extent sufficient to explain the output trends. 5,643 trained people are now employed for extension work by the Ministry of Agriculture; 1,795 of these have a Diploma, and 758 have a degree--the latter are concentrated in Agricultural Education . . . the correlation between extension staff and agricultural output does not appear to be a positive one. Quite clearly, either our training is wrongly directed, or our Agricultural Extension officers are not doing what they are expected to do. It is better to discuss what is wrong and rectify it, rather than go on increasing our extension staff and continue with the same faults.

In the same speech, the President continues:

Our education system depends upon the produce from agriculture, yet to our intellectuals and our colleges of all types, agriculture has no status; at the most, honor in agriculture comes from getting a diploma or a degree and after that doing as little agricultural work as possible.

The President summarized:

Many of our young people leave the villages and go to towns to search for work because they scorn

agriculture--and we ourselves leave agriculture in a contemptible condition. However bad the Ministry of Agriculture may be, the problems of agriculture are not those of one Ministry.

Responding to the President's speech, one Member of Parliament (The Daily News, 1982) said:

Despite good plans and determination to succeed in confronting our problems, the best way was to organize ourselves and identify priorities. We could use our local agricultural institutes to teach all the ten-cell leaders in the rural areas better farming methods as they are closer to the peasants than the agricultural officers. Our extension experts are not very innovative.

MATI instructors, singly and through the efficient regional and national programs, should continually reevaluate and identify the controlling purpose of training. They are in a unique position to know the needs, aspirations, and hopes of the farmers in the country.

Chapter 3

DATA PRESENTATION AND INTERPRETATION

The Manpower Development Division, through its MATIs, is the only source of middle and low level agricultural manpower in Tanzania. The Agricultural Sector in Tanzania relies on the agricultural training system to provide it with specialized manpower to perform the functions which are required by the policies of the country.

It was hoped that MATIs would help increase food output in the country through their high quality graduates. Despite their notable achievements, MATIs have been facing criticisms from utilizers of graduates. They are being accused of not being effective in producing practical and production oriented graduates.

This study was designed to determine the effectiveness of the agricultural training institutes in respect to producing competent graduates. The emphasis of the study was on instructional approaches, adequacy of theoretical and practical training, levels of job satisfaction and dissatisfaction on the part of principals and tutors, teaching staff improvement requirements and major problems that influence success of MATIs. It is anticipated that the findings of this study will assist policy makers in making evaluations of the present training programs and in preparing or developing more effective future programs.

Data for the study were obtained from the study population consisting of 202 MATI tutors and 10 MATI principals in Tanzania Mainland by use of a common self-administered questionnaire. A total of 183 (90.59 percent) and 8 (80 percent) completed questionnaires were returned by tutors and principals respectively.

Data from the survey were organized and recorded on 80 column IBM cards, and then analyzed with the aid of the West Virginia University Computer Center facilities. Mean ratings, standard deviations, frequencies and percentages were determined for each statement by MATIs, field of speciality, work position, level of education and number of years in teaching. The results are presented in tabular and narrative form.

For the purpose of analysis and interpretation of the study, data mean values for Tables 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14 and 15 were grouped as follows:

- (i) Mean values of 2.50 and below were considered to indicate Disagreement.
- (ii) Mean values between 2.50 and 3.50 were considered to indicate Indecision, and
- (iii) Mean values of 3.50 and above were considered to indicate Agreement.

Participants were directed to respond to each statement by checking whether they strongly agreed, agreed, were undecided, disagreed or strongly disagreed. Each response was assigned a number, beginning with 5 for strongly agree, 4 for agree, 3 for undecided

2 for disagree, and 1 being assigned for strongly disagree.

In order to facilitate handling and interpretation of data in Tables 2 and 7, mean values were grouped as follows:

- (i) Mean values of 2.50 and below were considered as indicating the instructional approaches are seldom or never used,
- (ii) Mean values of 2.50 and 3.50 were considered to indicate the instructional approaches are sometimes used, and
- (iii) Mean values of 3.50 and above were considered to indicate the instructional approaches are often used.

Instructional Approaches Used by Tutors and Principals in MATIs

In order to determine instructional approaches used by tutors and principals, they were asked to respond to each of fourteen statements by indicating whether they used the approaches always, often, sometimes, seldom or never. To determine weighted means, each response was assigned a number beginning with 1 = Never; 2 = Seldom; 3 = Sometimes; 4 = Often and 5 = Always. Responses of tutors and principals, categorized by MATIs, are recorded in Table 2. The Table shows mean ratings by MATI, overall means, and standard deviations. The overall means indicate that respondents never or seldom:

1. Use external speakers (field staff) to supplement teaching (overall mean of 1.79).
2. Use slides, filmstrips, transparencies and/or movies.
3. Use study questions method of teaching.
4. Use group discussion in classes.
5. Use field trips to supplement teaching (overall means of 2.42).

Respondents indicated that they sometimes:

1. Use lecture-discussion in classes (overall mean of 3.43).
2. Use demonstration in classes.
3. Use real objects in classes.
4. Use previous coursework as a source of teaching notes.
5. Use a problem solving approach in classes.
6. Dictate notes to students.
7. Use technical information from the Ministry of Agriculture and other research organizations as a source of their teaching notes (overall mean of 2.70).

Only two instructional approaches are frequently used by MATI teaching personnel; these are:

1. Use of library books as a source of teaching notes (overall mean of 3.57), and
2. Lectures (overall mean of 3.56).

All MATI teaching staff with the exception of those at Tumbi (mean of 2.30) use lectures very heavily. Mlingano instructors lead in the use of lectures (mean of 4.94). Mlingano and Maruku teaching staff (means of 3.75 and 3.61 respectively) often employ the problem

TABLE 2
INSTRUCTIONAL APPROACHES USED BY TUTORS AND PRINCIPALS IN MATIS

Statements Rated	MTWARA	ILONGA	MLINGANO	TEGERU	UYOLE	MUBOHDO	UKIRIGURU	NYEGEZI	MARUKU	TUMBI	OVERALL	S. D.
	n=14	n=15	n=17	n=21	n=21	n=10	n=23	n=34	n=13	n=13	MEAN n=181	
1. I use lectures in classes.	3.53	3.53	4.94	3.80	3.33	3.90	3.78	3.79	3.41	2.30	3.56	1.17
2. I use lecture-discussion in classes.	3.14	3.21	3.76	3.55	3.38	3.40	3.45	3.26	3.53	3.76	3.43	0.96
3. I use group discussion in classes.	2.35	2.35	2.70	2.36	1.95	2.30	2.36	2.50	2.81	2.23	2.39	0.96
4. I use a problem solving approach in classes.	2.58	2.78	3.75	2.75	2.76	2.60	2.86	2.81	3.61	2.84	2.92	1.04
5. I use the study questions method of teaching.	2.75	2.28	2.52	2.40	2.05	2.30	2.31	2.24	2.00	2.23	2.31	1.05
6. I use field trips to supplement my teaching.	2.00	1.73	2.76	3.15	2.52	2.60	2.00	2.47	2.33	2.50	2.42	1.07
7. I use slides, filmstrips, transparencies and/or movies in my teaching.	1.35	1.64	2.29	2.05	2.33	1.70	2.00	1.79	1.58	1.38	1.87	0.98
8. External speakers (field staff) are used to supplement my teaching.	2.07	1.42	2.00	1.65	1.66	2.20	1.81	1.50	2.33	1.92	1.79	0.86
9. Real objects are used in my classroom teaching.	3.28	3.64	3.11	3.55	2.95	3.80	3.04	3.17	3.36	2.76	3.22	1.08
10. I use demonstration in classes.	3.00	3.26	3.17	3.65	2.85	2.80	3.36	3.15	3.90	3.23	3.23	1.11
11. Because of the class size (number of students) I dictate notes to students.	3.76	2.73	3.00	2.50	3.09	2.40	3.18	2.41	2.00	3.07	2.80	1.37
12. Previous coursework is a source of my teaching notes.	3.53	2.92	2.11	2.75	2.95	2.30	2.86	2.85	3.38	2.76	2.93	1.09
13. Library books are a source of my teaching notes.	4.07	3.66	3.82	3.60	3.38	3.80	3.69	3.11	3.69	3.61	3.57	1.02
14. Technical information from the Ministry and other research organizations is a source of my teaching notes.	3.07	2.53	2.29	3.00	2.85	2.80	2.72	2.23	3.15	2.92	2.70	1.05

Rating Scale:

- 1 = Never
- 2 = Seldom
- 3 = Sometimes
- 4 = Often
- 5 = Always

solving instructional approach where as others do not. Instructors at MATI-Tengeru (mean of 3.15) use field trips to supplement teaching to a greater extent than those in other MATIs. Visual aid equipment and external speakers are seldom used in MATIs. Teaching staff at Mubondo (mean of 3.80) used real objects most frequently. Instructors at Maruku, Mubando, Nyegezi and Tengeru do not often dictate notes in classes, whereas those at Mtwara, Uyole, Ukiriguru, Tumbi and Mlingano use this approach more often. Teachers at Mtwara and Maruku use notes from previous course work considerably more often than do others. Library books are used as a source of teaching notes in all MATIs with Mtwara leading. While lecture discussion is commonly used in all MATIs, use of group discussion is much less frequent.

From the above analysis, it is obvious that considerable attention must be given to the five items rated low, particularly the lack of use of field trips, field staff and group discussion. These are proven methods of teaching and have little or no funding requirements.

Opinions of Tutors and Principals Regarding the Adequacy of Theoretical Training in MATIs

Data related to tutors' and principals' opinions of the adequacy of theoretical training are recorded in Table 3. They were asked to respond to twelve statements by indicating whether they strongly agreed (5), agreed (4), were undecided (3), disagreed (2), or strongly disagreed (1). The procedure was necessary in order to determine a mean for all responses of the study population, regarding the effectiveness or

adequacy of theoretical training in MATIs, with emphasis on its organization, time and classroom environment.

Table 3 shows mean ratings by MATIs, overall means and standard deviations. The overall means indicate that respondents disagreed with five of the twelve statements, were undecided on five statements and agreed with two statements. The respondents disagreed with the statements:

1. Topics I teach are outside of my field of specialization.
2. Manufacturers of agricultural inputs and machinery provide materials for classroom teaching.
3. There is a constant flow of technical information to the MATI from Tanzanian Research Centers and Seed Production Stations.
4. Transparencies and slides for overhead and slide projectors are available.
5. Local agricultural data from Kilimo Parastatal Organizations are readily available.

Respondents were undecided on all statements related to time allocation, suitability of teaching and learning environment, ability of students to help farmers secure seeds, fertilizers, pesticides, oxen-drawn implements and irrigation materials as a result of MATI instruction and appropriateness of textbooks. However respondents strongly agreed (overall mean of 4.17) with the statement, "What I teach is relevant to the current needs and problems of the farmer," and agreed (overall mean of 3.69) with the statement, "Teaching methodology seminar has helped me in lesson planning and development of schemes of work."

When mean responses are compared by MATI, differences of opinion can be observed. Instructors at MATI-Tumbi disagreed somewhat more

TABLE 3
PERCEPTIONS OF THE ADEQUACY OF THEORETICAL TRAINING BY MATIS

Statements Rated	MTWARA	I LONGA	MLINGANO	TENGERU	UYOLE	MUBONDO	UKIRIGURU	N'VEGEZI	MARUKU	TUMBI	OVERALL	
	n=14	n=15	n=17	n=21	n=21	n=10	n=23	n=34	n=13	n=13	MEAN n=181	
1. What I teach is relevant to the current needs and problems of the farmer.	4.21	4.00	4.05	4.38	4.23	4.50	4.43	3.91	4.30	4.00	4.17	0.72
2. Time allocated for teaching theory matches with the syllabus requirements.	3.08	3.06	3.23	3.61	3.04	3.90	3.13	3.32	3.61	2.53	3.25	1.17
3. Transparencies and slides for overhead and slide projectors are available.	1.71	2.13	2.20	2.71	3.23	1.40	2.95	2.38	1.69	1.58	2.34	1.33
4. Classrooms at this MATI provide a suitable environment for teaching and student learning.	3.25	2.66	3.00	3.38	3.76	3.00	3.08	2.79	3.38	3.00	3.11	1.22
5. Topics I teach are outside my field of specialization.	2.00	1.93	2.05	1.80	2.04	1.50	1.60	2.02	1.83	2.30	1.92	1.11
6. There is a constant flow of technical information to the MATI from Tanzanian Research Centers and seed production stations.	2.21	2.33	2.05	2.38	2.38	2.00	2.39	2.23	2.53	2.38	2.29	1.03
7. Local agricultural data from Kilimo Parastatal Organizations are readily available.	2.23	2.60	2.52	2.19	2.61	1.90	2.23	2.38	2.84	2.15	2.39	1.00
8. Manufacturers of agricultural inputs and machinery provide materials for classroom teaching.	2.00	1.80	2.00	2.09	1.95	1.60	2.04	2.05	2.08	2.23	2.00	0.96
9. Adequate time is available for teaching preparation.	3.00	2.33	3.05	3.47	2.85	3.80	3.00	3.14	3.46	3.76	3.14	1.14
10. Students are able to help farmers secure seeds, fertilizers, pesticides, oxen-drawn implements and irrigation materials as a result of MATI instruction.	2.50	2.73	2.70	3.23	3.09	2.80	3.43	2.82	3.00	2.76	2.95	1.19
11. Teaching Methodology seminar has helped me in lesson planning and development of schemes of work.	4.14	4.00	3.20	3.42	3.47	4.40	3.52	3.59	4.00	3.95	3.69	1.14
12. Appropriate textbooks and instructional resources are provided.	2.57	2.53	2.47	3.40	2.80	2.80	2.82	2.58	2.15	2.61	2.70	1.15

Rating Scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = Strongly Agree

strongly than others regarding the statement, "Time allocated for teaching theory matches with syllabus requirements." Instructional staff at Mubondo, Maruku, and Mtwara were more disturbed regarding availability of slides and transparencies than others. Classroom environment was considered most satisfactory at Uyole and most unsatisfactory at Ilonga. Teaching staff at Ilonga were much more critical than others concerning adequacy of time provided for teaching preparation. While tutors and principals of all MATIs were in agreement that teaching methodology seminar has been helpful, those at Mubondo were most enthusiastic.

Opinions of Tutors and Principals Regarding the Adequacy of Practical Training in MATIs

Data in Table 4 deal with how strongly tutors and principals agree or disagree with each of fourteen statements concerning adequacy of practical training in MATIs. The survey population was directed to respond to each statement by checking whether they strongly agreed, agreed, were undecided, disagreed or strongly disagreed regarding the adequacy of practical training in MATIs in order to discover their effectiveness in respect to graduating competent extension agents. Students cannot learn agriculture by just talking about it or by just watching somebody. Practice is necessary to learning.

The table shows mean ratings by MATIs, overall means and standard deviations. According to the overall means, respondents were undecided about 8 of the 14 statements rated. They disagreed strongly with one statement, "Lack of transport does not interfere with practical teaching," and agreed with only five of the fourteen statements. They strongly agreed (overall means of 4.46 and 4.48) with the

TABLE 4
PERCEPTIONS OF THE ADEQUACY OF PRACTICAL TRAINING, BY MATIS

Statements Rated	MTWARA	ILONGA	MLINGANO	TENGERU	UYOLE	MUBONDO	UKIRIGURU	NVEGEZI	MARUKU	TUMBI	OVERALL	
	n=14	n=15	n=17	n=21	n=21	n=10	n=23	n=34	n=13	n=13	MEAN n=181	
1. Students are given enough time to practice skills taught.	3.15	2.93	2.35	3.85	3.00	4.00	3.39	2.90	3.84	2.15	3.19	1.18
2. Students have enough time to apply learned skills to neighboring farms.	2.71	2.13	2.50	3.35	2.85	3.80	3.04	2.55	2.53	2.38	2.77	1.14
3. Skills taught to students relate to needs and problems of farmers.	3.78	3.86	3.52	4.21	3.90	4.40	4.09	3.58	3.92	3.92	3.88	0.85
4. Skills listed in syllabus can be mastered with the existing training facilities.	2.15	2.26	2.17	2.95	2.71	3.90	3.26	2.70	2.84	2.53	2.75	1.14
5. Adequate time is allocated to allow students practice in setting up demonstration plots.	3.14	2.86	2.88	3.55	3.23	4.00	3.04	2.61	3.00	2.76	3.06	1.11
6. There is a need to allocate funds for student MATI-Village Block Extension program.	4.78	4.53	4.17	4.50	4.33	4.70	4.34	4.40	4.76	4.53	4.46	0.73
7. Production of Major Crops Practical Course should be emphasized in all MATI courses dealing with Crop Production (Certificate & Diploma).	4.64	4.86	4.11	4.33	4.52	4.70	4.52	4.37	4.61	4.53	4.48	0.65
8. Practicals taught are supplemented by students' regular visits to modern farms, agricultural processing and manufacturing plants and irrigation projects.	2.50	2.46	2.64	3.00	3.04	3.10	2.95	2.44	2.30	2.30	2.69	1.21
9. Institute farm is well managed.	2.92	2.93	2.82	3.42	3.42	3.22	2.00	3.38	3.00	3.38	3.18	1.02
10. Institute farm provides adequate opportunity to practice competencies taught in class.	3.14	3.26	2.76	4.04	3.57	3.50	3.90	3.32	3.22	3.92	3.47	0.98
11. A 2-month attachment of students to Ujamaa villages for practical training is adequate.	4.00	3.60	2.52	3.71	3.19	4.20	3.78	3.57	3.61	4.23	3.59	1.05
12. Institutes funded by foreign donors teach practicals more effectively than those receiving only local funds.	4.14	4.26	3.43	4.04	3.95	3.40	3.43	2.82	4.15	4.30	3.85	1.15
13. Lack of transport does not interfere with practical teaching.	1.14	1.86	1.86	2.33	1.42	1.60	1.69	1.44	1.41	1.23	1.62	1.00
14. Based on current student performance, this MATI is stronger in theory than in practicals.	3.14	2.73	3.35	2.09	2.71	2.80	2.00	2.82	3.15	3.07	2.73	1.11

Rating Scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = Strongly Agree

statements:

1. "Production of Major Crops Practical Course should be emphasized in all MATI-courses dealing with crop production (certificate and diploma)."
2. "There is a need to allocate funds for student MATI-Village Block Extension Program."

Respondents agreed with the statements:

3. "Skills taught to students relate to needs and problems of farmers."
4. "A 2-month attachment of students to Ujamaa Villages for practical training is adequate."
5. "Institutes funded by foreign donors teach practicals more effectively than those receiving only local funds."

When data were categorized by MATI, it can be noted that instructors at Mubondo, Tengeru and Maruku agreed that students are given enough time to practice skills taught whereas others were undecided or disagreed. Ilonga teaching staff disagreed (mean of 2.13) with the statement "Students have enough time to apply learned skills to neighboring farms" whereas those from Mubondo agreed. Tutors and principals at Mtwara, Ilonga, and Mlingano (means of 2.15, 2.26, and 2.17 respectively) disagreed with the statement "Skills listed in syllabus can be mastered with the existing training facilities." However, those from Mubondo agreed. Mubondo teaching staff (mean of 4.00) also agreed as did those from Tengeru with the statement, "Adequate time is allocated to allow students practice in setting up demonstration plots." Tengeru, Tumbi, Ukiriguru, Uyole and Mubondo principals and tutors agreed with the statement "Institute farm provides adequate opportunity to practice competencies taught in class," whereas others were undecided. Mtwara, Ilonga, Uyole, Nyegezi,

Maruku and Tumbi principals and tutors agreed with the statement "Institutes funded by foreign donors teach practicals more effectively than those receiving only local funds," others were undecided.

Perceptions of the Trainers' Needs for Self Improvement Programs

Data in Table 5 deals with how strongly tutors and principals agree or disagree with each of five items concerning their needs for self improvement programs in MATIs. Table 5 shows mean rating by MATIs, overall means and standard deviations. Overall, respondents strongly agreed with four statements and were undecided about the statement, "The duration of teaching methodology short courses for MATI tutors is sufficient." There was general agreement that:

1. "There is need to periodically attach MATI tutors to the field (for short periods of time) to gain practical experience"(mean of 4.04).
2. "Inservice refresher courses for tutors in the technical agricultural field should be increased"(mean of 4.49).
3. "Study tours to seed production stations, research stations, large scale farms, irrigation projects, etc., are important for updating tutors"(mean of 4.70). This was highly rated.
4. "One area which needs immediate attention in MATIs is a special fund allocation within the institute for staff improvement to enhance effective teaching. "

Ratings given the five statements by teaching staff in various MATIs were very similar. In only one statement was there a strong difference of opinion. Tutors and principals at Mubondo were much less in agreement that MATI tutors should be periodically attached to the field than were their colleagues in other MATIs.

TABLE 5
PERCEPTIONS OF THE TRAINERS' NEEDS FOR SELF IMPROVEMENT PROGRAMS, BY MATIS

Statements Rated	MTWARA	ILONGA	MLINGANO	TENGERU	UYOLE	MUBONDO	UKIRIGURU	NYEGEZI	MARUKU	TUMBI	OVERALL	S.D.
	n=14	n=15	n=17	n=23	n=21	n=10	n=23	n=34	n=13	n=13	MEAN n=181	
1. There is need to periodically attach MATI tutors to the field (for short periods of time) to gain practical experience.	3.84	4.20	4.35	3.95	4.38	2.90	4.04	4.29	3.46	4.15	4.04	1.11
2. Inservice refresher courses for tutors in the technical agriculture field should be increased.	4.50	4.73	4.35	4.47	4.66	4.30	4.39	4.52	4.61	4.30	4.49	0.68
3. Study tours to seed production stations, research stations, large scale farms, irrigation projects, etc., are important for updating tutors.	4.46	4.53	4.68	4.71	4.95	5.00	4.69	4.55	4.69	4.84	4.70	0.57
4. The duration of teaching methodology short courses for MATI tutors is sufficient.	3.14	2.46	2.88	2.95	3.04	3.00	2.78	3.09	2.76	2.61	2.81	1.17
5. One area which needs immediate attention in MATIS is a special fund allocation within the Institute for staff improvement to enhance effective teaching.	4.50	4.66	4.41	4.23	4.42	4.50	4.60	4.29	4.23	4.46	4.42	0.86

Rating Scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = Strongly Agree

Perceptions of Trainers' Job Satisfaction and Dissatisfaction in MATIs

Data related to tutors' and principals' job satisfaction and dissatisfaction in MATIs are recorded in Table 6. Their opinions were solicited on four statements. The table named above shows mean rating by MATIs, overall means and standard deviation. The overall means reveal that respondents disagreed with three of the statements and were undecided about the statement "I would prefer to be assigned field agricultural duties rather than teaching." They disagreed with the statements:

1. "I believe the salary and fringe benefits of my job are similar to those of other professionals with equal training and years of service."
2. "I receive adequate compensation for the extra hours and evenings I work."
3. "There are adequate advancement opportunities for MATI tutors."

There were few disagreements noted when data were analyzed by MATI. Only with regard to the statement concerning adequacy of advancement opportunities for MATI tutors was there a major difference of opinion. Tutors and principals from Mubondo were much less in agreement and those from Maruku were much more in agreement that opportunities existed than were their counterparts from other MATIs.

Perceptions of Instructional Approaches by Field of Speciality

Respondents' opinions were solicited in fourteen items dealing with teaching. They were asked to respond to each statement by indicating whether they used the approaches always, often, sometimes, seldom or never. Each response was assigned a number, i.e.,: 1 = Never; 2 = Seldom; 3 = Sometimes; 4 = Often; and 5 = Always.

TABLE 6
PERCEPTIONS OF TRAINERS' JOB SATISFACTION AND DISSATISFACTION, BY MATIS

Statements Rated	MTWARA	ILONGA	MULINGANO	TENGERU	UYOLE	MUBONDO	UKIRIGURU	NYEGEZI	MARUKU	TUMBI	OVERALL	S.D.
	n=14	n=15	n=17	n=21	n=21	n=10	n=23	n=34	n=13	n=13	MEAN n=181	
1. I would prefer to be assigned field agricultural duties rather than teaching.	2.84	3.00	3.07	3.33	3.04	3.30	3.13	3.52	2.84	3.30	3.19	1.26
2. I believe the salary and fringe benefits of my job are similar to those of other professionals with equal training and years of service.	1.69	1.53	1.58	1.80	1.66	1.70	1.60	2.03	2.38	1.76	1.78	0.98
3. I receive adequate compensation for the extra hours and evenings I work.	1.61	1.33	1.52	1.47	1.42	1.40	1.26	1.45	1.92	1.23	1.45	0.78
4. There are adequate advancement opportunities for MATI tutors.	2.07	1.86	2.29	2.38	2.38	1.30	2.17	2.28	3.46	2.15	2.26	1.00

Rating Scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = Strongly Agree

Responses were categorized into nine fields of speciality. Responses of tutors and principals are recorded in Table 7. The means by field of speciality indicate that specialists in animal science, agricultural mechanics, horticulture, economics, and land use use lectures more often than others. Specialists in food and human nutrition, horticulture, agricultural education and extension, and farm management often employ lecture-discussion approaches in their instruction. Only specialists in agricultural mechanics, horticulture and land use often use real objects in instruction. Food nutritionists and horticulturalists often use demonstration in classes. Only specialists in horticulture and land use seldom use library books as sources of teaching notes. Specialists in horticulture and economics do not use their previous coursework to prepare teaching notes, whereas all others do. The analysis indicate that:

- I. Specialists in animal science seldom or never use the following in their instruction:
 - a. Problem solving
 - b. Group-discussion
 - c. Study questions
 - d. Visual aid equipments and related materials
 - e. External speakers
 - f. Dictation of notes
 - g. Information from the Ministry of Agriculture and research organizations.
- II. Specialists in general agriculture seldom or never use the following in their instruction:
 - a. Group discussion
 - b. Study questions

- c. Field trips
 - d. Visual aid equipments and related material
 - e. External speakers
- III. Specialists in food and human nutrition seldom or never use the following in their instruction:
- a. Group discussion
 - b. Study questions
 - c. Field trips
 - d. Visual equipment and related material
 - e. External speakers
- IV. Specialists in agricultural mechanics seldom or never use the following in their instruction:
- a. Visual equipment and related material
 - b. External speakers
 - c. Information from the Ministry of Agriculture and research stations
 - d. Field trips
- V. Specialists in horticulture seldom or never use the following in their instruction:
- a. Study questions
 - b. Visual equipment and related material
 - c. External speakers
 - d. Notes from their previous coursework
- VI. Specialists in economics seldom or never use the following in their instruction:
- a. Group discussion
 - b. Study questions
 - c. Field trips
 - d. Visual aid equipments and related material

TABLE 7
PERCEPTIONS OF INSTRUCTIONAL APPROACHES BY FIELD OF SPECIALITY

Statements Rated	FIELD OF SPECIALITY									
	General Agriculture n=53	Food and Nutrition n=18	Animal Science n=11	Agricultural Mechanics n=37	Horticulture n=12	Economics n=6	Land Use n=21	Education & Extension n=13	Management n=8	
1. I use lectures in classes.	3.34	3.11	3.90	4.05	4.00	3.66	3.66	3.41	3.12	
2. I use lecture-discussion in classes.	3.33	3.66	3.30	3.33	3.63	3.33	3.19	3.92	3.62	
3. I use group discussion in classes.	2.32	2.50	1.40	2.51	2.54	2.16	2.50	3.33	2.57	
4. I use a problem solving approach in classes.	2.88	2.72	2.00	3.30	2.72	3.00	2.90	3.18	3.12	
5. I use the study questions method of teaching.	2.09	2.16	2.00	2.51	2.18	1.65	2.42	2.90	2.71	
6. I use field trips to supplement my teaching.	2.33	2.11	2.60	2.22	3.18	1.83	2.80	2.84	2.00	
7. I use slides, filmstrips, transparencies and/or movies to supplement my teaching.	1.77	1.38	1.90	2.08	1.90	1.50	1.66	2.92	1.57	
8. External speakers (field staff) are used to supplement my teaching.	1.90	1.83	1.30	1.41	1.90	2.16	1.42	2.60	2.25	
9. Real objects are used in my classroom teaching.	3.03	3.41	2.90	3.55	3.81	2.50	3.57	2.84	2.42	
10. I use demonstration in classes.	3.11	3.72	2.70	3.30	3.63	2.50	3.42	3.23	2.50	
11. Because of the class size (number of students) I dictate notes to students.	2.60	3.44	2.20	3.35	2.63	2.16	2.00	3.08	2.71	
12. Previous coursework is a source of my teaching notes.	3.00	3.05	2.80	2.97	2.45	1.83	2.80	3.33	3.50	
13. Library books are a source of my teaching notes.	3.54	3.77	3.54	3.56	2.81	3.83	3.00	3.84	3.75	
14. Technical information from the Ministry and other research organizations is a source of my teaching notes.	2.92	2.50	2.30	2.29	3.36	3.16	2.38	3.38	2.37	

Rating Scale:

- 1 = Never
- 2 = Seldom
- 3 = Sometimes
- 4 = Often
- 5 = Always

- e. External speakers
 - f. Dictation of notes
 - g. Notes from their previous coursework
- VII. Specialists in land use seldom use or never use the following in their instruction:
- a. Study questions
 - b. Visual aid equipments and related material
 - c. External speakers
 - d. Dictation of notes
 - e. Information from the Ministry of Agriculture and research stations
- VIII. Specialists in farm management seldom or never use the following in their instruction:
- a. Field trips
 - b. Visual aid equipments and related material
 - c. External speakers (field staff)
 - d. Real objects
 - e. Information from the Ministry of Agriculture and research centers.

Perceptions of the Adequacy of Theoretical Training by Field of Speciality

Table 8 presents data that summarize the perceptions of tutors and principals regarding the adequacy of theoretical training according to their fields of speciality. The findings indicate that specialists in general agriculture, food nutrition, agricultural mechanics, land use, and farm management disagreed with the statement that "Transparencies and slides for overhead and slide projects are available," others were undecided. All specialists disagreed with the statements

TABLE B
PERCEPTIONS OF THE ADEQUACY OF THEORETICAL TRAINING, BY FIELD OF SPECIALITY

Statements Rated	FIELD OF SPECIALITY								
	General Agriculture n=53	Food and Nutrition n=18	Animal Science n=11	Mechanics n=37	Horticulture n=12	Economics n=6	Land Use n=21	Education & Extension n=13	Management n=8
1. What I teach is relevant to the current needs and problems of the farmer.	4.30	4.22	3.81	3.91	4.29	4.33	4.14	4.46	4.37
2. Time allocated for teaching theory matches with the syllabus requirements.	3.26	2.94	3.09	2.75	4.16	3.33	3.28	3.58	4.21
3. Transparencies and slides for overhead and slide projectors are available.	2.13	2.17	2.54	2.36	2.83	2.80	2.22	3.00	2.25
4. Classrooms at this MATI provide a suitable environment for teaching and student learning.	3.09	3.16	3.10	3.08	3.50	3.66	2.90	3.00	3.25
5. Topics I teach are outside field of specialization.	1.96	1.77	1.72	1.91	1.75	1.66	2.09	2.08	1.75
6. There is a constant flow of technical information to the MATI from Tanzanian Research Centers and seed production stations.	2.32	2.44	1.90	2.10	2.58	2.00	2.47	2.53	2.12
7. Local agricultural data from Kilimo Parastatal Organizations are readily available.	2.23	2.88	2.60	2.35	2.22	2.16	2.57	2.53	1.62
8. Manufacturers of agricultural inputs and machinery provide materials for classroom teaching.	1.98	2.44	2.30	1.78	2.00	1.66	2.14	2.08	1.75
9. Adequate time is available for teaching preparation.	3.30	3.05	3.45	2.64	3.33	3.66	3.19	3.23	3.62
10. Students are able to help farmers secure seeds, fertilizers, pesticides, oxen-drawn implements and irrigation materials as a result of MATI instruction.	2.84	3.11	2.36	3.05	3.25	3.16	2.90	3.23	2.50
11. Teaching Methodology seminar has helped me in lesson planning and development of schemes of work.	3.78	3.77	3.54	3.16	3.75	4.00	4.19	3.66	4.00
12. Appropriate textbooks and instructional resources are provided.	2.64	3.16	2.72	2.35	3.72	3.33	2.54	2.61	2.50

Rating Scales:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = Strongly Agree

"Topics I teach are outside my field of specialization," and "Manufacturers of agricultural inputs and machinery provide materials for classroom teaching." All specialists, with the exception of those in horticulture and agricultural education and extension, who were undecided, disagreed with the statement "There is a constant flow of technical information to the MATI from Tanzanian research centers and seed production stations." Except for those in food nutrition, animal science, land use and education and extension, who were undecided, all specialists also disagreed with the statement "Local agricultural data from Kilimo parastatal organizations are readily available." Specialists in animal science and farm management disagreed while others were undecided with the statements, "Students are able to help farmers secure seeds, fertilizers, pesticides, oxen-drawn implements and irrigation materials as a result of MATI instruction," and "Appropriate textbooks and instructional resources are provided." All respondents agreed with the statement "What I teach is relevant to the current needs and problems of the farmer." Tutors in horticulture, farm management and education and extension agreed that "Time allocated for teaching theory matches with the syllabus requirements," whereas others were undecided.

Perceptions of the Adequacy of Practical Training by Field of Speciality

Data related to this variable are recorded in Table 9. Respondents' opinions were solicited on fourteen items. Responses reveal that specialists agreed very strongly with the statements "There is a need to allocate funds for student MATI-Village Block Extension Program" and "Production of major crops practical course should be emphasized

TABLE 9
PERCEPTIONS OF THE ADEQUACY OF PRACTICAL TRAINING, BY FIELD OF SPECIALITY

Statements Rated	FIELD OF SPECIALITY								
	General Agriculture n=53	Food and Nutrition n=18	Animal Science n=11	Agriculture Mechanics n=37	Horticulture n=12	Economics n=6	Land Use n=21	Education & Extension n=13	Management n=8
1. Students are given enough time to practice skills taught.	3.50	3.16	2.63	2.21	4.27	4.00	3.35	3.41	3.87
2. Students have enough time to apply learned skills to neighboring farms.	2.81	2.72	2.54	2.44	3.63	3.16	2.76	2.76	3.12
3. Skills taught to students relate to needs and problems of farmers.	3.98	4.17	3.72	3.63	4.00	3.83	3.95	3.61	4.00
4. Skills listed in syllabus can be mastered with the existing training facilities.	3.13	3.00	2.63	2.08	3.27	3.16	2.71	2.25	2.75
5. Adequate time is allocated to allow students practice in setting up demonstration plots.	3.00	3.50	3.00	2.83	3.63	3.00	2.68	3.30	3.25
6. There is a need to allocate funds for student MATI-Village Block Extension program.	4.47	4.72	4.09	4.24	4.36	4.50	4.35	5.00	5.00
7. Production of Major Crops Practical Course should be emphasized in all MATI courses dealing with Crop Production (Certificate & Diploma).	4.60	4.66	4.54	4.10	4.25	4.16	4.60	4.91	4.62
8. Practicals taught are supplemented by students' regular visits to modern farms, agricultural processing and manufacturing plants and irrigation projects.	2.73	2.50	2.90	2.64	3.09	3.00	2.33	2.84	2.25
9. Institute farm is well equipped.	3.01	3.55	3.45	2.81	3.41	3.33	3.28	3.60	3.12
10. Institute farm provides adequate opportunity to practice competencies taught in class.	3.47	3.94	3.45	2.94	3.91	3.33	3.61	3.84	3.25
11. A 2-month attachment of students to Ujamaa villages for practical training is adequate.	3.64	2.16	3.50	3.27	3.75	3.33	3.38	3.61	3.87
12. Institutes funded by foreign donors teach practicals more effectively than those receiving only local funds.	3.50	4.38	3.72	4.05	3.58	3.50	3.85	4.30	4.37
13. Lack of transport does not interfere with practical teaching.	1.67	1.44	1.54	1.45	2.58	2.00	1.52	1.38	1.50
14. Based on current student performance, this MATI is stronger in theory than in practicals.	2.49	2.55	3.09	3.18	2.25	2.50	2.90	2.38	3.00

Rating Scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = Strongly Agree

in all MATI courses dealing with crop production (certificate and diploma)." All respondents also agreed that "Skills taught to students relate to needs and problems of farmers," and that "Institutes funded by foreign donors teach practicals more effectively than those receiving only local funds." Respondents in all fields of speciality disagreed that "Lack of transport does not interfere with practical teaching" and were undecided with regard to the statement concerning supplementation of practicals with visits to farms and plants. Specialists in food nutrition and education and extension agreed that "Institute farm is well managed," and with horticulture instructors, "Institute farm provides adequate opportunity to practice competencies taught in class," others were undecided. Only specialists in horticulture, economics and farm management agree that "Students are given enough time to practice skills taught." Specialists in horticulture agreed that "Adequate time is allocated to allow students practice in setting up demonstration plots," all others were undecided. All specialists with the exception of those in animal science, agricultural mechanics, land use, and economics agreed that "A 2-month attachment of students to Ujamaa Villages for practical training is adequate." There was no agreement with the statement, "Based on current student performance, this MATI is stronger in theory than in practicals."

Perceptions of the Trainers' Needs for Self Improvement Programs by Field of Speciality

Data in Table 10 deals with how strongly tutors and principals agree or disagree with each of five statements concerning their needs

TABLE 10
PERCEPTIONS OF THE TRAINERS' NEEDS FOR SELF IMPROVEMENT PROGRAMS, BY FIELD OF SPECIALITY

Statements Rated	FIELD OF SPECIALITY								
	General Agriculture n=53	Food & Nutrition n=18	Animal Science n=11	Agric. Mechanics n=37	Horticulture n=12	Economics n=6	Land Use n=21	Education & Extension n=13	Management n=8
1. There is need to periodically attach MATI tutors to the field (for short periods of time) to gain practical experience.	3.75	3.55	3.90	4.48	3.25	4.16	4.33	4.66	4.62
2. Inservice refresher courses for tutors in the technical agriculture field should be stressed.	4.47	4.44	4.35	4.54	4.16	4.50	4.66	4.61	4.62
3. Study tours to seed production stations, research stations, large scale farms, irrigation projects, etc., are important for updating tutors.	4.67	4.83	4.81	4.64	4.58	5.00	4.61	4.76	4.87
4. The duration of teaching methodology short courses for MATI tutors is sufficient.	3.00	2.88	3.09	2.54	2.91	3.16	2.95	3.08	3.00
5. One area which needs immediate attention in MATIs is a special fund allocation within the Institute for staff improvement to enhance effective teaching.	4.33	4.72	3.90	4.35	4.58	4.66	4.38	4.61	4.50

Rating Scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = Strongly Agree

for self improvement programs according to their fields of speciality. Specialists in all areas strongly agreed (mean of 4 and above) with three statements:

1. "Inservice refresher courses for tutors in the technical agriculture field should be increased."
2. "Study tours to seed production stations, research stations, large scale farms, irrigation projects, etc., are important for updating tutors."
3. "One area which needs immediate attention in MATIs is a special fund allocation within the Institute for staff improvement to enhance effective teaching."

With the exception of those in horticulture, respondents also agreed with the statement "There is need to periodically attach MATI tutors to the field (for short periods of time) to gain practical experience." Specialists were undecided regarding the statement, "The duration of teaching methodology short courses for MATI tutors is sufficient."

Perceptions of Trainers' Job Satisfaction and Dissatisfaction by Field of Speciality

This study sought to determine the job satisfaction of tutors and principals in MATIs. Job satisfaction and job dissatisfaction are two independent concepts. Job satisfaction is influenced by a set of motivator or satisfier factors, and job dissatisfaction is correlated with a set of dissatisfer factors. Data in Table 11 deal with how strongly tutors and principals in the various speciality areas agree or disagree with each of four statements concerning job satisfaction and dissatisfaction. Mean ratings indicate that specialists in farm management (mean of 4.75) strongly agreed and horticulture specialists agreed with the statement, "I would prefer to be assigned field

TABLE 11
PERCEPTIONS OF TRAINERS' JOB SATISFACTION AND DISSATISFACTION BY FIELD OF SPECIALITY

Statements Rated	FIELD OF SPECIALITY								
	General Agriculture n=53	Food and Nutrition n=18	Animal Science n=11	Agricultural Mechanics n=37	Horticulture n=12	Economics n=6	Land Use n=21	Education & Extension n=13	Management n=8
1. I would prefer to be assigned field agricultural duties rather than teaching.	3.22	2.55	2.54	3.32	3.58	2.83	3.19	3.00	4.75
2. I believe the salary and fringe benefits of my job are similar to those of other professionals with equal training and years of service.	1.82	1.77	1.36	1.89	1.83	1.16	2.05	1.36	1.87
3. I receive adequate compensation for the extra hours and evenings I work.	1.44	1.38	1.45	1.56	1.50	1.16	1.60	1.18	1.25
4. There are adequate advancement opportunities for MATI tutors.	2.28	1.88	2.09	2.37	2.25	2.16	2.47	2.09	2.50

Rating Scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = Strongly Agree

agricultural duties rather than teaching," whereas all others were undecided. All specialists disagreed with the statements, "I believe the salary and fringe benefits of my job are similar to those of other professionals with equal training and years of service," "I receive adequate compensation for the extra hours and evenings I work," and "There are adequate advancement opportunities for MATI tutors."

Perceptions of the Adequacy of Practical Training by Present Position

Mean responses of perceptions of adequacy of practical training in MATIs categorized by present position are shown in Table 12. Data reveal that out of the fourteen statements there is strong agreement (mean above 4) by all trainers with the statements:

1. "There is a need to allocate funds for student MATI-Village Block Extension Program."
2. "Production of major crops practical course should be emphasized in all MATI courses dealing with crop production (certificate and diploma)."

Strong disagreement was voiced with the statement, "Lack of transport does not interfere with practical teaching." There was very little variation in responses among tutors, heads of departments and principals, indicating close agreement.

Perceptions of the Trainers' Needs for Self Improvement Programs by Number of Years in Teaching

Data in Table 13 deal with how respondents rated the five statements regarding self-improvement needs according to their number of years in teaching. The means indicate that all trainers regardless

TABLE 12

PERCEPTIONS OF THE ADEQUACY OF PRACTICAL TRAINING BY PRESENT POSITION

Statements Rated	PRESENT POSITION		
	Tutors n=122	Head of Departments n=49	Principals n=8
1. Students are given enough time to practice skills taught.	3.22	3.08	3.50
2. Students have enough time to apply learned skills to neighboring farms.	2.78	2.77	2.75
3. Skills taught to students relate to needs and problems of farmers.	3.95	3.70	3.75
4. Skills listed in syllabus can be mastered with the existing training facilities.	2.76	2.65	3.12
5. Adequate time is allocated to allow students practice in setting up demonstration plots.	3.04	3.19	2.62
6. There is a need to allocate funds for student MATI-Village Block Extension Program.	4.38	4.64	4.75
7. Production of Major Crops Practical Course should be emphasized in all MATI courses dealing with Crop Production (Certificate & Diploma).	4.45	4.52	4.75
8. Practicals taught are supplemented by students' regular visits to modern farms, agricultural processing and manufacturing plants and irrigation projects.	2.70	2.67	2.50
9. Institute farm is well managed.	3.25	3.02	3.12
10. Institute farm provides adequate opportunity to practice competencies taught in class.	3.50	3.38	3.62
11. A 2-month attachment of students to Ujamaa villages for practical training is adequate.	3.58	3.69	3.25
12. Institutes funded by foreign donors teach practicals more effectively than those receiving only local funds.	3.81	4.10	3.50

TABLE 12 (cont'd)

Statements Rated	PRESENT POSITION		
	Tutors n=122	Head of Department n=49	Principals n=8
13. Lack of transport does not interfere with practical teaching.	1.65	1.54	1.50
14. Based on current student performance, this MATI is stronger in theory than in practicals.	2.64	2.95	2.62

Rating Scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = Strongly Agree

TABLE 13

PERCEPTIONS OF THE TRAINERS' NEEDS FOR SELF IMPROVEMENT
PROGRAMS BY NUMBER OF YEARS IN TEACHING

Statements Rated	NUMBER OF YEARS IN TEACHING		
	<2 yrs n=19	2-4 yrs n=11	>4 yrs n=42
1. There is need to periodically attach MATI tutors to the field (for short periods of time) to gain practical experience.	4.05	3.90	4.19
2. Inservice refresher courses for tutors in the technical agriculture field should be increased.	4.42	4.63	4.45
3. Study tours to seed production stations, research stations, large scale farms, irrigation projects, etc., are important for updating tutors.	4.73	4.81	4.80
4. The duration of teaching methodology short courses for MATI tutors is sufficient.	2.89	3.00	2.90
5. One area which needs immediate attention in MATIs is a special fund allocation within the Institute for staff improvement to enhance effective teaching.	4.31	4.36	4.64

Rating Scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = Strongly Agree

of experience, strongly agreed with four statements and were undecided with the statement, "The duration of teaching methodology short courses for MATI tutors is sufficient."

Percentage Representation of the Instructors' Needs for Self-Improvement Programs

Table 14 shows the number and percentage of tutors and principals who agreed, were undecided or disagreed with each of five statements concerning staff improvement programs in MATIs. The majority of the respondents agreed strongly with four of the five statements. Of the 181/182 tutors and principals responding to the statements, 146 (80.65 percent) agreed that MATI tutors need field practical experiences; 172 (94.5 percent) agreed that inservice refresher courses should be increased; 177 (97.78 percent) agreed that study tours are important; and 160 (87.91 percent) agreed that a special fund is needed for staff improvement efforts. Only 35.9 percent of the respondents agreed that the duration of teaching methodology short courses for MATI tutors is sufficient. More than 40 percent disagreed with this statement.

Percentage Representation of Instructors' Job Satisfaction and Dissatisfaction in MATIs

Table 15 shows the number and percentage of tutors and principals who agreed, were undecided or disagreed with each of four statements concerning job satisfaction and dissatisfaction in MATIs. The majority of tutors and principals disagreed very strongly with three of the four statements. Of the 197/181 tutors and principals responding to the statements, 143 (80.33 percent) disagreed that salary and

TABLE 14
 PERCENTAGE REPRESENTATION OF THE TRAINERS' NEEDS FOR SELF IMPROVEMENT PROGRAMS

Statements Related	DISAGREE		UNDECIDED		AGREE		TOTAL	
	number	percent	number	percent	number	percent	number	percent
1. There is need to periodically attach MATI tutors to the field (for short periods of time) to gain practical experience.	24	13.26	11	6.07	146	80.65	181	100.0
2. Inservice refresher courses for tutors in the technical agriculture field should be increased.	2	1.09	8	4.39	172	94.50	182	100.0
3. Study tours to seed production stations, research stations, large scale farms, irrigation projects, etc., are important for updating tutors.	2	1.10	2	1.10	177	97.78	181	100.0
4. The duration of teaching methodology short courses for MATI tutors is sufficient.	70	41.43	40	22.09	65	35.90	181	100.0
5. One area which needs immediate attention in MATIs is a special fund allocation within the Institute for staff improvement to enhance effective teaching.	6	3.28	15	8.24	160	87.91	182	100.0

Rating Scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = Strongly Agree

TABLE 15

PERCENTAGE REPRESENTATION OF TRAIHERS' JOB SATISFACTION AND DISSATISFACTION IN MATIS

Statements Rated	DISAGREE		UNDECIDED		TUTORS AND PRINCIPALS AGREE		TOTAL	
	number	percent	number	percent	number	percent	number	percent
1. I would prefer to be assigned field agricultural duties rather than teaching.	63	34.80	35	19.33	82	45.30	181	100.00
2. I believe the salary and fringe benefits of my job are similar to those of other professionals with equal training and years of service.	143	80.33	23	12.92	12	6.73	178	100.00
3. I receive adequate compensation for the extra hours and evenings I work.	165	92.69	8	4.49	5	2.80	178	100.00
4. There are adequate advancement opportunities for MATI tutors.	120	67.03	33	18.43	26	14.51	179	100.00

Rating Scale:
 1 = Strongly Disagree
 2 = Disagree
 3 = Undecided
 4 = Agree
 5 = Strongly Agree

fringe benefits of their job were similar to those of other professionals; 165 (92.69 percent) disagreed that they received compensation for the extra hours they worked; 120 (67.03 percent) disagreed that there were adequate advancement opportunities; 82 (45.3 percent) agreed that they would prefer to be assigned field agricultural duties rather than teaching, although 63 (34.8 percent) disagreed.

Percentage Representation of Two Job Satisfiers of Greatest Importance to MATI Teaching Staff

Job satisfaction is influenced by a set of motivator or satisfier factors. The satisfier factors are achievement, advancement, recognition, responsibility and the work itself. However, they differ in levels of satisfaction. Table 16 shows job satisfiers of greatest importance in MATIs as identified by tutors and principals. Respondents were instructed to select from the list of five the two job satisfiers which they felt were of greatest importance to their work performance. Data in Table 16 indicate that 108 (31.86 percent) of all responses, were in favor of "Advancement" and 90 (26.55 percent) of all responses were in favor of "Achievement," as two job satisfiers of greatest importance. "Recognition" had the lowest number (28) and percentage (8.26).

Percentage Representation of Two Job Dissatisfiers Most Disturbing to MATI Teaching Staff

Table 17 shows the number and percentage of tutors and principals concerning job dissatisfiers in MATIs. Respondents were instructed to select two job dissatisfiers out of five statements which they felt were most disturbing during their work performance. Responses were

TABLE 16

PERCENTAGE REPRESENTATION OF TWO JOB SATISFIERS
OF GREATEST IMPORTANCE TO MATI TEACHING STAFF

Job Satisfiers	TUTORS AND PRINCIPALS n=183	
	Number	Percent
Achievement	90	26.55
Advancement	108	31.86
Recognition	28	8.26
Responsibility	52	15.34
The Work Itself	61	17.99
Cumulative Frequency and Percentage	339	100.00

TABLE 17

PERCENTAGE REPRESENTATION OF TWO JOB DISSATISFIERS
DISTURBING MATI TEACHING STAFF

Job Dissatisfiers	TUTORS AND PRINCIPALS n=183	
	Number	Percent
Interpersonal Relations	20	5.81
Policy and Administration	63	18.32
Salary	123	35.76
Technical Supervision	17	4.94
Working Conditions	121	35.17
Cumulative Frequency and Percentage	344	100.00

selected from five statements which were:

1. Interpersonal relations,
2. Policy and administration,
3. Salary,
4. Technical supervision, and
5. Working conditions.

Data in Table 17 reveal that 55 (39.28 percent) of 140 respondents checked "Salary," and 49 (35 percent) respondents checked "Working conditions" as the two most disturbing dissatisfiers in MATIs.

"Technical supervision" and "Interpersonal relations" were rated low, i.e., 4 (2.86 percent) and 9 (6.43 percent), respectively.

Job Satisfiers by Level of Education - MATIs

Table 18 shows the number of tutors and principals as per the statement rated and according to their levels of education completed. Participants were instructed to select two job satisfiers which they felt were of greatest importance to their work performance. Responses were solicited from each of five satisfier statements. Data indicate that 5 out of 14, 27 out of 79 and 17 out of 41 MATI instructors with certificate, diploma and degree, respectively, felt that "advancement" was more important in teaching. Four out of 14; 24 out of 79 and 10 out of 41 MATI instructors with certificate, diploma and degree respectively felt that "achievement" was second. "Recognition" was ranked low. Those with degrees in MATIs rated "Advancement," (46.46 percent) more highly than those with diplomas (34.18 percent) and certificates (35.71 percent). Instructors with diplomas rated "Achievement" (34.18 percent) more highly than the other two groups. The lowest rating

TABLE 18
JOB SATISFIERS BY LEVEL OF EDUCATION

Level of Education	ACHIEVEMENT		ADVANCEMENT		RECOGNITION		RESPONSIBILITY		THE WORK ITSELF		TOTAL	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Certificate	4	28.57	5	35.71	1	7.14	2	14.29	1	14.29	14	100.00
Diploma	24	30.28	27	34.18	6	7.59	12	15.19	10	12.66	79	100.00
Degree	10	24.39	17	41.46	1	2.44	8	19.51	5	12.60	41	100.00

was 2.44 percent given to "Recognition" by degree instructors and this indicated it was least important in MATI instruction.

Job Dissatisfiers by Level of Education

Table 19 shows the number and percentage of tutors and principals as per the statement rated. Participants were instructed to select two job dissatisfiers which they felt were disturbing them in their day-to-day work performance. Responses were solicited from each of five dissatisfier statements. All teaching staff ranked "Salary" and "Working conditions" as two major dissatisfiers in their work performance. [MATI teaching staff with certificates and diplomas rated "Salary (50 percent and 42.31 percent respectively) as the major dissatisfier in their work performance than the other group.] The same was revealed regarding "Working conditions." MATI instructors feel that "Technical supervision" has little effect (2.38 percent and 3.85 percent) in their work performance.

Percentage Representation of Present and Preferred Student Practical Group Sizes

Table 20 shows the present and preferred student practical group sizes in MATIs as noted by respondents. Responses were solicited from three group sizes, i.e., 4-7 students per group; 8-10 students per group; and over 10 students per group. Data in Table 20 indicate that more than half of the present student practical groups in MATIs exceed 10 students. The preferred student practical group size in MATIs is 8-10 or 4-7. Only 2.82 percent of the respondents preferred a group size of more than 10 students.

TABLE 19
JOB DISSATISFIERS BY LEVEL OF EDUCATION

Level of Education	JOB DISSATISFIERS											
	INTERPERSONAL RELATIONS		POLICY ADMINISTRATION		SALARY		TECHNICAL SUPERVISION		WORKING CONDITIONS		TOTAL	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Certificate	0	-	2	11.10	9	50.00	0	-	7	38.89	18	100.00
Diploma	6	7.69	9	11.54	33	42.31	3	3.85	27	34.62	78	100.00
Degree	3	7.14	12	28.57	13	30.95	1	2.38	13	30.95	42	100.00

TABLE 20
 PERCENTAGE REPRESENTATION OF PRESENT
 AND PREFERRED STUDENT PRACTICAL GROUP SIZES

Group Sizes	TUTORS AND PRINCIPALS			
	PRESENT		PREFERRED	
	Number	Percent	Number	Percent
-7 students per group	30	16.95	84	47.46
-10 students per group	48	27.12	88	49.72
Over 10 students per group	99	55.93	5	2.82
Total	177	100.00	177	100.00

Major Problems That Influence MATI Effectiveness

Data related to teaching staff opinions of the major problems that influence MATI effectiveness are recorded in Table 21. Respondents were asked to rank, from one to ten, ten statements in order of their influence on MATI effectiveness. Table 21 shows the number of responses for each statement, the percentage related to responses, and overall weighted means. To facilitate handling of data and to make the narrative report easier to interpret, the higher the weighted overall mean the less the problem, and the lower the overall weighted mean the greater the problem becomes. Thus the lowest overall weighted mean is 3.79 and the highest overall weighted mean is 7.44. Major problems, identified by respondents, that influence MATI effectiveness are (1 = greatest and to 10 = least problems):

1. Adequacy of recurrent funds (mean of 3.79).
2. Adequacy of development funds.
3. Adequacy of staff development inservice program.
4. Adequacy of transport.
5. Adequacy of theoretical and practical training facilities.
6. Adequacy of farm equipment.
7. Lack of revolving fund system.
8. Development of MATI farm.
9. Adequacy of supervision from Kilimo headquarters.
10. Student recruitment (mean of 7.44).

Comments Made by Respondents

Space was provided in the questionnaire for principals and tutors to record any comments, opinions and views they had regarding MATIs or training in general (see Appendix V). Principals had the

TABLE 21
EVALUATION OF MAJOR PROBLEMS THAT INFLUENCE MATI EFFECTIVENESS

	TOTAL N	TUTORS AND PRINCIPALS GREATEST PROBLEM TO LEAST PROBLEM										OVERALL MEAN										
		1	2	3	4	5	6	7	8	9	10											
1. adequacy of transport	172	35	20.2	20	11.5	21	12.1	16	9.2	21	12.1	19	10.9	14	8.0	8	4.6	7	4.0	11	6.3	4.40
2. adequacy of staff development in-service program	163	37	22.5	20	12.1	26	15.8	12	7.3	19	11.5	14	8.5	16	9.7	8	4.8	8	4.8	3	1.8	4.36
3. adequacy of supervision from Kilimo headquarters	166	7	4.2	10	6.0	8	4.8	9	5.4	11	6.6	8	4.8	13	7.8	19	11.4	24	14.4	57	34.4	7.34
4. adequacy of recurrent funds	158	28	17.7	34	21.5	28	17.7	14	8.8	15	9.4	15	9.4	10	6.3	8	5.0	4	2.5	2	1.2	3.79
5. adequacy of development funds	158	15	9.4	30	18.8	29	18.2	28	17.6	18	11.3	14	8.8	10	6.2	4	2.5	6	3.7	4	2.5	4.08
6. adequacy of farm equipment	156	3	1.9	14	8.9	13	8.3	27	17.3	23	14.7	17	10.8	15	9.6	24	15.3	11	7.0	9	5.7	5.67
7. lack of revolving fund system	157	9	5.7	9	5.7	11	7.0	21	13.3	22	14.0	26	16.5	19	12.1	21	13.3	9	5.7	10	6.3	5.68
8. student recruitment	156	2	1.2	8	5.0	7	4.4	6	3.8	9	5.7	9	5.7	21	13.3	18	11.4	44	28.0	32	20.3	7.44
9. development of MATI farm	155	1	0.6	4	2.5	4	2.5	8	5.1	11	7.0	14	9.0	24	15.4	34	21.9	31	20.0	24	15.4	7.30
10. adequacy of theoretical and practical training facilities	155	34	21.9	15	9.6	16	10.3	16	10.3	18	11.6	15	9.6	9	5.8	13	8.3	8	5.1	11	7.0	4.55

Ranking Scale:
1 = Greatest Problem
10 = Least Problem

opinion that training in the MATIs has tended to be too theoretical and not production oriented. They emphasized that practical training must be given top priority. Comments made by tutors can be summarized as follows: Even though MATI tutors are competent, training is too theoretical due to lack of proper practical facilities; review the whole training system, MATIs are moving backwards and they do not look like training institutions anymore because everyone says no money, no training materials, no equipments, no houses, no transport, no textbooks, we cannot improve the farms, etc; revolving fund would eliminate the present financial crisis; MATIs are currently staffed by a big number of diploma holders; no incentives and tutors are thought of as least important; lack of adequate further studies and local study tours has resulted in poorly trained instructors; too much workload due to few tutors and poor distribution; ministry should recruit field experienced teaching staff; overseas technical assistance needed to improve the diminishing training facilities; teaching staff recruitment is not according to interests in teaching; lack of local data and technical information from research and extension; increase student field practical training; improve transport; increase supervision from curriculum development; equate training facilities in MATIs; improve training materials for land survey, soil science, land classification, and map production subjects; agricultural mechanics equipments are not used for training, emphasis on production only; mechanics workshops be open to all tutors who want to practice certain skills; introduce seminars for tutors teaching similar courses; expatriates complete contracts without fully utilizing their poten-

tialities; stop mass promotions; increase salary and improve working conditions; and some MATIs are favored when it comes to provision of scholarships for advanced studies.

Chapter 4

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Ministry of Agriculture Training Institutes, at the moment, offer training programs at the certificate and diploma levels in the following agricultural areas: General Agriculture, Horticulture, Agro Mechanics, Land Use, Food and Human Nutrition, Home Economics, Irrigation and Farm Management. The main objective of the institutes is to train technical personnel in the field of agriculture who would manage agricultural production programs in the country. Within the Tanzanian national philosophy and policies, there is great scope for shaping and reshaping institutions to serve the people and fit the needs of the economy. A major strength of the education system in Tanzania is its commitment to practicality in education, striving for increasing relevance to the real needs of the peasants it serves. At their best, MATIs stress experience and practical skills; and they attempt to create healthy attitudes toward work. Findings of this study indicate that considerable thought needs to be given to future planning, organization, and execution of practical training in order to be able to guarantee a reasonable degree of technical competence of agricultural staff graduating from MATIs. This study had five objectives:

1. Evaluate instructional approaches in the MATIs as perceived by tutors and principals.
2. Determine the adequacy of theoretical and practical

training in MATIs as perceived by tutors and principals.

3. Determine the level of job satisfaction and dissatisfaction as perceived by tutors and principals.
4. Determine teaching staff improvement requirements as perceived by tutors and principals.
5. Identify major problems that influence MATIs as perceived by tutors and principals.

This study was completed in Tanzania Mainland, and involved ten agricultural institutions. The target populations were principals and tutors employed in MATIs from November, 1982, to April, 1983. The 202 tutors and 10 principals comprised the population for the study. Of the 212 possible participants, 183 (86 percent) responded and were included in the study.

The descriptive method of research was utilized using the common questionnaire technique. The common questionnaire had seven sections and 88 statements derived from a review of pertinent literature. Rating and ranking scales were given to each statement. Data were processed with the aid of West Virginia University computer center facilities. Analysis was based on MATIs, field of speciality, educational differences, number of years in teaching and occupational positions. Means and frequencies were determined for each category. Findings of the study are summarized as follows:

Instructional Approaches Used by Principals and Tutors in MATIs

1. Respondents indicated that the two instructional approaches frequently used were "library books as a source of teaching notes," and "lectures."
2. Instructors indicated that field trips, field extension staff, group discussion and study discussion as instructional approaches are seldom used.
3. Respondents also clearly indicated they never or seldom use slides, filmstrips, or transparencies in teaching.

4. Data revealed that instructors in five MATIs dictated notes in classes.
5. Instructors in only one institution indicated that the real object approach was frequently used when teaching.

Effectiveness of Theoretical Training in MATIs

1. MATI instructors disagreed with five of the twelve statements rated. However, they agreed with the statements, "What I teach is relevant to the current needs and problems of the farmers," and "Teaching methodology seminar helps me in lesson planning and development of schemes of work."
2. There was indecision among MATI instructors regarding time allocation, suitability of teaching and learning environment, ability of students to help farmers secure agricultural inputs, oxen drawn implements and irrigation materials after graduation as a result of MATI instruction and appropriateness of textbooks. Instructors at Tumbi disagreed somewhat more strongly than others regarding the statement, "Time allocated for teaching theory matches with syllabus requirements." Instructional staff at Mubondo, Maruku, and Mtwara were more disturbed regarding availability of slides and transparencies than others. Classroom environment was considered most satisfactory at Uyole and most unsatisfactory at Ilonga. Teaching staff at Ilonga were most critical regarding the statement, "Adequacy of time is available for teaching preparation."

Effectiveness of Practical Training in MATIs

1. Instructional staff strongly disagreed with the statement, "Lack of transport does not interfere with practical teaching." However they strongly agreed with the statements, "Production of major crops practical course should be emphasized in all MATI courses dealing with crop production," and "There is need to allocate funds for student MATI Village Block Extension Program."
2. Mubondo, Tengeru and Maruku instructors agreed that students are given enough time to practice skills taught whereas others were undecided or disagreed.
3. Instructors at Ilonga disagreed that "Students have enough time to apply learned skills to neighboring farms."
4. Tutors and principals at Mtwara, Ilonga and Mlingano disagreed that "Skills listed in syllabus can be mastered with the existing training facilities, although those

at Mubondo agreed.

5. Mtwara, Ilonga, Uyole, Nyegezi, Maruku, and Tumbi principals and tutors agreed that "Institutes funded by foreign donors teach practicals more effectively than those receiving only local funds." Others indicated indecision.

Trainers' Needs for Self-Improvement Programs in MATIs

1. Ratings given the five statements by teaching staff in various MATIs were very similar.
2. Principals and tutors strongly agreed with the statements:
 - "There is need to periodically attach MATI tutors to the field (for short periods of time) to gain practical experience."
 - "Inservice refresher courses for tutors in the technical agriculture field should be increased."
 - "Study tours to seed production stations, research stations, large scale farms, irrigation projects, etc. are important for updating tutors."
 - "One area which needs immediate attention in MATIs is a special fund allocation within the institute for staff improvement to enhance effective teaching."

Instructors' Job Satisfaction and Dissatisfaction in MATIs

1. Instructional staff disagreed with the statements:
 - "I believe the salary and fringe benefits of my job are similar to those of other professionals with equal training and years of service."
 - "I receive adequate compensation for the extra hours and evenings I work."
2. Tutors and principals were undecided about the statement, "I would prefer to be assigned field agricultural duties rather than teaching."

Instructional Approaches by Fields of Speciality in MATIs

1. MATI specialists, except those in extension and agricultural education, seldom or never use visual aids and external speakers.
2. Specialists in animal science never or seldom use the problem solving teaching approach.

3. Except for those in agricultural mechanics, horticulture, land use, farm management and extension education, instructors seldom or never use the group discussion method of teaching.
4. Specialists in general agriculture, food science, horticulture, and farm management frequently dictate notes in classes.
5. Specialists in animal science, mechanics, land use, and farm management never or seldom use technical information from the ministry and other research organizations.
6. Only specialists in animal science, land use and horticulture use field trips to supplement teaching.
7. Instructors, except those in horticulture and economics, frequently use notes from previous coursework.
8. Only instructors in agricultural mechanics, horticulture, and land use use the real object concept.
9. Instructors in food science and horticulture use demonstration in classes more than other instructors.

Specialists' Opinions Regarding the Adequacy of Theoretical Training

1. Specialists in general agriculture, agricultural mechanics, land use, and farm management disagreed that transparencies and slides are available.
2. All specialists disagreed with the statements: "Topics I teach are outside my field of specialization," and "Manufacturers of agricultural inputs and machinery provide teaching materials."
3. Except for those in horticulture and education, instructors disagreed that there is a constant flow of technical information to the MATI from research centers and seed production stations.
4. Specialists in food science, animal science, land use and extension agreed that local agricultural data from Kilimo parastatal organizations are readily available.
5. Specialists in animal science and farm management disagreed that students are able to help farmers secure agricultural inputs, oxen draw implements, and irrigation materials as a result of instruction, and that appropriate textbooks and instructional resources are provided.

6. All specialists agreed that what they teach is relevant to the current needs and problems of the farmer.
7. Instructional staff in horticulture and farm management and education agreed that time allocated for teaching theory matches with the syllabus requirements.

Specialists' Opinions Regarding Adequacy of Practical Training

1. Specialists agreed strongly with two statements, "There is a need to allocate funds for student MATI village block extension program," and "Production of major crops practical course should be emphasized in all MATI courses dealing with crop production." Respondents also agreed that "Skills taught to students related to needs and problems of farmers," and that, "Institutes funded by foreign donors teach practicals more effectively."
2. Respondents in all fields of speciality disagreed that, "Lack of transport does not interfere with practical teaching," and were undecided with regard to the statements concerning supplementation of practicals with visits to farms and plants.
3. Only those in horticulture, economics and farm management agreed that students practice skills taught.
4. Specialists in food science and extension agreed that "Institute farm is well managed," while those in horticulture agreed that, "Institute farm provides adequate opportunity to practice competencies taught in class."
5. Only specialists in horticulture agreed that, "Adequate time is allocated to allow students practice in setting up demonstration plots."
6. There was no agreement with the statement, "Based on current student performance, this MATI is stonger in theory than in practicals."

Specialists' Opinions on the Trainers' Needs for Self-Improvement Programs

1. Specialists in all areas of agriculture strongly agreed that:
 - (i) Inservice refresher courses be increased.
 - (ii) Study tours to farming projects and research centers be increased.
 - (iii) A special fund for staff improvement be allocated within MATIs.
2. With the exception of those in horticulture, instructors agreed that, "There is need to periodically attach tutors to the field to gain experience."

3. Specialists were undecided regarding the statement, "The duration of teaching methodology short courses is sufficient."

Specialists' Concern Regarding Job Satisfaction and Dissatisfaction in MATIs

Specialists in farm management and horticulture agreed that they would prefer to be assigned field agricultural duties rather than teaching. However all specialists disagreed that salary and fringe benefits are similar to those of other professionals; they receive adequate compensation for the extra hours and evenings they work; and that there are adequate advancement opportunities for tutors.

Adequacy of Practical Training by Present Position in MATIs

1. Out of the 14 statements rated, there was strong agreement among tutors, heads of departments, and principals with two statements: "There is a need to allocate funds for student MATI Village Block Extension Program, and "Production of major crops practical course should be emphasized in all courses dealing with crop production."
2. Strong disagreement was voiced with the statement, "Lack of transport does not interfere with practical teaching."

Perceptions of the Trainers' Needs for Self Improvement Programs by Number of Years in Teaching

All instructors, regardless of experience strongly agreed that field attachments; inservice refresher courses; study tours, and a special fund for staff improvement in MATIs were important, but were undecided with the statement, "The duration of teaching methodology short courses for MATI tutors is sufficient."

Job Satisfiers and Dissatisfiers

1. "Advancement" and "Achievement" were noted as the two satisfiers of greatest importance to MATI teaching staff.
2. "Salary" and "Working Conditions" were found to be the two dissatisfiers most disturbing to MATI teaching staff.

Major Problems That Influence MATI Effectiveness

Major problems, identified by tutors and principals, that influence MATI effectiveness are (1 = greatest to 10 = least problem):

1. Adequacy of recurrent funds
2. Adequacy of development funds

3. Adequacy of staff development inservice program.
4. Adequacy of transport.
5. Adequacy of theoretical and practical facilities.
6. Adequacy of farm equipment.
7. Lack of revolving fund system.
8. Development of MATI farm.
9. Adequacy of supervision from Kilimo headquarters.
10. Student recruitment.

Present and Preferred Student Practical Group Size in MATIs

1. Respondents indicated that more than half the present student practical groups in MATIs exceed 10 students.
2. Respondents indicated preference for preferred student practical group size in MATIs of 8-10 or 4-7 students.

Conclusions

Based on the findings of this study, the following conclusions were drawn:

1. In general, there are demonstrated efforts by MATI tutors to maintain the quality of teaching. MATIs continue to stress experience and practical skills, although they are handicapped by a number of problems. Training policy in MATIs is relevant to the current needs and problems of farmers.
2. Tutors frequently use books and previous notes as sources of teaching notes and lectures. Large class sizes force tutors to dictate notes.
3. Field trips, use of field extension staff, group discussions, study questions, slides, filmstrips, transparencies, and real objects are not utilized sufficiently in MATI classes.
4. Tutors find refresher inservice programs, teaching methodology short courses and local study tours useful.
5. Tutors are somewhat concerned with time allocated for theory and practicals; preparation of notes; suitability of teaching and learning environment; ability of students to apply learned skills and appropriateness of textbooks.
6. Production of major crops practicals and MATI village block extension program are important in MATI training, and should be allocated funds.
7. Tutors find that institutes funded by foreign donors have fewer problems teaching practicals.

9. Tutors should periodically be attached to the field for experience.
9. Salary, working conditions and fringe benefits are major dissatisfactions for tutors. Advancement and achievement are considered important job satisfiers.
10. Technical information and local agricultural data from Kilimo and other agricultural related organizations to MATIs are lacking.
11. Tutors find that skills listed in syllabus do not match with training facilities.
12. Tutors' preferred student practical group size in MATIs is 8-10 or 4-7.
13. The greatest problems facing MATIs are recurrent, development and revolving funds; inservice refresher courses; transport; theoretical and practical facilities; and farm equipments.

Recommendations

This study was designed to determine the effectiveness of the Tanzanian Ministry of Agriculture Training Institutes as perceived by tutors and principals.

Analysis of responses of the study population indicates some possibilities for improvement and/or reshaping in the current agricultural training program in the Ministry of Agriculture. Based on the findings and conclusions drawn from this study, the review of literature and related studies, and the researcher's observations and experiences, the following recommendations are presented:

1. There is a great need to initiate or restore the use of field trips, field extension staff, group discussion and study questions instructional approaches to enhance effective teaching in MATIs. These are proven methods of teaching and have little or no funding requirements.
2. Attention should be paid to current student admission, in respect to class sizes. Recommended student practical group size is 8-10.

3. As a result of the overuse of the lecture in MATIs, there is a danger of lack of interaction, or learner involvement, thus making students passive. Such a method focuses mainly on the lowest level of cognition. There is need to ensure that lectures are not used to cover information from a textbook or syllabus only, and are not dominant. Lectures should accompany demonstration or visual aids, i.e., should be informal. The use of visual aids in MATIs needs rekindling.
4. Real object instructional approach is proven to be useful in teaching, and therefore increased awareness of its effectiveness should be emphasized in MATIs.
5. In order to maintain effective instruction, teaching methodology short courses should be maintained, and the duration of these courses be lengthened from four to six weeks.
6. There is a great need to reassess time allocated for teaching theory; preparation of notes; practicing skills taught (students) and applying learned skills to neighboring farms, e.g., setting up demonstration plots. (students)
7. Classroom environment in MATIs is very unsatisfactory. The Ministry of Agriculture should immediately start a renovation program, re-equipping classes, improving lighting, and admitting students purely on the basis of existing acceptable class facilities and class sizes.
8. In order to strengthen practical training in all fields of speciality, there is an urgent need to: emphasize production of major crops practical course in all courses (certificate and diploma) regardless of their fields of speciality; allocate funds for student MATI village block extension program; match the skills listed in syllabus with existing training; and consider the supply and teaching of a variety of oxen drawn implements, small scale irrigation materials, and agricultural machinery.
9. Lack of technical information and local agricultural data from Kilimo parastatal organizations, manufacturers of agricultural inputs and machinery, seed production farms, and processing plants and research stations has forced instructional staff to rely on previous notes and outdated textbooks in their teaching. There is a strong need to establish information linkages between institutes and the above organizations. The Ministry of Agriculture should immediately start printing joint annual reports to replace separate divisional and agricultural parastatal organizations annual reports.

10. Greater efforts are needed to alleviate the problem of teaching practicals in institutes which are not funded by foreign donors. MATIs Ilonga, Maruku, Tumbi, Mubondo and Mtwara will soon be below standard in training extension agents. The Ministry has continued depriving them of the urgently required farm tractors, farm implements, laboratory facilities, new books and development funds for improvement of buildings and farm development, and yet these training institutes are required to produce competent graduates.
11. There is an urgent need to update instructors with new knowledge and practical field experiences. This should be done through field attachments; study tours within and outside the country; inservice refresher courses in the technical agriculture field; and concrete staff advancement programs backed up with funds, within MATIs. At the present time, advancement and achievement over-ride instructors' efforts to enhance effective teaching.
12. Present salary scales, working conditions and fringe benefits are weakening teaching efforts in institutes. There is a need to equate the three concerns above with those of other professionals with equal training and years of experience.
13. Institute farms provide learning and teaching experiences for both students and instructors, and therefore their full development and adequate management are required. It is not possible to have effective practical training without developing farms to their full potential. The Ministry of Agriculture should immediately allocate farm development funds, provide farm machinery in accordance to available land, develop a long term farm machinery and implements replacement plan and make all institute farms production farms. MATIs must be true models of modern farming in the districts in which they are located and must be food self-sufficient to justify our support and seriousness with the new agricultural policy.
14. MATIs will not be in line with the present needs and new agricultural policies if there is a continued erosion of recurrent and development funds, as has been the case in the past few years. Agricultural institutes are supposed to be places where farm production is at its maximum, and training at its best. Our MATIs are not. In any attempt to improve the quality of training in MATIs, an integrated approach is required to eliminate problems concerning recurrent, development and revolving funds, staff inservice programs, farm equipments and transport.

15. The Ministry of Agriculture should immediately provide MATIs with samples of each of the UFI products. This will enable graduates to advise farmers on their effective use.
16. A long term plan for supplying MATIs with up-to-date textbooks is urgently required.
17. The study has identified many problems facing agricultural training. It is important that the Ministry of Agriculture come up with an immediate strategy to solve these problems to establish an effective practical training environment.

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APPENDICES

APPENDIX I

Cover Letter to African-American Institute,
Ministry of Agriculture Headquarters,
Principals and Tutors

KI/CPF 6812

International Programs
2112 Agricultural Sciences Building
West Virginia University
Morgantown, WV 26506
U.S.A.

November 17, 1982

The Principal Secretary
Ministry of Agriculture
Pamba-House
P. O. Box 9192
Dar-Es-Salaam
TANZANIA

Dear Sir:

RESEARCH ON AGRICULTURAL TRAINING IN THE TANZANIAN MATIS

I am writing to inform you that I am conducting a research study on the "Effectiveness of the Tanzanian Ministry of Agriculture Training Institutes as perceived by Tutors and Principals." The study is designed to determine the effectiveness of agricultural training institutes in respect to graduating competent extension agents.


Objectives of the Study:

1. To evaluate instruction approaches in the MATIS
2. To determine the adequacy of theoretical and practical training in MATIS
3. To determine teaching staff improvement requirements
4. To identify major problems that influence MATIS

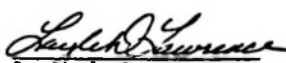
This is part of the requirements for the degree of master of science (M.Sc. Agricultural Education).

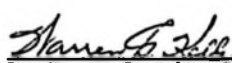
Data for this study will be obtained through the use of questionnaires which will be administered to all MATIS for the Principals and Tutors to complete. I believe this study will be beneficial to me in particular and to Tanzania in general. Enclosed herewith please find a copy of the questionnaire.

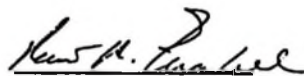
Sincerely,


George G. D. Lulandala
AFGRAD PARTICIPANT

Confirmed by the Graduate Committee of West Virginia University


Dr. Layle D. Lawrence
Professor, Chairman


Dr. Warren G. Kelly
Professor


Dr. Robert H. Maxwell
Assoc. Dean & Director

cc: The Director of Training & Manpower Allocation
Ministry of Manpower Development & Administration
P. O. Box 2483
Dar-Es-Salaam
Attention: J. A. D. Salim

The Director, Manpower Development Division
Kilimo HQS
P.O. Box 2066
Dar-Es-Salaam

Mrs. Heather Monroe
Deputy Director
Division of Education
The African American Institute
New York
(The research is to be done in Tanzania between May and July 1983)

The Principals
Ministry of Agriculture Training Institutes
Tanzania - for your information

GGDL/caf
enc.

APPENDIX II

Research Approval Letter from the
Ministry of Agriculture

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF AGRICULTURE

Telegrams: "Kilimo", Dar es Salaam.

Telephone: 27231.

In reply please quote:

Ref. No. KI/CPE. 6812

Manpower Dev. & Admin. Division

Pamba House,

P.O. Box 2056,

DAR ES SALAAM

16th December, 1982.

Mr. G.G.D. Lulandala,
AFGRAD PARTICIPANT,
International Programs,
2112 Agric. Sciences Building,
West Virginia University,
Morgantown, WV 26506,
USA.

Dear George,

RESEARCH ON AGRIC. TRAINING IN TANZANIAN
MATS

I acknowledge receipt of your KI/CPE.6812 of November 17th, 1982, and wish to state that we have no objection to the proposals.

I also believe that the study should be of benefit to you as well as this Ministry.

I wish you all the luck.

Yours sincerely,



R.N. Rwasia,
for PRINCIPAL SECRETARY.

APPENDIX III
Questionnaire Used in the Study

AGRICULTURAL TRAINING RESEARCH STUDY
(Self Administered Survey Form)
MATI TUTORS AND PRINCIPALS COMMON QUESTIONNAIRE
(PLEASE DO NOT WRITE YOUR NAME)

Purposes of This Questionnaire

This questionnaire is designed to determine the adequacy of theoretical and practical training in terms of instruction approaches, training facilities used in instruction, required improvement programs for teaching staff and major problems that influence effectiveness of MATIs.

General Information

Please complete the following questionnaire according to the instructions given. There are NO RIGHT OR WRONG ANSWERS. Only your opinions, views and experiences are requested. Kindly feel free to record comments, opinions and views in the space provided at the end of this questionnaire.

Your opinions, views and comments will be treated "CONFIDENTIALLY." Please DO NOT CONSULT with your colleagues. Your views as an individual are requested. Kindly complete each item.

SECTION 01
GENERAL PERSONAL INFORMATION

1. Name of MATI _____ [DO NOT WRITE YOUR NAME]
2. Field of Speciality _____

Please check (X) the appropriate answer with regard to yourself.

3. Your highest level of education completed:
 certificate diploma degree
4. Present position:
 tutor head of department principal
5. Number of years in teaching:
 less than 2 years 2 to 4 years over 4 years

INSTRUCTIONS: Please read very carefully and answer each question as it pertains to you or your institution. Information you provide will be used to strengthen student training and teaching staff improvement. Please check (X) in the appropriate bracket the level of your view that most nearly represents your opinion.

SECTION 02

PERCEPTIONS OF INSTRUCTION APPROACHES

STATEMENTS	Always 5	Often 4	Sometimes 3	Seldom 2	Never 1
1. I use lectures in classes.	()	()	()	()	()
2. I use lecture-discussion in classes.	()	()	()	()	()
3. I use group discussion in classes.	()	()	()	()	()
4. I use a problem solving approach in classes.	()	()	()	()	()
5. I use the study questions method of teaching.	()	()	()	()	()
6. I use field trips to supplement my teaching.	()	()	()	()	()
7. I use slides, filmstrips, transparencies and/or movies in my teaching.	()	()	()	()	()
8. External speakers (field staff) are used to supplement my teaching.	()	()	()	()	()
9. Real objects are used in my classroom teaching.	()	()	()	()	()
10. I use demonstration in classes.	()	()	()	()	()
11. Because of the class size (number of students) I dictate notes to students.	()	()	()	()	()
12. Previous coursework is a source of my teaching notes.	()	()	()	()	()
13. Library books are a source of my teaching notes.	()	()	()	()	()
14. Technical information from the Ministry and other research organizations is a source of my teaching notes.	()	()	()	()	()

SECTION 03

PERCEPTIONS OF THE ADEQUACY OF THEORETICAL TRAINING

STATEMENTS	Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strongly Disagree 1
1. What I teach is relevant to the current needs and problems of the farmer.	()	()	()	()	()
2. Time allocated for teaching theory matches with the syllabus requirements.	()	()	()	()	()
3. Transparencies and slides for overhead and slide projectors are available.	()	()	()	()	()
4. Classrooms at this MATI provide a suitable environment for teaching and student learning.	()	()	()	()	()
5. Topics I teach are outside my field of specialization.	()	()	()	()	()
6. There is a constant flow of technical information to the MATI from Tanzanian Research Centers and seed production stations.	()	()	()	()	()
7. Local agricultural data from Kilimo Parastatal Organizations are readily available.	()	()	()	()	()
8. Manufacturers of agricultural inputs and machinery provide materials for classroom teaching.	()	()	()	()	()
9. Adequate time is available for teaching preparation.	()	()	()	()	()
10. Students are able to help farmers secure seeds, fertilizers, pesticides, oxen-draw implements and irrigation materials as a result of MATI instruction.	()	()	()	()	()
11. Teaching Methodology seminar has helped me in lesson planning and development of schemes of work.	()	()	()	()	()
12. Appropriate textbooks and instructional resources are provided.	()	()	()	()	()

SECTION 04

PERCEPTIONS OF THE ADEQUACY OF PRACTICAL TRAINING

STATEMENTS	Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strongly Disagree 1
1. Students are given enough time to practice skills taught.	()	()	()	()	()
2. Students have enough time to apply learned skills to neighboring farms.	()	()	()	()	()
3. Skills taught to students relate to needs and problems of farmers.	()	()	()	()	()
4. Skills listed in syllabus can be mastered with the existing training facilities.	()	()	()	()	()
5. Adequate time is allocated to allow students practice in setting up demonstration plots.	()	()	()	()	()
6. There is a need to allocate funds for student MATI-Village Block Extension program.	()	()	()	()	()
7. Production of Major Crops Practical Course should be emphasized in all MATI courses dealing with Crop-Production (Certificate & Diploma).	()	()	()	()	()
8. Practicals taught are supplemented by students' regular visits to modern farms, agricultural processing and manufacturing plants and irrigation projects.	()	()	()	()	()
9. Institute farm is well managed.	()	()	()	()	()
10. Institute farm provides adequate opportunity to practice competencies taught in class.	()	()	()	()	()
11. A 2-month attachment of students to Ujamaa villages for practical training is adequate.	()	()	()	()	()
12. Institutes funded by foreign donors teach practicals more effectively than those receiving only local funds.	()	()	()	()	()
13. Lack of transport does not interfere with practical teaching.	()	()	()	()	()
14. Based on current student performance, this MATI is stronger in theory than in practicals.	()	()	()	()	()

SECTION 05

PERCEPTIONS OF THE TRAINERS' NEEDS FOR SELF IMPROVEMENT PROGRAMS

STATEMENTS	Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strongly Disagree 1
1. There is need to periodically attach MATI tutors to the field (for short periods of time) to gain practical experience.	()	()	()	()	()
2. Inservice refresher courses for tutors in the technical agriculture field should be increased.	()	()	()	()	()
3. Study tours to seed production stations, research stations, large scale farms, irrigation projects, etc., are important for updating tutors.	()	()	()	()	()
4. The duration of teaching methodology short courses for MATI tutors is sufficient.	()	()	()	()	()
5. One area which needs immediate attention in MATIs is a special fund allocation within the Institute for staff improvement to enhance effective teaching.	()	()	()	()	()

SECTION 06

PERCEPTIONS OF TRAINERS' JOB SATISFACTION AND DISSATISFACTION

STATEMENTS	Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strongly Disagree 1
1. I would prefer to be assigned field agricultural duties rather than teaching.	()	()	()	()	()
2. I believe the salary and fringe benefits of my job are similar to those of other professionals with equal training and years of service.()	()	()	()	()	()
3. I receive adequate compensation for the extra hours and evenings I work.()	()	()	()	()	()
4. There are adequate advancement opportunities for MATI tutors.	()	()	()	()	()

INSTRUCTIONS: For questions 5 and 6 below please select TWO job satisfiers and TWO dissatisfiers by checking (X) in the appropriate bracket.

5. Job satisfiers (check the two of greatest importance to you).
 Achievement
 Advancement
 Recognition
 Responsibility
 The work itself
6. Job dissatisfiers (check the two which are most disturbing to you).
 Interpersonal relations
 Policy and administration
 Salary
 Technical supervision
 Working conditions

SECTION 07

MAJOR PROBLEMS THAT INFLUENCE MATI EFFECTIVENESS

INSTRUCTIONS: Please rank the following statements in order of their influence on MATI effectiveness: 1 - greatest problem to 10 - least problem.

1. Write the numbers in the spaces provided.

- ___ adequacy of transport
- ___ adequacy of staff development in-service program
- ___ adequacy of supervision from Kilimo Headquarters
- ___ adequacy of recurrent funds
- ___ adequacy of development funds
- ___ adequacy of farm equipment
- ___ lack of revolving fund system
- ___ student recruitment
- ___ development of MATI farm
- ___ adequacy of theoretical and practical training facilities

For questions 2 and 3, please check for the appropriate answer.

2. Present student practical groups are:

4-7 students per group 8-10 students per group over 10 students per group

3. I would like to have a student practical group comprised of:

4-7 students per group 8-10 students per group over 10 students per group

Feel free to use the space below or on the back of this page to record ANY comments, opinions and views you have regarding MATIs or training in general.

IMPORTANT: Please place this completed form in the envelope you have been provided and then seal. Submit the sealed envelope to your principal.

THANK YOU FOR YOUR COOPERATION.

APPENDIX IV

Unedited Comments Made by the Respondents
As They Appeared in the Questionnaires

UNEDITED COMMENTS MADE BY THE RESPONDENTS

Mati-Principals

1. "Training in the MATIs has tended to be too theoretical and not production oriented. Thus bwana shambas currently in the field are rarely engaged in agricultural production enterprises."
2. "Practical approaches needs emphasis; in turn also, allocation to the relevant areas of work is vital if we are to meet the goal."

Mati-Tutors

1. "MATIS are going backwards, they do not look like training institutions anymore -- because everyone says there is no money; so staff houses, student hostels, the school farms etc are no more in good shape, let us go back to the 1972-1973 so that we really train Kilimo students."
2. "Tutors are few; unmotivated, no proper training -- as a result the training provided is poor and of low quality. Students unsatisfied and MATIS poorly facilitated."
3. "MATI tutors have low morality due to lack of incentives i.e. salary, policy and administration."
4. "Further studies are important, if we are to improve effective teaching in matis."
5. "Most MATIs are staffed by diploma holders, please improve the situation by recruiting B.Sc. graduates."
6. "MATI-tutors should be provided with study tours frequently (outside Tanzania) so that they can gather new teaching materials."
7. "The Ministry should consider the possibility of providing scholarships to MATI-tutors instead of sending them to the University of Dar-Es-Salaam where they rarely report back to MATIs."
8. "The number of MATI-tutors with a diploma is rising rapidly and those with degrees is falling sharply. Overseas graduates should be recruited into training."
9. "Too much workload due to few tutors not to mention the low salaries for tutors."
10. "The Ministry should recruit field experienced teaching staff than those who just complete colleges with very little field experience."

11. "If MATIs are to be effective training institutions, it is essential to have appropriate literature and equipments as per the syllabus requirements."
12. "Diploma graduates should not teach diploma students."
13. "Fringe benefits are lacking."
14. "More emphasis on training MATI-tutors (inservice) to enable them attain higher skills."
15. "There is a need for an OVERSEAS TECHNICAL AID to improve the diminishing training facilities."
16. "Time allocated for teaching does not match with syllabus."
17. "Incentives/study tours."
18. "MATIs poorly staffed."
19. "Training requires heavy investment in terms of capital, personnel and facilities and time if it has to produce the right quality of students."
20. "When students are on holidays--why should tutors be forced to come to work? I think notes can be prepared at home as well."
21. "Certificate and diploma holders should be given chances for further studies at least after one year of work."
22. "Institute of Uyoie should take its own full organization from parastatal (SKU)."
23. "Recruitment of tutors done against their interests. Once you are a tutor, it is hard to get out for something different."
24. "Teaching methodology seminars should not be for the new tutors only--it should involve others as well. Workshops should be organized by those who have had the chance to attend such seminars."
25. "Add more B.Sc, M.Sc and Ph.D graduates to the MATI teaching staff."
26. "Future prospects for tutors should be seriously considered."
27. "Poor student recruitment."
28. "Distribution of tutors to MATIs by Kilimo is not in line with the workload of each MATI. Some MATIs overstaffed."
29. "As compared to research officers; administrative officers both at MATIs and HQts; tutors are thought of as the least important personnel

and then the most ignored employees in the Ministry. A messenger working in the HQs is considered to be a VIP more than a tutor from the MATI. Because of the above mentioned comment tutors feel that it's far better to go without rather than with such a job. It should be understood, here that the job is good but what is worse is the personnel administration."

30. "Tutors should not pay electric bills as an incentive because they use light mostly for preparation of notes for teaching."
31. "Flow of up-to-date information from research institutes and extension to MATIs is necessary to update training objectives."
32. "MATIs be given more autonomy."
33. "Tutors have to be up-do-date; enough facilities a necessity and constant flow of new information from research."
34. "Too much syllabus revision. Headquarters should set a long term syllabus than can last for ten years even it there is an administrative change at HQS."
35. "Ministry should start terminal exams and consider continuous assessment."
36. "MATI-training is more theoretically oriented. Practical facilities are lacking even though MATI-tutors are competent."
37. "Increase field practical duration."
38. "Effort should be made to secure either sufficient funds locally/ from donors to develop transport facilities for the farm economics and extension department so that the contact between neighbouring farmers and institute tutors and students is increased."
39. "So far there is poor supervision offered by the curriculum development department at the HQs because some tutors have attended methodology course while others have not. A proper follow-up is required."
40. "Diploma holders are not educated enough to be qualified tutors. Be given a high priority when it comes to further studies and study tours."
41. "In the near future Kilimo will loose tutors due to the poor working conditions and lack of fringe benefits."
42. "The use of intermediate technology has been neglected in most of the MATIs."
43. "Due to lack of facilities--practical training is at a minimum."

44. "Training provided now in MATIs is inadequate due to lack of funds needed to purchase necessary items of importance to training. Funds provided are for students food, travelling and transport. Review the whole training system--with emphasis on facilities and practical teaching."
45. "Local study tours are needed to provide tutors with field experience."
46. "Frequent promotions to motivate tutors."
47. "Upgrade MATI-tutors."
48. "Inadequate teaching facilities."
49. "Increase development fund and improve transport."
50. "Teaching methodology be emphasized."
51. "Some MATIs have facilities than others--this is irrational."
52. "Land survey; soil science; land classification, map production cannot be taught practically because no facilities."
53. "Review salaries of tutors--too low particularly staff with certificates."
54. "Land Use planning certificate graduates should have a different salary from those with general agric. certificates."
55. "Long service high ranked ministerial officers who are about to retire should not be sent to work to their home areas; and should not be made principals in MATIs or even heads of dept in other sectors because their attitude to work is negative."
56. "There is a tendency by the HQs to give more training chances to certain MATIs at the--expense of others, so this should be checked immediately, so that forgotten MATIs like ours enjoy the same rights and privileges."
57. "No incentives and tutors quit."
58. "Students before joining Kilimo ____ to work in farms for one year then they should join MATI for one year (class work) and before second year they should also go the field again and then they finish their second year. I hope this will -- improve practical skills."
59. "Mechanics should emphasize on the availability of training facilities rather than having the machinery used in production only."
60. "We need good working condition."

61. "A change in orientation of MATI-trainers and consequently their students towards a closer look at the real problems facing the farmer will, I hope influence training positively."
62. "I have been observing for long time that tutors are not given freedom to participate in various activities done in the workshop. For tutors wishing to complete in our field become disappointed because we loose instead of gaining experience. I comment that tutors having agromech qualifications should be free to participate in workshop activities regardless of what they teach. That will make tutors to gain experience and teach the true practical for which is able to conduct it practically."
63. "Most tutors in MATIs stay too long in one station without further studies as a result the effectiveness of teaching diminishes."
64. "The MATI-connection is same tutors attending exam moderation board demoralises the effectiveness of other tutors. Mr. "L" you know your members."
65. "Motivation to MATI-tutors should be given more weight, as a motivation MATI-fram managers' salaries should be increased."
66. "Improve training facilities."
67. "Unlike a mechanic under a mango tree shade on the streets in town-- the thought determing but essential and functional skills are neither equally paying nor improve the material being to the tutor."
68. "Lack of motivation to MATI tutors is the major problem compared to the teachers of the Ministry of National Education."
69. "Objectives of the course and a location of graduates are not correlated."
70. "More emphasis on improvement and standardization of teaching material especially recommended textbooks, teaching manuals and equipment is needed."
71. "Seminars/Workshops for tutors teaching specific or related subjects in different MATIs at least once each year."
72. "Lack of funds and lack of trained personnel hinder the development of agriculture in general."
73. "Secondary school teachers of Teachers Training College tutors earn high salary than tutors though doing the same job, this discourages MATI tutors."
74. "Teaching methdology and English must be improved for better training."

75. "The Ministry must keep tutors happy so that they will want to stay in training to cope with the demand of their job, better wages and working conditions of physical environment around them."
76. "Emphasis should be in practicals--training facilities to be improved e.g. machinery."
77. "It seems we are training more of Kilimo technicians than the extension agents we are supposed to take extension as a subject--should be given its due weight."
78. "Inadequate facilities; of having low salaries; no overtime; and lack of incentives are some of the factors which cause some tutors to quit the MATI-System."
79. "The Ministry has never or reconsidered the advancement of Diploma holder tutors as there is seldom advancement when one has attained this qualification. Some have stayed in the MATI system for over seven years now especially in the field of - agriculture engineering."
80. "Constraints: Lack of transport; lack of funds for materials (stationery); Lack of up-to-date textbooks and lack of interest in general."
81. "There is alot of inbalance in work in the staff members at the Institute; Crop Science, Animal Science staff are terrible over-worked while staff in other dept for instance and Land Use dept are not fully utilized."
82. "For efficiency and wider experience of work, staff development inservice program including study tours, seminars etc is necessary."
83. "tutors are supposed to be updated in their teaching, but this rule doen't exist once the tutor is sent to a MATI."
84. "There is a great need of providing opportunity to MATI tutors to attain higher levels of education (BSc, MSc, PhD) in various fields to facilitate teaching effectiveness."
85. "Students who are recruited after being in the field for too long tend to have problems in following the lectures and most of them end up being discontinued and this is a waste of government funds."
86. "Promotions to livestock staff left over in the Ministry after the split of Kilimo and Mifugo. Ministries had not been forthcoming. This has been very discouraging despite the fact that livestock staff shall play a very important role."
87. "MATI-tutors should be given more chances to study than once in the Ministry of Agriculture. Because they convey the knowledge to the majority--to students and indirect to the nation as a whole. Teach teachers what and how to teach; give them knowledge i.e. from Kilimo

headquarters the study tours are only provided to those who are near to the ones selecting people for the tours."

88. "A revolving fund would eliminate the present financial crisis."
89. "Regardless of what was answered in this paper. I would rather request for a great consideration on further studies in order to raise up the standard of teaching in MATI--Being one of the incentives provided in MATIs in comparison to other departments."
90. "Special attention should be paid to inservice teaching staff training in specialist courses so as to enhance effect. i.e. Farm Structures."
91. "Particular attention should be paid to giving the students proper living conditions in the hostels so to promote student discipline both inside and outside the classroom."
92. "Staff levels of education should be upgraded to match effective teaching of the courses offered at the institute."
93. "Training division should vigorously pursue training often made by foreign donors on a number of occasions; these officers go utilized."
94. "Tutor Motivation should be implemented -- so far many declarations have been made in training conferences."
95. "The MATI-tutors should be given the first priority for further studies so as to have competent and efficient tutors."
96. "I am a Japanese Volunteer so I can't answer to questions 6 and perhaps my answers come from different point of views from Tanzanian staffs. Therefore I am afraid my answers are not for your purposes. But I can say many problems which this Institute has not solved but not only fund."
97. "Lack of teaching facilities especially in extension and rural sociology. Cameras and Projectors, and the like are mostly missing and sometimes only theory lessons are taught but practicals are not done. Though we specialize in agronomy but most tutors do not like rural economy and extension subjects--do not have a promising future."
98. "Mass promotions given to tutors by the Ministry without considering the working ability, experience etc of an individual. This frustrates those who work hard. Lack of incentives, attractive salaries to tutors make some tutors run away from MATIs for better jobs."
99. "Generally speaking this MATI (ILONGA) is having the problem of practical facilities especially in the field of Agromech, so I would ask the responsible ones to help rectify the problem."

100. "Promotion on the part of tutors is grossly neglected."
101. "Further studies and study tours for MATI-tutors is not attended to, compared to research counterparts."

APPENDIX V

List of MATI Problems Most in Need of Immediate Solutions

Major Problems, Listed by Rank, That Influence
MATI Effectiveness as Perceived by Tutors and Principals

Statement and Overall Rank	Mean (n=160)
1. Recurrent funds	3.79
2. Development funds	4.08
3. Staff development inservice program	4.36
4. Transport	4.40
5. Theoretical and practical training facilities	4.55
6. Farm equipments	5.67
7. Revolving fund	5.68
8. Development of MATI farm	7.30
9. Supervision from Kilimo Headquarters	7.34
10. Student recruitment	7.44

Rating Scale:

1 = Greatest Problem

10 = Least Problem

ABSTRACT

ABSTRACT

The primary objective of the study was to determine the effectiveness of the Tanzanian agricultural training institutes in respect to graduating competent extension agents, as perceived by Principals and Tutors.

Data for the study were obtained from the study population consisting of 202 MATI tutors and 10 MATI principals in Tanzania Mainland by use of a common self-administered questionnaire. A total of 183 (90.59 percent) and 8 (80 percent) completed questionnaires were returned by tutors and principals respectively. Data were analyzed using West Virginia University computer facilities. Means, standard deviations and frequencies were determined for each statement by MATI, field of speciality, number of years in service, occupational positions and level of education.

Information derived from the study reveals that there are varied problems in the ministry of agriculture training institutes which seriously hamper or retard effective teaching. Problems identified by the respondents touch almost every area of training; they stem from instructional approaches to training facilities, transport, funds and working conditions, and opportunities for staff advancement and achievement.

Of the six sections of the questionnaire, several categories of problems were identified by participants. Considered particularly serious were: (i) lack of frequent refresher inservice programs, study tours and field attachments; (ii) lack of adequate transport; funds for special student practical programs; visual aids software; practical

training facilities and farm equipments; advancement and achievement opportunities; salary and working conditions; learning and teaching environments; time allocated for theory, practicals, preparation of notes and practicing learned skills; technical information and local agricultural data; recurrent and development funds; (iii) lack of use of field trips, extension field staff, group discussion, study questions and real objects; and (iv) extensive use of library books, previous notes, lecture and dictation. However respondents agreed that training in MATIs is still relevant to the current needs and problems of farmers.

It was recommended that the Ministry of Agriculture become aware of the problems to maintain effective teaching in the institutes. MATI variations should also be taken into consideration.

VITA

VITA

Name: George Godlove Daniel Lulandala

Place of Birth: Kalinemo, IHEME Division, Iringa Region,
Tanzania, East Africa

Date of Birth: September 29, 1945

Parents: Daniel Lulandala
Late Tuhegelye Maliyapwani Mbiduka

Schools Attended in Tanzania:

1. IHEME Primary School, 1957-1958
2. Ifunda Primary School, 1959-1960
3. Kalenga Middle School, 1961-1964
4. Rungwe Alliance Secondary School, 1965-1968

Colleges Attended:

1. Egerton Agricultural College (Kenya), Diploma Animal Husbandry,
1969-1971
2. Changombe Teachers Training College (Tanzania), Diploma Education,
1972-1973
3. West Virginia University (U.S.A.), B.Sc., Agriculture,
1976-1978
4. Wolverhampton Polytechnic College (Britain), Certificate in
Teaching Methodology, 1980-1981
5. West Virginia University (U.S.A.), M.Sc. Agriculture, 1982-1984

Short Courses Attended

1. Effective Communication (Michigan State University, U.S.A.) 1977
2. Range Management (Colorado State University, U.S.A.) 1978
3. Soil Fertility and Food Production (Illinois State University,
U.S.A.) 1978

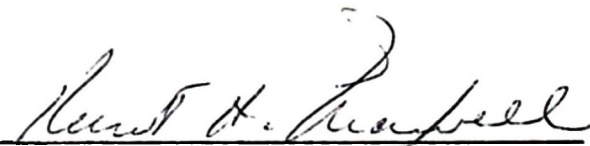
Marital Status: Divorced in 1981

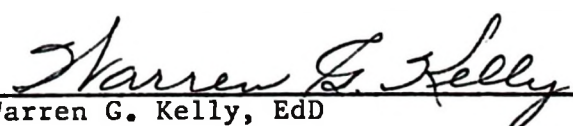
Children's Names: Robert J. G. Lulandala (1973)
Jane G. Lulandala (1975)
Hope Baraka G. Lulandala (1979)

Occupational Experiences:

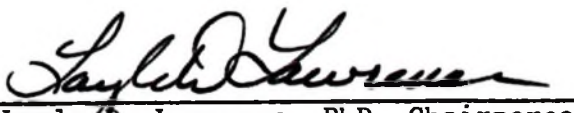
1. Farm Manager, Head of Department, Tutor, Warden and Coordinator of Studies, Tengeru, Tanzania
2. Technical Training Officer, Ministry of Agriculture Headquarters, Dar-Es-Salaam, Tanzania
3. Curriculum Supervision Officer, Ministry of Agriculture Headquarters, Dar-Es-Salaam, Tanzania
4. Head of Curriculum Development Unit, Ministry of Agriculture Headquarters, Dar-Es-Salaam, Tanzania
5. In Charge of National Kilimo Common Examinations, Ministry of Agriculture Headquarters, Dar-Es-Salaam, Tanzania
6. Teaching Methodology Coordinator, Ministry of Agriculture Headquarters, Dar-Es-Salaam, Tanzania

APPROVAL OF EXAMINING COMMITTEE


Robert Maxwell, PhD


Warren G. Kelly, EdD

Nov 8, 1983
Date


Layle D. Lawrence, PhD, Chairperson