

AGRICULTURAL EXTENSION AND RURAL DEVELOPMENT CENTRE
READING UNIVERSITY

A CRITICAL ANALYSIS OF THE OUTREACH PROGRAMMES
IN THE AGRICULTURAL TRAINING INSTITUTES FOR
TRAINING EXTENSION WORKERS IN TANZANIA



SIZYA C. LUGEYE

Dissertation prepared in partial fulfilment of
the requirements for the M.Sc. in Agricultural
Extension.

August 1986

ACKNOWLEDGEMENTS

I am grateful to my tutor and supervisor, Mr Ian Wallace, who tirelessly helped me by giving his valuable comments and suggestions. His encouragements made me enjoy writing this dissertation.

I would like to express my gratitude to all the AERDC staff and my fellow students whose unity created a suitable learning environment during my study at the AERDC, Reading University.

I extend my special thanks to my wife, Kalunde, for her patience and hard work to manage our family without my presence for twelve months. Similarly I express many thanks to my daughters, Kabula and Subi, for being so nice and my son, Sizya Lugeye, who was born while I was writing this dissertation. I therefore record this information, which they may use for future reference.

I am also grateful to the British Council who provided the financial support for my studies in the United Kingdom. I extend my appreciation to the Government of Tanzania for allowing me to take this course.

Finally, the author would like to thank Margaret Sturrock who kindly accepted to type this dissertation.

However, it should be noted that the ideas and conclusions expressed in this dissertation are of the author and do not represent the views of any individuals or organization.

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TERMINOLOGY

BWANA SHAMBA	- Extension worker
MATI	- Ministry of Agriculture Training Institute
LITI	- Livestock Training Institute
KILIMO	- Ministry of Agriculture and Livestock Development
MOA	- Ministry of Agriculture (Documents) (1980 & 1982)
MIFUGO	- Ministry of Livestock Development
FTC	- Farmer Training Centre
FTW	- Farmer Training Wing (a Department responsible for farmer training and outreach activities at a MATI/LITI)
FDC	- Folk Development College (Farmer Training Centre under the Ministry of Education)
WING STAFF	- Agricultural Training Instructors involved with farmer training
TUTORS	- Agricultural training instructors at MATIs and LITIs
TEACHING PACKAGE	- Teaching material, literature developed by farmer training wings
WING LEADER	- Head of the Farmer Training wing
HORTI	- Horticulture Research & Training Institute
UAC	- Uyolet Agriculture Centre
CCM	- Chama Cha Mapinduzi (Revolutionary Party - the present ruling party of Tanzania)
TANU	- Tanganyika African National Union (a former Tanzanian ruling party)
UJAMAA VILLAGE	- Smallest administrative unit - a registered cooperative village in Tanzania
UWT	- Womens Organisation of Tanzania or (Umoja wa Wanawake Tanzania)
AERDC	- Agricultural Extension & Rural Development Centre

TERMINOLOGY (2)

- USAID** - United States Agency for International
Development
- VEW** - Village Extension worker
- DADO** - District Agricultural Development Officer
- RADO** - Regional Agricultural Development Officer

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A CRITICAL ANALYSIS OF THE OUTREACH PROGRAMMES
IN THE AGRICULTURAL TRAINING INSTITUTES FOR
TRAINING FOR EXTENSION WORKERS IN TANZANIA

INTRODUCTION

Tanzania has an area of about 940,000 sq.km. and is basically an agricultural country, with a population of about 20 million people. About 95% of the people live in the rural areas (mostly in Ujamaa villages). It is estimated that 90% of the people living in rural areas in Tanzania depend on agriculture for their livelihood.

Farmers in the rural areas depend on the Agricultural Extension workers to provide them with information which can help improve their farming practices. The main source of these Extension workers is the Ministry of Agriculture and Livestock Development. This Ministry trains its extension staff at the Ministry of Agriculture Training Institutes (MATIS) and Livestock Training Institutes (LITIS). The majority of the existing training institutes are located in rural areas where they are surrounded by villages. Also, most of the MATIS and LITIS share the same surroundings with an Agricultural Research station.

Many of these agricultural institutions have been operating for a period more than thirty years. Despite the long existence, these agricultural institutions have had very little influence on the farmer's agricultural practices. These institutions have developed isolationism (Ishumi 1980:19) and divorce their participants from the society. These institutions are like foreign bodies in these communities.

Due to this isolationism, three main problems and criticisms have erupted, that:

- (i) the MATI and LITI graduates are not properly trained,
- (ii) the Extension Service is ineffective, and
- (iii) the gap between peasants and agricultural institutions is continuously widening.

The agricultural institutions have been charged with the task of looking at their training programmes and finding out whether they meet their objectives. It is the aim of this dissertation to examine why the isolationism exists, and analyse the role and contribution of the agricultural institutes in rural development. It is the focus of this dissertation to determine the usefulness of the Outreach Programmes to the students, peasants and the extension service and explore its potential in overcoming the existing problems for the training of extension workers in MATIS and LITIS.

The argument in this dissertation is basically based on data and information from literature. The literature sources were: lectures, discussions, seminars, the library and the Documentation Centre at the Agricultural Extension and Rural Development Centre. Other sources were the author's experience as a tutor in MATIS for nine years, involvement in the Farmer Training Project for five years, and his past discussions with farmers in Tanzania. Also, the Tanzania National Agricultural Policy and Progress Reports for the Ministry of Agriculture Farmer Training Project were used.

The dissertation is divided into five chapters, where

the first chapter discusses the training of extension in Tanzania, Chapter two presents a review of the extension service in Tanzania, its role and problems. The third chapter analyses the Outreach programmes in MATIS and the policies given by the Ministry of Agriculture which are related to the training of extension workers. A case study of Mati Ukiriguru . Outreach programme and the relationship to the training strategies in Tanzania is discussed in chapter four. Then chapter five gives a summary of conclusions and recommendations for the training programme of extension workers in Tanzania.

CHAPTER ONETHE TRAINING OF THE EXTENSION WORKERS IN TANZANIAI:I Definition of Extension worker

An Extension Worker or "Bwana Shamba", as commonly known in Tanzania, is defined by Adams (1982) as any man or woman employed by an extension agency. This definition is similar to that given by the FAO (1984) where extension workers are considered to be all men and women who enter the extension service, whether as specialists, administrators, supervisors or field-level agents. The field-level agents in Tanzania fall under three categories:

(i) Agricultural Field Auxilliary - this category includes primary school leavers with or without training in agriculture. This category is being phased out.

(ii) Agricultural Field Assistants - these are form-four leavers who undergo two years certificate course in agriculture at a MATI

(iii) Agriculture Field Officer - these are certificate holders with a minimum field experience of three years or form-six leavers who undergo two years training in agriculture and receive a diploma in agriculture after the course.

The extension workers who this dissertation will be discussing are those whose training leads to a Certificate or Diploma in Agriculture (see Figure I). The certificate holders are usually posted to work in the villages and live with the farmers. They also work at the Ward and Divisional level (Figure 2). The Diploma holders are in less contact with the farmers as they work at the District level. The author observes that the extension workers are usually each

responsible for more than one village. The MOA (1982) reports that the ratio of the extension workers to farm families was 1:700.

I:2 The Role of the Extension Workers

The major role of the extension workers in Tanzania is to change the farmers way of farming by introducing new ideas. An extension worker helps farmers to increase their productivity and improve their living standards. There is a wide variety of views for the extension agents' role in bringing change among farmers, as illustrated by Oakley and Garforth (1985:92) in their summary of statements from different parts of the world:

"An extension agent tries to arouse people to recognize and take an interest in their problems, to overcome these problems, to teach them to do so, to persuade them to act on his teaching, so that they ultimately achieve a sense of satisfaction and pride in their achievements.

- A change agent is a person whose primary role is to achieve a transformation of attitudes, behaviour, and social organisation.
- Change agents are multi-purpose agents serving as links between government and people.
- A change agent is a person who sets in motion a process of change after realising that certain changes are necessary for the rural society.
- A change agent is an activist whose main role is to help people form their own organisations in order to be able to tackle their problems.
- A change agent is a professional who influences the innovation/ decision making process in a direction desirable by the change agency."

The role of the extension agents is very important, complex and diverse. This creates many interpretations which Oakley and Garforth (1985:93) list down as follows:

"Teacher	Facilitator	Organizer	Arbitrator
Educator	Broker	Administrator	Advocate
Leader	Consultant	Enabler	Catalyst
Communicator	Intermediary	Activist	Friend
Motivator	Listener	provider	Stimulator"

This means that the extension agent must study the situation, analyse the problems and adopt a position which is relevant to solving those particular problems. Realising the complexity of the task of the extension worker, Nyerere (1968:8) had this to say:

"Our farmers have been on the land for a long time. The methods they use are the result of long experience in the struggle with nature; even the rules and taboos they honour have a basis in reason. It is not enough to abuse a traditional farmer as old fashioned. We must try to understand why he is doing certain things and not just assume he is stupid."

while Coombs and Ahmed (1974:124) point out that:

"Farmers reject technical recommendations that are from their overall realistic point of view, impractical and unduly risky. But when a favourable set of conditions is created they respond affirmatively."

on the role of the extension workers bringing change in a

community Spicer (1952:18) stressed this point by saying that:

"People resist change that appears to threaten basic securities; they resist proposed change they do not understand, they resist being forced to change."

I:3 Levels of Training in Agriculture

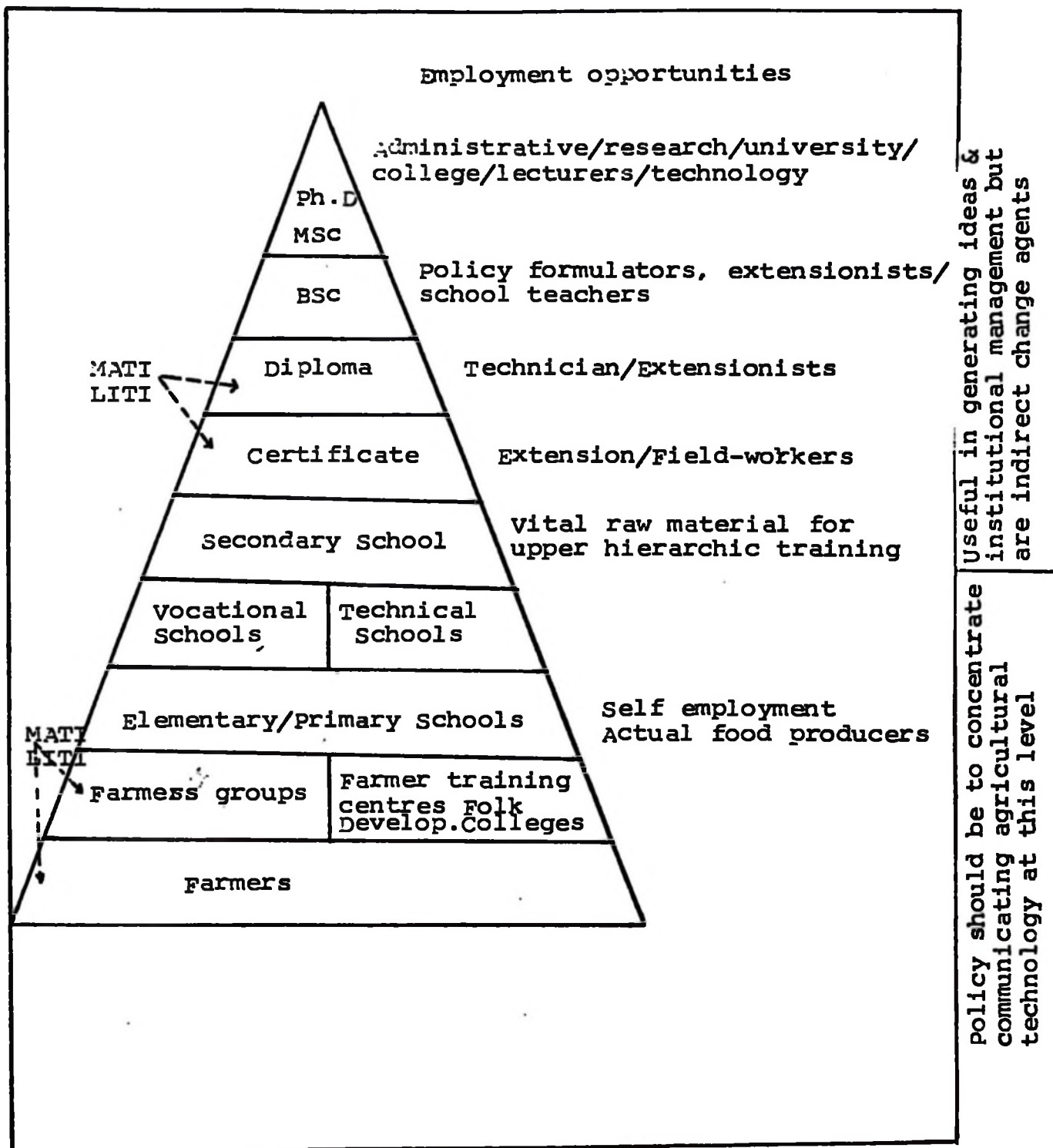
There are many levels of training in agriculture. It includes nine profiles, as shown in Figure I. MATIS and LITIS are involved in training agricultural staff at the Certificate and Diploma level, providing short courses for farmers and refresher courses for agricultural tutors and extension workers.

It has been reported by Ngirwa (1984) that Tanzania has about 8,420 Ujamaa villages and the policy of the country is to have at least one Bwana Shamba per village of 400 farm families. This is a ratio of one extension worker to 800 farmers. There were 3,868 extension workers in the villages by 1984 (Ngirwa, 1984), leaving 4652 villages without extension agents. This gap could be filled up in nine years if the 500 certificate holder output could be maintained. Similar findings were reported by Thompson (1981) when he studied the training of extension workers in Tanzania, but this national objective has not been reached, due to the training problems to be discussed in Section I:2:7.

I:4 The Training of Extension Workers

Training of extension staff in Tanzania started in 1962

FIGURE 1: Profiles of Agricultural Training



Adapted from Keya in FAO (1982:61)

at Mati-Ukiriguru & Mati-Tengeru. These agricultural training centres have been in existence since 1932. One of the major steps in building upon an effective extension service is to set up an efficient training programme.

I:4:I Selection of trainees

The trainees are selected from the students who have completed four years of secondary education. Selection is done by the Ministry of Manpower Development, in collaboration with KILIMO. The criteria of selection of the trainees is:

- (i) students' job preference as indicated on the 'kersel' forms completed at the end of the secondary training.
- (ii) Academic performance. Passes obtained in the final examination in biology, chemistry, agricultural science and geography.
- (iii) Recommendation by the Headteacher.

This selection criteria is the beginning of the weakness in the training of extension staff. Experience in MATIS has shown that many of the students selected do not meet the selection criteria and are not interested in agriculture. Adams (1982:10) observes the selection criteria in East Africa and finds out that:

"Too much emphasis on academic qualification can exclude well motivated graduates from active field work."

It is important that only people with a real desire to go

into extension should be encouraged, because the job demands strong personal commitment. Though there may be other opportunities for employment for MATI graduates, the training as reflected in the syllabus (Appendix I) is essentially for training extension workers. Therefore, selection of trainees should be selection for training of extension workers. KILIMO does not have to put more emphasis on academic qualification, but on other personal attributes which made a good extension worker. The selection procedure needs to be improved. There is need for students who apply for training courses as extension workers to be interviewed just as the Ministry of Education, Health and Defence, etc. The applicants should also be given career guidance while in the secondary schools and KILIMO needs to review its career pamphlets which were prepared about twenty years ago.

I:4:2 Content

The syllabus of the agricultural certificate course can be summarised as in Table I. This syllabus was adopted in 1981 after the review of the 1977 syllabus (Appendix I). The new syllabus was structured to accommodate a new approach called the 'objective approach'. In this approach the topics to be covered are given and the tutor is told what the student should be able to do after completing the topic. The students are expected to spend more time on practical learning as in the early morning and late evening practicals, field practicals and the Outreach Programmes (chp 4 & 5). students have to specialise on crops of major importance

in the region where they are studying.

However, there still remains a weakness in the syllabus especially on the hours allocated for extension training. Extension is only 10% of the whole course (Table I). This does not give the student enough time to understand the principles and practice of extension. Secondly, the emphasis is for students to specialise in major crops grown in the MATI locality, but they are not necessarily posted within the area after graduation (Appendix 2). This poses problems because the students may be required to advise farmers on crops they have no experience with.

By careful analysis of the job description (Appendix 3) of the extension workers in Tanzania, one can arrive at the required training needs. The FAO (1984) and Ngirwa (1984) suggest that all extension workers should have the basic skills in and an understanding of the broad topics like:

1. Technical subject matter in Agriculture, Animal/veterinary science, Fisheries, Forestry and Home Economics.
2. Extension service organisation and operation.
3. Human resource development.
4. Programme development process.
5. Pedagogical skills; teaching-learning of adults, young people, instructional design and teaching strategies.
6. Communication strategies for programme delivery and obtaining feedback information.
7. Evaluation techniques.

The present syllabus heavily emphasises on technical subject matter watts (1973). It is assumed that all the extension agent needs is to master the technical subject matter of his field, indeed technical competence alone is not enough for the role of the extension worker. The author's view is in agreement with Maarlouf (1983:8) who observed that:

"What must be kept in mind is the importance of preparing extension agents to work at the village level. Often there is too little emphasis placed upon having extension agents master the art of listening and reacting with a carefully measured problem-solving approach."

I:4:3 Methods of teaching

This is one of the biggest weaknesses in the agricultural training institutes. The majority of the tutors have no training or experience in teaching. The practice in many countries, as Higgs in FAO (1973) observes, is to appoint graduates of specialised fields to teach in agricultural training institutes. But this does not necessarily follow that those who have received technical training are immediately equipped to become competent to transfer their acquired knowledge to others. Experience in MATIS shows that most tutors give lectures and some dictate their notes to the students. Tutors use very old literature and reproduce notes given during their training. The MATI tutors

**TABLE 1: CURRICULUM SUMMARY OF THE AGRICULTURAL
CERTIFICATE COURSE**

SUBJECTS	HOURS OF INSTRUCTION			%
	Ist YEAR	2nd YEAR	TOTAL	
1. CROP HUSBANDRY	370	279	649	29.0
2. LAND USE	202	235	437	19.5
3. AGRO-MECHANIZATION	148	209	357	15.9
4. ANIMAL HUSBANDRY	101	159	260	11.6
5. FARM ECONOMICS	78	86	164	7.3
6. EXTENSION	125	97	222	9.9
7. FOOD SCIENCE & NUTRITION	82	0	82	3.7
8. POLITICAL EDUCATION	0	70	70	3.1
9. EARLY MORNING AND LATE EVENING PRACTICALS	-	-	-	-
10. FIELD PRACTICALS	-	-	-	-
TOTAL	1106	1135	2241	100

Source: Ministry of Agriculture

Key: 0 = subject not taught

- = subject taught - hours not specified

also lack rural experience where extension is carried out. In order to overcome this situation, parrot in FAO (1972) recommends compulsory training in teaching methodology after technical training for those who would be teachers. It is the argument of this dissertation that tutors need to participate in Outreach Programmes (Chapter 4 & 5) at MATIS to gain experience with rural areas. Experience in MATIS also shows that tutors are appointed or forced to join teaching by the Ministry of Agriculture. This develops dissatisfaction and poor teaching, hence lowering the quality of MATI graduates. It is important that graduates are asked to choose and decide to teach voluntarily.

I:4:4 Student activities and projects

The student projects are conducted during the morning and evening practicals and major crops practicals (Appendix 4). These practical sessions provide students with a hands-on experience. The students grow one cash and food crop on 1/8 hectare, under supervision of the subject tutor. The practical training programme in MATIS is built on a similar concept as that at the American Farm School in Greece (1986: II) which states:

"I hear - I forget
I see - I remember
I do - I understand."

Other students extra curricula activities are conducted after the evening practicals and on weekends.

I:4:5 Evaluation of training

Evaluation is an essential area in the curriculum process for the MATI programmes, for it involves all stages of the situation, objectives, content and methods.

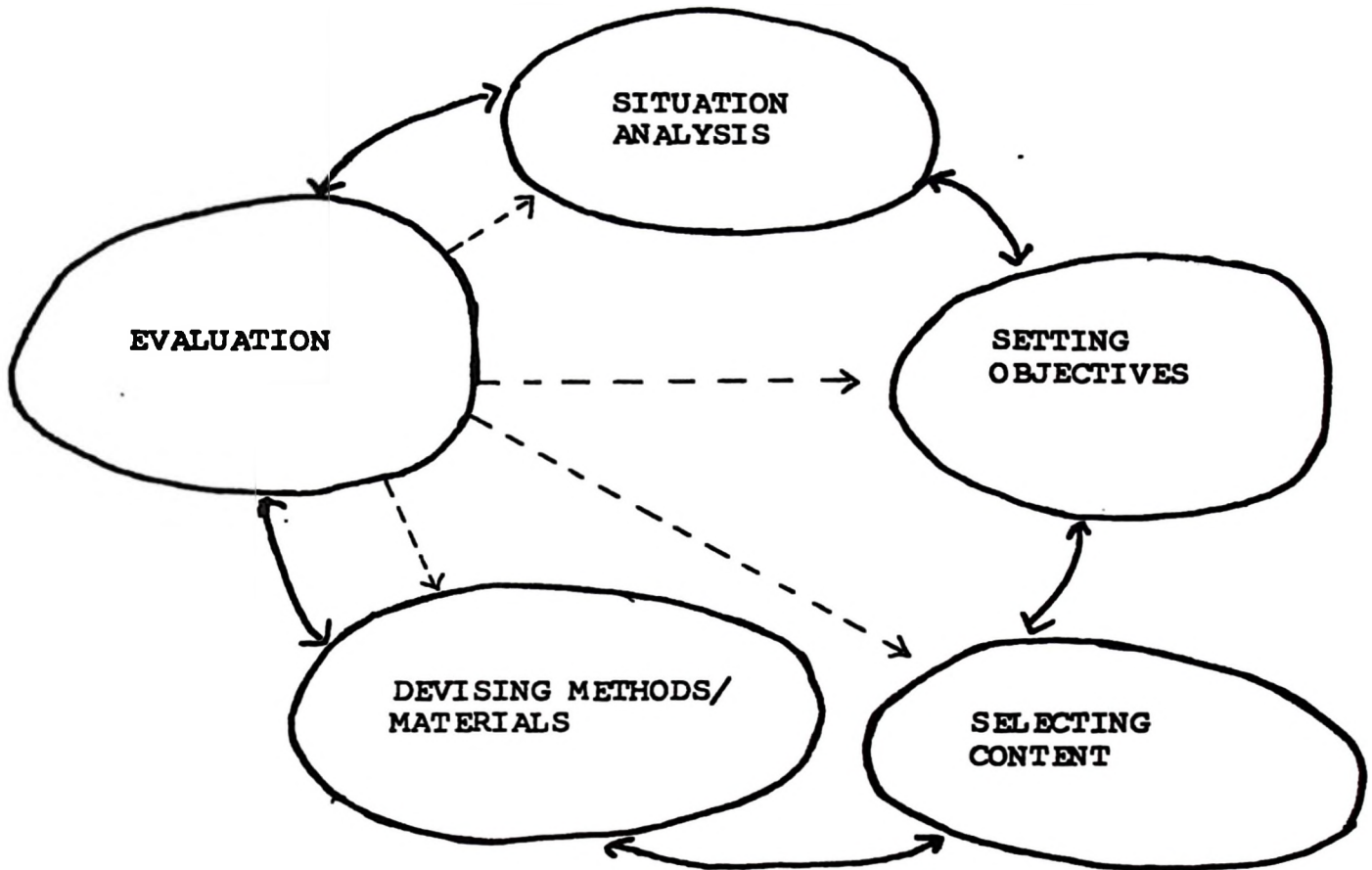


Figure 3 Curriculum Process
(adopted from Nicholls and Nicholls (1978:21))

Evaluation can be defined to be a ranking or measurement against a standard performance. It is an assessment of the work, or the measuring of the outcome of training in terms of performance of individuals. Evaluation of training also seeks to establish whether the programmes being offered by an institution, like a MATI, is providing

satisfaction of the Trainees, Trainers, Managers (Decision makers), Employers, Clients (users) and the general public. Feedback of the outcome is therefore vital for a training programme. The following section will discuss the evaluation in MATIS.

I:4:6 Evaluation in MATIS

Assessment of student performance in MATIS is continuous. The students have 2-3 scheduled theory tests every Saturday, beginning the fourth week of each term. There are two theory tests for a half paper and four tests for a full paper before the final examination at the end of each year. The practical sessions are usually assessed immediately after each skill is completed. The number of practical assessments depends on the practical skills which can be assessed. At the end of each year the students are assessed in all the subjects they attended. Experience in the MATIS shows that the training is very academic and theoretical, because even the practical assessments are usually set to require students to identify or explain some activity. The theory and practical assessments are both given equal weight of 50 marks and the hands-on experience is not properly emphasised.

An improvement in evaluation means a review in the selection of tutors, setting of objectives, selecting content, teaching methods and materials, review of the syllabi and training policy of the Ministry of Agriculture. This, when properly done, will ensure a good product from the training institutions.

I:4:7 Training problems in MATIS

"Training problems in developed countries are centred on rapid agricultural transition, while those in developing countries are centred on lack of resources and organisation."

FAO/UNESCO/ILO (I970:I34-I35)

These problems in Tanzania can be summarised as:

1. Too many training institutions: The Ministry of Agriculture and Livestock Development has fifteen MATIS and LITIS altogether, which it does not support efficiently with the required training resources. For example, MATI Ilonga lacks audio-visual aid equipment, vehicles, classrooms and housing for staff.
2. Quality of trainers: Most of the MATI trainers are graduates from MATIS and LITIS and a few from universities of Agriculture, but they lack training in teaching.
3. Selection of students: The majority of students selected for the course are usually not suitable for the job of extension worker. (see section I:4:I).
4. Curricula: Most curricula in the agricultural institutions are fixed and predetermined and the students are not given the opportunities to choose subjects which interest them.
5. Course structure and curriculum development in Tanzania is copied from the donor countries.
6. Shortage of suitable textbooks and literature : Most institutes in Tanzania use books from developed countries.

These books are usually very few and outdated.

7. Inadequate staff in MATIS: The teaching staff are few and there are a lot of staff fluctuations due to transfers and staff poaching by other organisations with attractive services.
8. Teaching methods: This is a very serious problem, as already discussed (I:2:3). Most tutors use lectures without any discussions, seminars or case studies.
9. Coordination between theory and practice: It is common in most institutions of higher learning that the theory sessions are taught by a graduate and the practicals are conducted by someone junior. The two teachers use different books and experiences making it more difficult for the learners.
10. Lack of physical facilities including classrooms, libraries, equipment and farms. Most agricultural institutions started as small farm schools and their facilities are old and not ideal to accommodate the current numbers of students.
11. Conditions of service for tutors: Because there are no attractive conditions of service in MATI, tutors are demoralised and are vulnerable to flee to other organisations.

"Conditions of service gives no advantages. The work is harder than in the field, working long hours and tutors are given no encouragement. In fact, they feel that they have lost their chance of promotion. The leave is less than the ILO recommendations. Those concerned also with practicals, work continuously from January to December, 47 weeks. Tutors

have to keep to civil service regulations, insisting that they stay on the building, even if the students are away on visits or practicals."

Harris (1968:13)

1:4:8 solutions

The author suggests the following solutions for the training problems in the MATIS:

- (i) concentrate on developing the present staff.
This can be achieved by conducting refresher courses for all field staff, to sensitise them to the present changes and demands of the nation.
- (ii) Review of curriculum for MATIS to bring it in line with the present needs.
- (iii) KILIMO should continue offering courses on teaching methods for staff in the MATIS and LITIS. The author also argues that these courses should be made a pre-requisite to those joining the training section.
- (iv) Training facilities, The present facilities should be fully utilised. For example, MATI-Mubondo should offer more courses each year.
- (v) The present policy of posting agriculture staff should be reviewed. This should allow choice by the staff being posted. The posting must be relevant to the training and interest of the staff concerned.
- (vi) selection of MATI students, Selection procedure

should be reviewed. Students should be screened and only those interested with extension work should be selected. (see section I:2:I).

(vii) Conditions of service must be reviewed. The introduction of a special job description for MATI tutors and extension workers should be seriously considered. Staff benefits like, housing, pay, leave terms, overtime, should be considered and made motivating to workers.

(viii) Introduce Outreach Programmes in MATIS

This dissertation argues that outreach programmes should be adopted by all training institutes. This will help overcome all the above problems by providing rural experience, improving teaching and bringing the institution closer to the community.

I:5 The agricultural training institutes

The list of agricultural training institutes in Tanzania is given in Table 2. The courses offered at certificate level are general agriculture, animal production and veterinary science. The courses at diploma level include specialisation in crop production, Agricultural nutrition, Home economics, Animal production, Dairy, veterinary, Agro-mechanisation, Farm management, Land use planning, Soil and water conservation and Horticulture.

The agricultural institutes are well widely distributed to most ecological zones of the country. (see Figure 4). This is very useful if the extension workers from each training institute would be posted within the regions. The current

procedure is to post graduates to any village in the country.

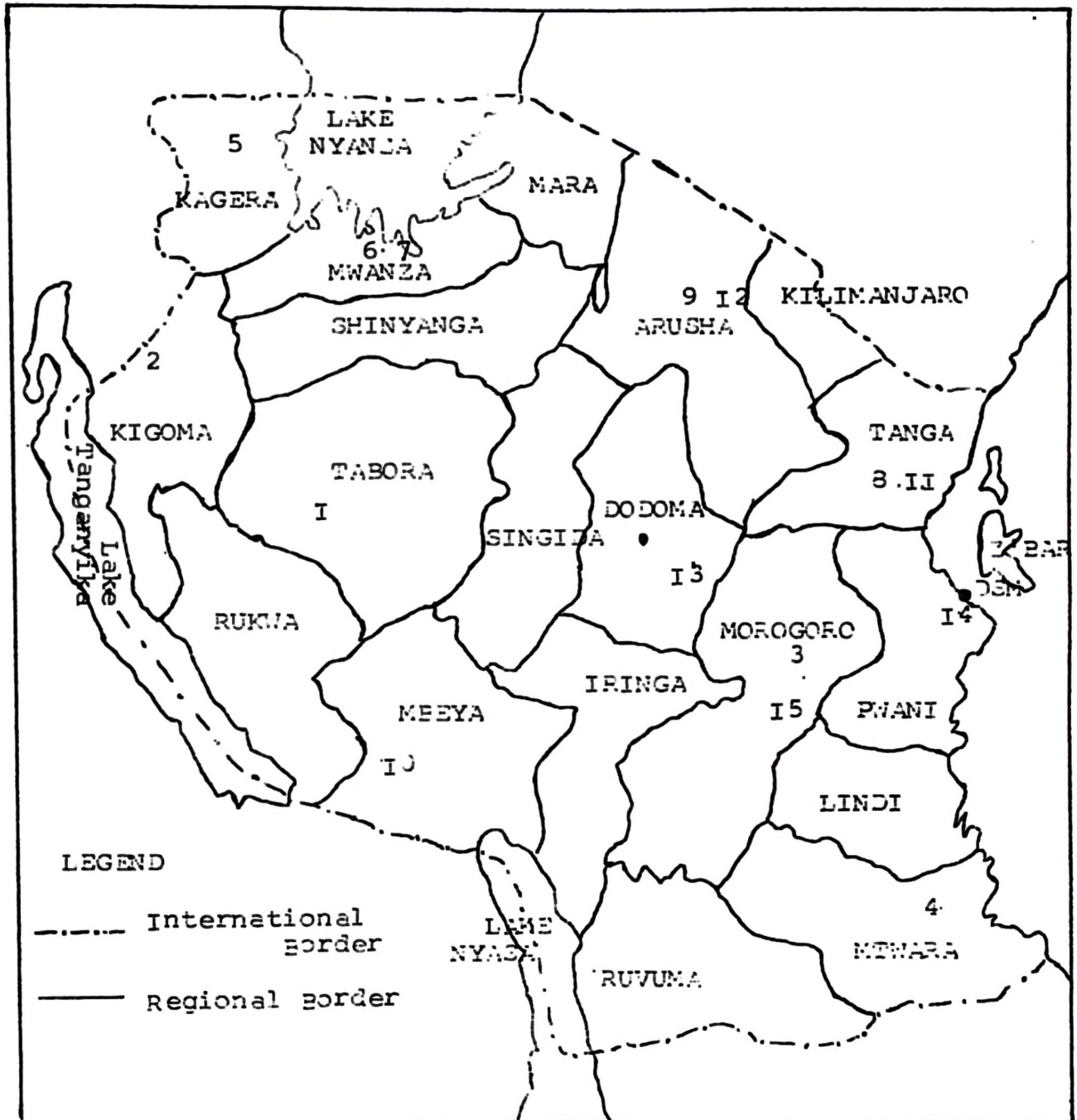
TABLE 2 TRAINING INSTITUTES IN TANZANIA

No.	INSTITUTE	LOCATION	TRAINING OFFERED
I	MATI-TUMBI	TABORA	Certificate
2	MATI-MUBONDO	KIGOMA	Certificate + short courses
3.	MATI-ILONGA	KILOSA	Certificate + diploma
4.	MATI-MTWARA	MTWARA	Certificate
5.	MATI-MARUKU	KAGERA	Certificate
6.	MATI-NYEGEZI	MWANZA	Certificate + diploma
7.	MATI-UKIRIGURU	MWANZA	Certificate + diploma
8.	MATI-MLINGANO	TANGA	Diploma
9.	HORTI-TENGERU	ARUSHA	Diploma
10.	UAC-MBEYA	MBEYA	Certificate + diploma
11.	LITI-SUHURI	TANGA	Farmers courses
12.	LITI-TENGERU	ARUSHA	Certificate + diploma
13.	LITI-MPWAPWA	MPWAPWA	Certificate
14	LITI-TEMEKE	DAR-ES-SALAAM	Certificate + diploma
15.	LITI-MOROGORO	MOROGORO	Certificate + diploma

(Source: personal)

FIGURE 4:

MAP OF TANZANIA SHOWING MATIS AND LITIS DISTRIBUTION



- | | | |
|-----------------|-------------------|-------------------|
| 1. MATI Tumbi | 6. MATI Nyegesi | 11. LITI Euhari |
| 2. MATI Mubondo | 7. MATI Ukiriguru | 12. LITI Tengeru |
| 3. MATI Ilonga | 8. MATI Mlingano | 13. LITI Mwapwa |
| 4. MATI Mtwara | 9. HORTI Tengeru | 14. LITI Temeke |
| 5. MATI Maruku | 10. UAC Mbeya | 15. LITI Morogoro |

Summary of Chapter One - "The training of the extension workers in Tanzania"

This chapter has discussed the way the training of extension workers is done in Tanzania. It has revealed that there are many institutes involved in the training of extension workers, but the number of the extension workers is still very small in relation to their ratio with farmers. The author also pointed out the major weaknesses in the training programme and suggested some solutions to the problems in the MATIS is the introduction of the Outreach Programmes, which is the emphasis of this dissertation. The graduates from the MATIS involved in carrying out Outreach Programmes will be more prepared to work with the extension service, which is discussed in the following chapter.

CHAPTER TWOTHE ROLE OF THE EXTENSION SERVICE IN TANZANIA

The term extension is open to a wide variety of interpretations. It may be considered to be (Oakley and Garforth; 1985) an informal educational process directed towards the rural population. This process offers advice and information to help farmers solve their problems. Extension also aims to increase the efficiency of the family farm, increase production and generally increase the standard of living of the farm family. The MOA (1982) defines extension as a system by which proven methods of agriculture are put across to the farmers, in order to improve farming methods and techniques, thereby increasing production efficiency for the betterment of the social and living standards of rural life. This is to be carried out by trained extension workers who must live and work with farmers.

The author argues that the above statements stress that extension is a process which occurs over a period of time. Also that it is an educational process which works with rural people, supports them and prepares them to confront their problems more successfully.

The extension service in Tanzania has developed through two main phases, that is, the extension service during the colonial period and that after independence.

2:1 The Extension Service during the colonial period

The colonial period consisted of the German rule from 1880 to 1920 and later the British rule from 1920 to 1961, when Tanganyika (now Tanzania) got her independence. During

this period the main focus of the colonial administration was on exports and stability. Discussing the extension service in Tanzania, De Vries (1977:4) pointed out that:

"The British pursued a conscious policy of encouraging the exports of primary agricultural products, namely cotton, sisal and coffee, to feed her machinery and to pay for the administration of Tanganyika. The aim was to extract the maximum from the territory with minimum efforts."

The colonialists trained peasants by using colonial-employed extension agents and primary-school teachers, whose task was to ensure that the farmers followed prescribed methods of agriculture. They accomplished this by going to the villages looking for defaulters, who would then be sent to court and fined or imprisoned for not implementing the set agricultural practices. The emphasis was on control, rather than persuasion, using the focal point approach. This method was not successful; as a result the progressive farmer approach was introduced. The extension worker thus focussed extension resources on farmers who were rich, modern and who could readily follow extension advice.

2:2 The Extension Service after independence

The British rulers handed over the extension activities to the Tanzanian (then Tanganyika) government in 1962 and the extension Division was then Africanised. The Extension Service was formed as a government service, through the Ministry of

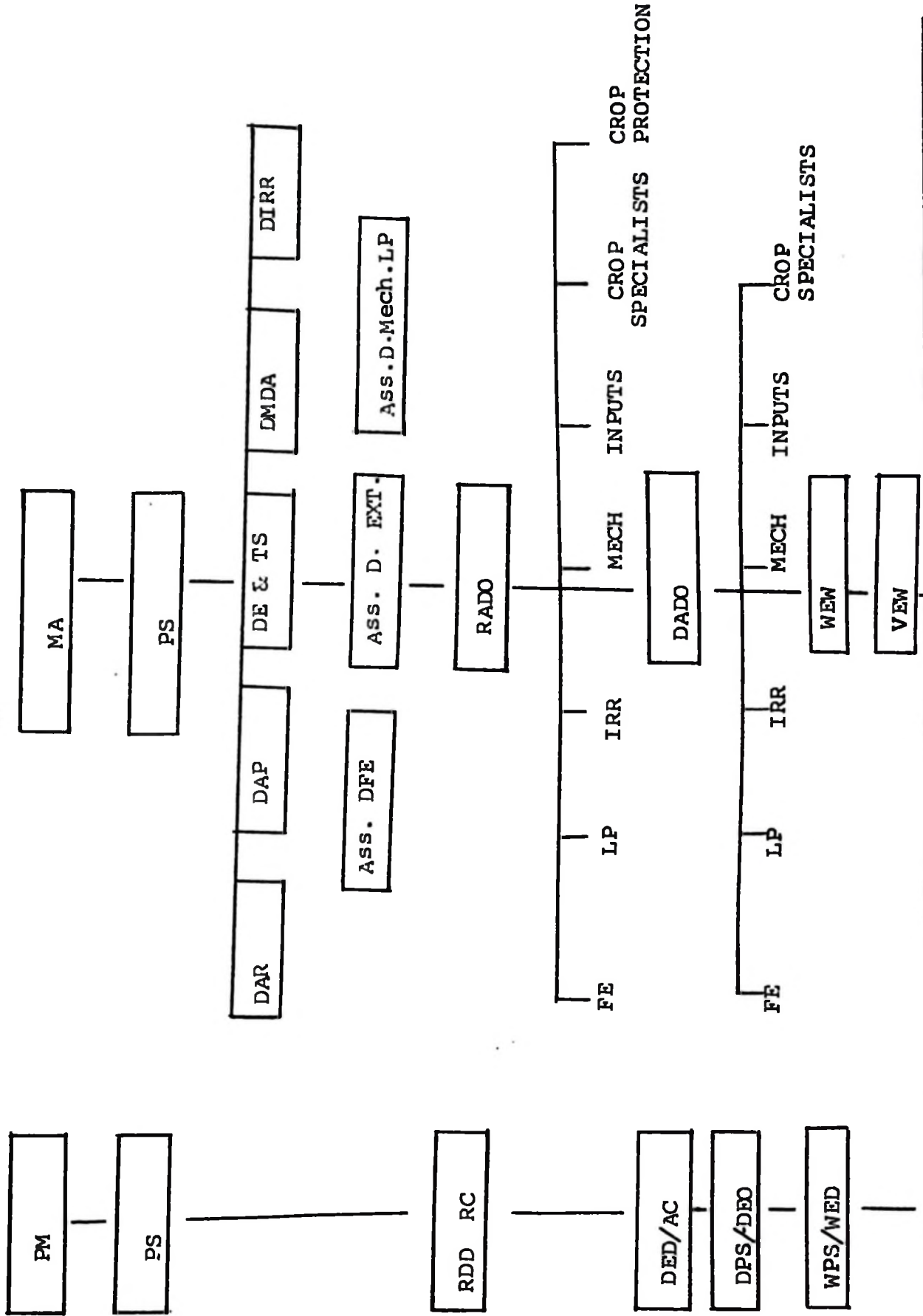
Agriculture in the country. Since then there has been a role-conflict and mixed responsibility between the Prime Minister's office and the Ministry of Agriculture for who is to be in charge of the extension workers. The Ministry of Agriculture could not address the farmers and extension staff in the field directly, except through the Prime Minister's office. This system reduced the linkage of the Ministry of Agriculture with its frontline staff. This situation has been minimised today by the reorganisation of the Ministry of Agriculture structure in 1985 (see Appendix 5) and the adoption of the Tanzania National Agricultural Policy. Today all the extension workers are directly under KILIMO (Figure a). Under the 1982 Tanzania National Agricultural Policy the MOA (1982:vii) has set to achieve the following major objectives:

- "(i) To develop an egalitarian agricultural community based on the policy of socialism and self-reliance.
- (ii) To achieve self-sufficiency in food and raise the nutritional standards of the populace.
- (iii) To raise the standard of living of the people, and
- (iv) To raise the proportion of monetary agriculture."

This centralisation of the Extension Service is hoped to overcome the national wide criticism that it is ineffective when it fulfils the objectives.

2:3 The Role of the Extension Service in Tanzania

The Extension Service in Tanzania is a government



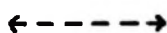
Village Chairman.VDC, Groups, Individual Farmers, Village Production Sub Committee, Institutions

KEY

PM	PRIME MINISTER
PS	PRINCIPAL SECRETARY
RDD	REGIONAL DEVELOPMENT DIRECTOR
RD	REGIONAL COMMISSIONER
DED	DISTRICT EXECUTIVE DIRECTOR
AC	AREA COMMISSIONER
DPS/DEO	DIVISIONAL PARTY SECRETARY/or DIVISIONAL EXECUTIVE OFFICER
WPS/WED	WARD PARTY SECRETARY OF WARD EXECUTIVE OFFICER
MA	MINISTRY OF AGRICULTURE
DAR	DIRECTOR OF AGRICULTURAL RESEARCH
DAP	DIRECTOR OF AGRICULTURAL PLANNING
DE & TS	DIRECTOR OF EXTENSION AND TECHNICAL SERVICES
DMDA	DIRECTOR OF MANPOWER DEVELOPMENT & ADMINISTRATION
DIRR	DIRECTOR OF IRRIGATION
Ass. DFE	ASSISTANT DIRECTOR OF FARMERS EDUCATION
Ass. D. Mech & LP	ASSISTANT DIRECTOR OF MECHANISATION & LAND PLANNING
RADO	REGIONAL AGRICULTURAL DEVELOPMENT OFFICER
DADO	DISTRICT AGRICULTURAL DEVELOPMENT OFFICER
WEW	WARD EXTENSION WORKER
VEW	VILLAGE EXTENSION WORKER



Administrative and/or technical flow of
information and feedback



Liason and advisory

service under the Ministry of Agriculture and Livestock Development. For this service to be effective it has to act as a connecting link between the research service which is as well a government institution under the Ministry of Agriculture and Livestock Development and the farming community.

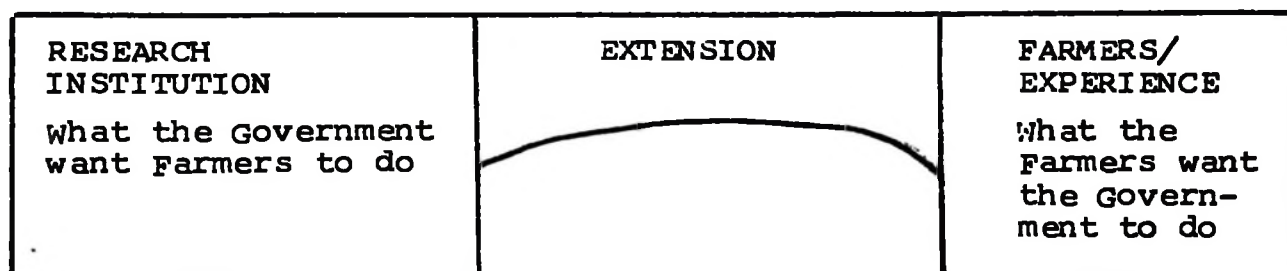


Figure 5 Extension bridges the gap between Research and Farmer's experience
(Adapted from Savile, A.H. pg. 4)

From the above relationship, the author sees that the extension service has to perform a number of duties, including:

- (i) To disseminate the proven methods of agriculture (transfer of knowledge and skills) from the research institutions to the farmers and assisting them to use this knowledge effectively.
- (ii) Improvement of farming methods and techniques through training and education.
- (iii) To increase production efficiency of farmers so they can have enough food for their families and produce surplus for marketing.
- (iv) conscientization of the rural people to take the initiative in solving their problems and hence

advising farmers on the formation of farmers organisations.

(v) Providing for motivation and self confidence of farmers. This removes isolationism among farmers and develops in them a feeling of being able to change their lives.

The author strongly suggests that the extension service in Tanzania can achieve these roles by directing its resources and technicians to the Ujamaa village, as defined by Gulegi (1975:8) and according to the Ujamaa Village Act of 1975, is:

"The smallest political and administrative unit and also the smallest economic unit as a multi-purpose cooperative enterprise."

A village is a place where a group of 250-400 farming families live and work together in communal farms for their common benefit. This means that the extension workers must direct their efforts in bringing change to a group or groups of farmers.

2:4 Problems of the Extension Service in Tanzania

The Extension Service in Tanzania has been going through the changes in its organisation from being under the colonialists, to the time when it was under the Tanzania Government (Ministry of Agriculture) and later being monitored by the Prime Minister's Office, Ministry of

Agriculture and the Party (TANU and CCM). In 1980 the Ministry of Agriculture complained about the ineffectiveness of this system and wanted to control more systematically the activities of the extension worker. As regards the extension problems in the developing countries, which Tanzania is no exception, Kweka (1984), Coombs and Ahmed (1974), Adams (1982), Masigara (1982) and the FAO (1980), all give similar problems related to the extension services. Analysing the extension, research and farmer relationship in Tanzania, the MOA (1980:vi-8) observed that:

"For the vast majority of areas in the country, there does not presently exist an adequate body of technically reliable and economically viable recommendations to communicate to most smallscale farmers. The present recommendations, even where scientifically accurate, are not within the managerial, cash and labour availability constraints facing most smallscale farmers."

Also, Lele (1975:73-74) when reviewing the use of village production committees by extension workers in Tanzania noted that:

"because of low-level training... of field agents and the deficiency in research support, the innovations have often been of dubious quality and relevance."

The central focus of the Tanzanian development strategy

is the priority given to rural areas and agricultural development. The reasoning for this strategy as explained by President Nyerere in "Socialism and Rural Development" Nyerere (1968) is that the resources which Tanzania has available are Land, Leadership, Ideology and People. Permanent development means using those resources which are available, which in turn means putting the emphasis on rural development.

The strongest criticism given to the extension service in Tanzania was given by President Nyerere, as quoted in De Vries (1977:12) when Mwalimu Nyerere said:

"Even if all the extension staff were dismissed, farmers would do nothing different."

The FAO (1984) reported a study by Swanson and Sigman, which identified nine major problems of extension in developing countries. The author sees the problems discussed in the study to be the same as those identified by the MOA (1982:46) which include:

(i) Absence of an effective policy
(ii) Misallocation of manpower
(iii) Inadequate training and retraining of extension personnel
(iv) Lack of transport facilities for extension personnel
(v) Lack of technical packages suitable to different ecological zones to deliver to farmers
(vi) Lack of extension aids
(vii) Total demoralisation of extension staff
(viii) Lack of farmers education
(ix) Absence of effective research - extension linkage."

In order for the extension service to be effective, viable technical and economic recommendations must exist to communicate to farmers. The author also observes that extension workers are not to blame for not having communicated well and convinced farmers to adopt so-called modern innovations. This view is also held by De Vries (1977:12) when he pointed out that:

"The extension service in Tanzania has many problems, but it may not deserve all the criticism it has received. Changes encouraged by extension are not only complex, hard to measure and long-term nature, but also depend on a wide range of other factors not under the control of the extension system."

One of the concluding remarks of the study by Swanson and Sigman reported in the FAO(1934:23I) states that:

"A full two-thirds of the developing world's population and the majority of the poorest people still gain their livelihood through agriculture. Meeting basic human needs and accelerating rural development are high priorities. Agricultural extension organisations have the potential to address these priorities. However, to do so some of the more serious problems that are constraining agricultural extension's ability to facilitate effective agricultural development will need to be solved."

In order to make the Agricultural Extension Service in

Tanzania effective, the MOA (1982) outlined a number of proposals to help solve the extension problems which the author summarises as follows:

1. The extension service should be reorganised in order to have competent, well trained and equipped personnel so as to raise their confidence and efficiency.
2. Refresher courses should be organised for the existing field staff, in order to bring them up-to-date on matters pertaining to agricultural production. FTC's and MATIS could be used for this purpose.
3. Obviously incompetent personnel should be relieved of their duties.
4. An extension kit should be provided.
5. Transport should be made available to extension personnel, to make them mobile. If possible, the government should provide loans for motor cycles and bicycles to extension staff.
6. Coordination and supervision should be strengthened at all levels.
7. There should be maintained a vertical integrated line of authority at all levels.
8. Field staff should meet regularly, VEWS, DADOS, RADOS and KILIMO headquarters should receive the reports monthly.
9. Apart from the supervision line, RADOS, DADOS and other extension staff will be required to prepare development plans, and strategies and offer assistance

to farmers and village leaders in interpreting such plans and strategies.

It is the view of the author that some positive steps have already begun taking place. The Ministry of Agriculture has been restructured, some MATIS have started organising refresher courses, training of extension workers at MATIS and LITIS is being improved by training more tutors and by the introduction of outreach programmes for each MATI and LITI. These outreach programmes are discussed in detail in the next chapter.

CHAPTER THREETHE OUTREACH PROGRAMMES IN THE MATIS IN TANZANIA3:1 The Meaning of outreach programmes

The concept of outreach has been in use for many years all over the world. It has been used in American universities as an extension approach, and other countries use it as a training tool. This training aspect is the concern of most agricultural institutions.

Outreach has been defined (Omolo:1983) as the reciprocal exchange of experiences and information between an institution and members of the rural community at all levels down to the small farmer. It is a learning exercise for both the institution and the community. This concept has been widely used in Tanzania to represent village extension activities (Pickett:1982) in which extension programmes are developed, implemented and evaluated by students and tutors, in conjunction with farmers and agricultural experts as part of academic training. This learning exercise is usually designed for second-year certificate and diploma students for most of the final year.

Outreach has been used by many countries under a variety of terms. The following is a summary of some of the terms obtained through discussions with AERDC staff and students, who represent a wide range of countries in Africa, Asia, Europe and America:

Experimental learning	Farmer training
Experience-based learning	Practical programme
Field practical	Field experience

Weekly outreach	village extension activities
Supervised experience	village-level training programme
Student placement	village demonstration
Internship programme	village block farm practicals
Community surveys	village practicals

Outreach in all the above cases is based on a problem-solving approach, which is learning in which the learner is directly in touch with the realities being studied.

Bawden in FAO (1932) outlines four major steps involved in the problem-solving approach:

- "(i) The learner is exposed to a concrete experience - a problem or a practical situation.
- (ii) The learner is encouraged to analyse and reflect about this situation.
- (iii) Specific instances may now be seen to relate to more general concepts and theories.
- (iv) Finally, the concept and theories are reapplied in the practical context and tested out via further concrete experiences."

3:2 History of outreach programmes

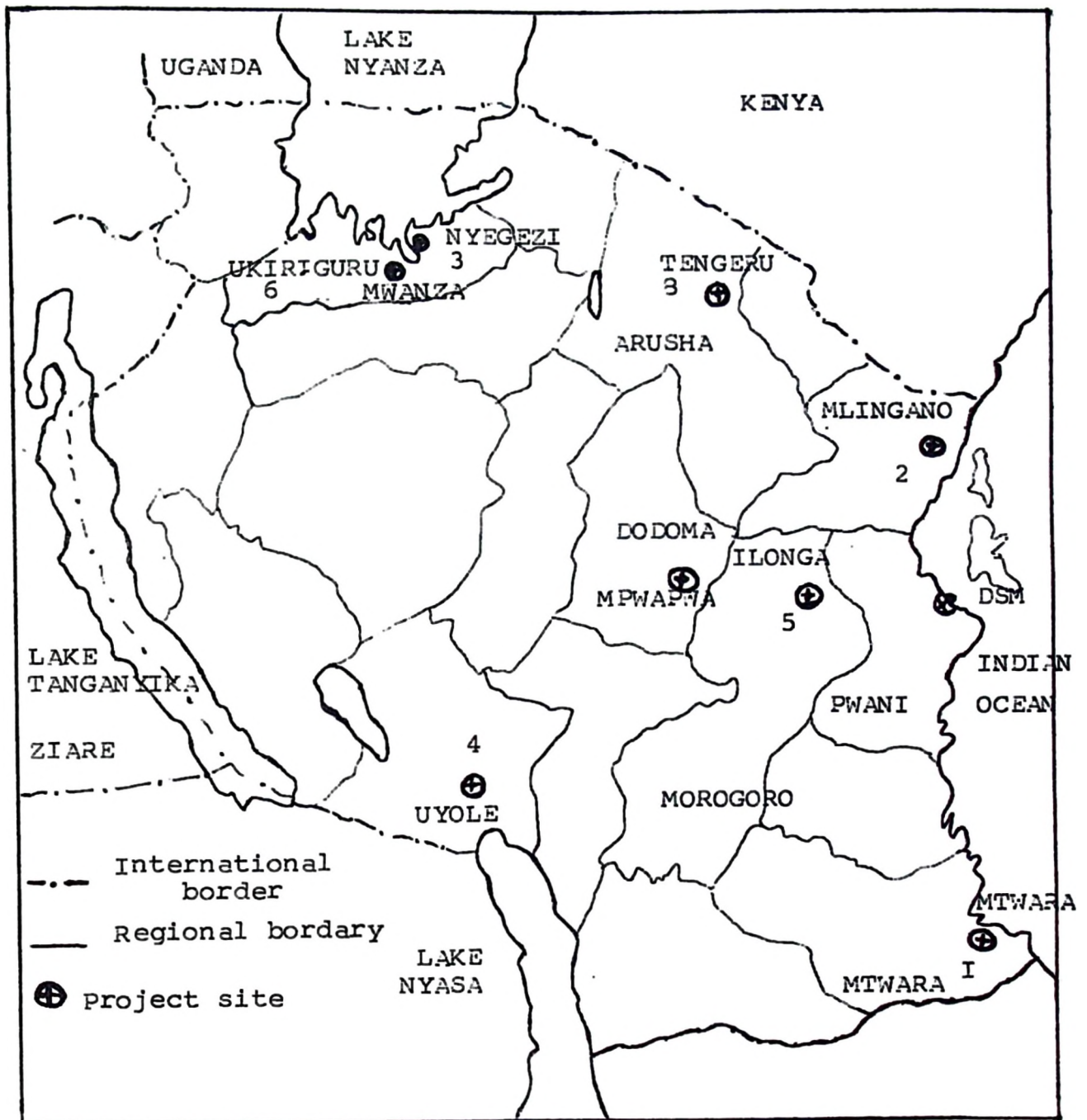
Outreach programmes in MATIS of Tanzania have been in use since the establishment of the agricultural research stations and training institutes. Acker (1932), reviewing agricultural training in Tanzania, observed that there has been rapid growth in farmer training during the last thirty years. While Watts (1970) reports of outreach activities at

MATI UKiriguru where students adopted local farmers and paid weekly visits to them to tend demonstration plots on their farmers. Kibwana (1979) and Masigara (1981) report of village practicals in MATIS in Tanzania, while Butler (1969) advocated the need for training at the village level in western Nigeria and a project of the University of Ibadan to adopt a village for research and training purposes has been reported by Patel (1971). Other outreach programmes for Afghanistan and west Pakistan have been reported by Pickett (1969) in the USAID programmes. Experimental learning in agriculture, Bawden in FAO (1982) is reported to include a farmer education programme at Hawkesbury Agriculture College in Australia in 1978. Also at Bukalasa and Arapai College in Uganda Anon (1974) reports of community surveys and outreach programmes. Nsekero (1974) discusses health outreach programmes at Buhare in Tanzania, which were being practised in 1970 and Stanfield (1972) reports outreach work at the Luteete Family Health Centre in Uganda. More recently, outreach programmes for Bukura and Embu in Kenya, Nyegezi and Ukiriguru in Tanzania, and Bukalasa in Uganda are reported by watts (1973), wallace (1975) and omolo (1982). Other outreach programmes for health workers at the village level have been reported by werner et al (1982) and Morley et al (1983). In the outreach programmes at the agricultural institutions all the authors agree on the objectives and purposes for the programmes, but differ in the approaches, as in the case study (chapter 4).

The author observes that outreach activities in the MATIS

have been in existence for a long period, but were less active until after the initiation of the Farmer Training Project in 1980. After the Farmer Training Project, financed by USAID, was started, farmer training wings were established in four pilot project sites, namely MATI Mlingano, Uyole, Mtwara and Nyegezi (see Figure 6). The wings were a part of the MATI, but their main emphasis was on farmer training activities and outreach programmes. The tutors involved had to be allocated a light teaching load to devote more time on the project. After two years of operation, the Farmer Training project was evaluated. There was a comparison of training effectiveness and relevance at MATIS under the Farmer Training project with those not under the project. Several recommendations in favour of the farmer training sites were made and this led the Ministry of Agriculture in 1982 to open Farmer Training Units at two more MATIS, which were MATI Ilonga and Ukiriguru. Also MIFUGO announced in 1982 that it would open farmer training units modelled after the farmer training wings at all its livestock training institutes. By 1984, two LITIS, namely LITI Mpwapwa and Tengeru, had already established operational farmer training units. In August 1984 the Ministry of Agriculture and Livestock Development announced its plans to expand the farmer training wing programme to all the LITIS and MATIS. Today all agriculture institutes, except LITI Temeke and MATI Mubondo, are reported to be carrying out outreach programmes modelled after the farmer training wings. (see Table 2 + Figure 4).

FIGURE 6: MAP OF TANZANIA SHOWING THE PILOT FARMER TRAINING WINGS SITES



- 1. MATI MTWARA
- 2. MATI MLINGANO
- 3. MATI NYEGEZI
- 4. UAC - MBEYA
- 5. MATI ILONGA
- 6. MATI UKIRIGURU

- 7. LITI MPWAPWA
- 3. LITI TENGERU

3:3 The Objectives of the Outreach Programmes

The author argues that the outreach programmes in the MATIS and LITIS aim to achieve the following objectives:

- (i) To provide practical training for the students in order to orient them towards their future vocation as "Bwana shambas".
- (ii) To instil in students a positive attitude towards rural life and towards working with farmers in the villages.
- (iii) It provides an opportunity for tutors to gain in depth understandings of farmers' situations, their goals and their decision-making processes.
- (iv) It provides practical experiences for the tutors which can be used in teaching and in planning village exercises.
- (v) To help farmers in the vicinity of the institute to improve their farming skills.
- (vi) To create awareness among the rural community of the institutes existence and its availability to rural development in the area.
- (vii) The training institutions provide a link between the research stations and the farmers in the villages.
- (viii) Integrate the research, extension and training programmes in the community.

During the mid-term evaluation of the project, the evaluation team amended the purpose of the project. Acker (1984:II) and it was summarised as follows:

"To design, test, evaluate practical approaches for developing mutual understanding and communication between and among village, extension, training and research organisations which will lead to the solution of constraints in improving small farmer agricultural production and the welfare of rural families and more effective MATI system training programmes."

In the light of the objectives of the outreach programme, one would raise the question of time allocation in the syllabus and timetable (see Appendix I & 4). Generally village outreach is not a topic to be taught, but rather a place and approach to conducting the subject practicals already found in the syllabus. For example, cotton demonstrations placed on the village farm, using student assistance, will take a share of time from the major crops and extension topics because it can teach both how to grow cotton and how to conduct a result demonstration. The task of the tutor is to choose among the practical skills in his subject which can be conducted in the village. Farmer training wing leader's duty is to prepare the village situation for this session using the time available in the syllabus and timetables.

3.4 The Organisation of the Outreach Programmes

The organisation structure of outreach programmes is divided into two main levels as indicated in Table 2. At the Ministry Headquarters there is a Farmer Training Project coordinator who administers and supervises all the farmer

training activities for all MATIS. He reports to the Chief Training Officer, who is responsible for training programmes in the Agricultural Institutes. The Chief Training Officer works under the Director of the Division of Manpower Development, who is under the principal secretary. This hierarchy will change after the 1983 Ministry of Agriculture and Livestock development structure starts to function.

At the institute level, the principal is the supervisor of all the programmes. The organisation structure at MATIS and LITIS varies from each institution. Generally the farmer training wing appears as part of the Extension and Rural Development. It is this section which steers the outreach programmes at the institute (Figure 3).

3:4:1 Operation of Outreach Programmes

Fig. 3 Outreach Programme Implementation Phases

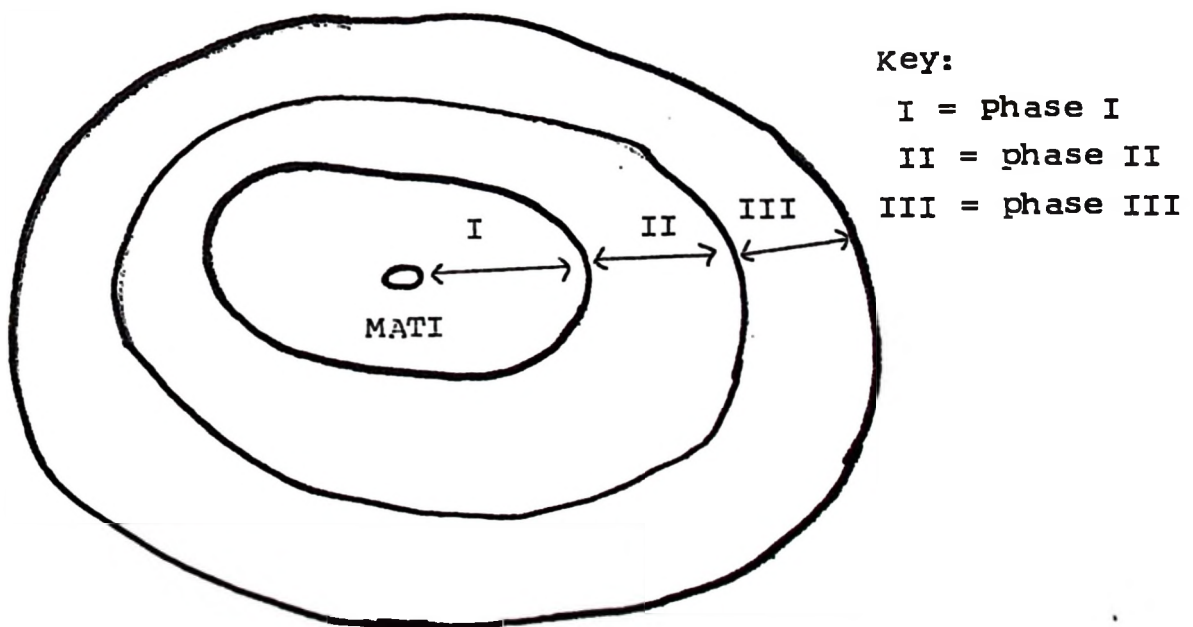
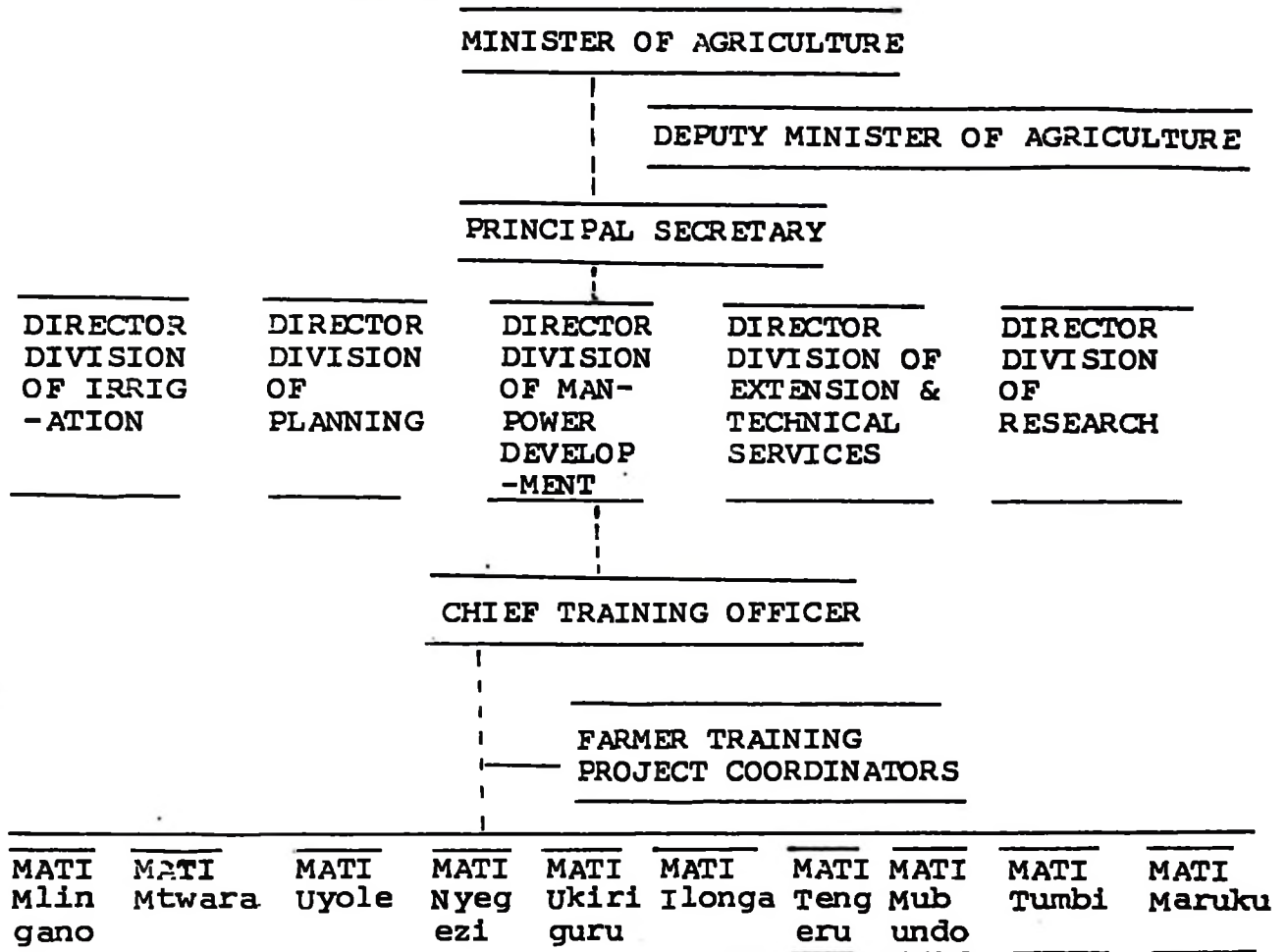
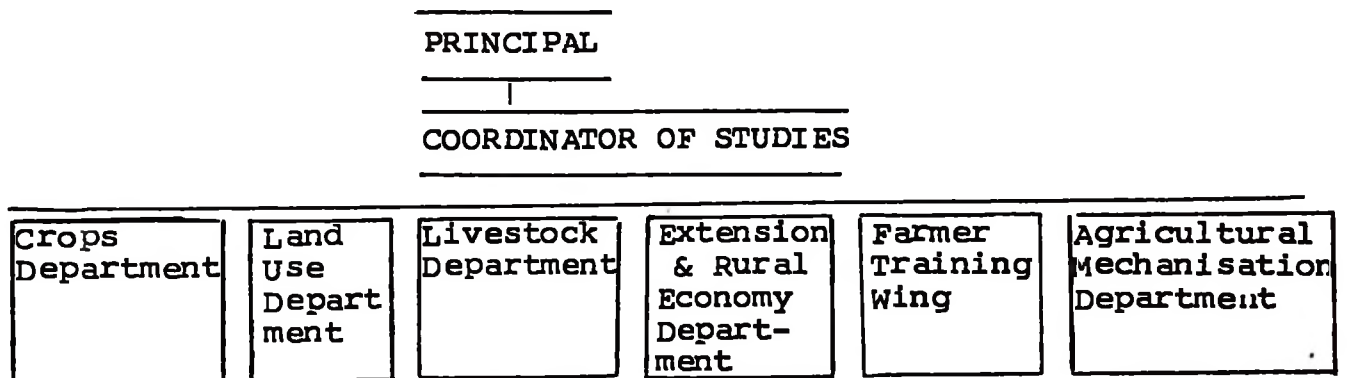


TABLE 3: RELATIONSHIP OF PROJECT TO MINISTRY ORGANISATIONAL CONFIGURATION



RELATIONSHIP OF PROJECT TO MATI ORGANISATIONAL CONFIGURATION



The MATI should extend its outreach activities in phases. It is advantageous to start with the nearest village surrounding the institute. The distance may extend from one to five kilometres radius from the institute. From the experience of the pilot FTWs it is advisable to divide the students into small groups of two, four, or six to work with a group of 6 - 10 farmers during each visit. The outreach activities are later extended to other villages when the major objectives for one phase have been reached.

3:5 The Farmer Training Process

Using the experience in MATIS the author would like to argue that a successful farmer training process carried out under the outreach programme would consist of the following steps:

1. Establish an advisory committee composed of farmers, extension workers, agricultural researchers, trainers, party officials and others involved in development work in the area.
2. Gain a thorough understanding of the farmers. An understanding of farmers' (men and women farmers) situation, constraints, practices, aspirations and decision-making processes. This can be developed through literature review, visits with other development workers and farmers, meetings with farmers, village leader and advisory committees, surveys and on-farm observations.
3. Analyse data, plan programmes and assemble task forces. The wing needs to analyse the information collected, select a few extension programmes, gather small task forces

and develop extension and training plan for each constraint selected.

4. Incept training and outreach projects, following these principles:

- a. Direct each event at the reduction of a specific constraint to production.
- b. Wing staff should serve as coordinator and catalysts who coordinate or link the effects of researchers, extension workers, trainers, party members and village leaders, etc.
- c. Use a dialogical approach in all communication with farmers.
- d. Emphasise education for self sufficiency and developing the whole person.
- e. Make repeated follow-ups.
- f. Use a training and visit approach involving students and contact farmers.
- g. Emphasise the well-known community development projects and village plans.
- h. Integrate the training of farmers with village outreach.
- i. Improve linkages with research and other parties involved in the community.

5. Evaluate and correct programmes and approaches

Constantly monitor, document, evaluate and correct approaches and outreach programmes.

3:6 Farmer Training Methods

There are a number of training strategies used by each training institute. The most widely practiced methods include:

- Weekly outreach practicals
- Eight week field practicals
- Residential farmer training
- Non-residential farmer training
- Farmer training wing demonstration
- Inservice training

3:6:I Weekly Outreach Practicals

These are weekly village extension activities in which extension programmes are developed, implemented and evaluated by students and tutors in conjunction with farmers and agricultural experts as part of academic training of an institution. These practicals are usually carried out throughout the year when it is most relevant to the farmers and farming cycle. Weekly outreach practicals should be regularly scheduled in the villages near the agricultural institutes. It is the responsibility of the principal, coordinator of studies (see Table 3) and wing leader to provide overall leadership. The planning and follow through of a particular programme falls to the topic tutor with wing staff assistance. In these practicals the students and tutors get village practical experience twice or more per week and commute back to the institute after the village activities. The topics to be covered depend on the tutors, villagers and students commitment in the training and vary from each locality.

3:6:2 8-week Field Practicals

(a) This is an exercise organised by the MATI/LITI Extension Department, involving tutors, students village leaders and district and regional agricultural officers. The students are placed in villages in the districts near the institute. Each student will live in a village with farmers for a period of eight weeks. These field practicals are usually arranged to coincide with the beginning of the cropping season. The students stay in the villages under the supervision of the village chairman and village extension worker. Tutors from the institute make follow-ups to all the students in each village to give assistance to the student and also assess their performance. The assessment follow-up trip should be conducted at least two weeks after the students have lived in the village. A standard field practical assessment has been developed which each institute has adopted. The student will be assessed on their written report, employability assessment by the village chairman and tutor assessment during follow-up. (see Appendix 6).

The field practicals aim to fulfil the following purposes
Acker (1984:5):

- "(i)The students to become familiar with the role of the extension worker at the village level.
- (ii)To gain greater insight into the human side of agricultural development by participating in every aspect of village life.
- (iii)To apply practical skills and theoretical knowledge to everyday village situations.

(iv) To share ideas, to advise farmers and to introduce improved technological practices learned at the institute.

(v) To gain exposure to social, political and economic realities in his/her future work.

(vi) To have an opportunity to practice professional career behaviour.

(vii) To gain a thorough understanding of the farmers through systematic data collection and participant observation.

(viii) To return to the institute with data and experience which will serve as reference material for both students and tutors."

(b) Field Practical Preparation

(i) Student preparation: the students must be adequately prepared through discussion of village life situations, introducing, reviewing and practising administering questionnaires to be used. The communication skills and observation skills must be reviewed with students and they should know what is expected of them.

(ii) The villagers and extension officers, the village leaders DADO and RADO should be contacted well in advance. Potential villages for student placement should be selected with the assistance of the DADO and should be visited before selection. After selecting the villages obtain confirmation from village leaders. The District Agricultural officers should also be asked to notify all the selected villages informing villagers of the number of students and the length of period they will stay in the villages.

(iii) Logistics: written material for students should be prepared before they leave the institute. The transport, funds and supervision by tutors must be arranged in advance for smooth running of the field practicals. Then launch the practicals.

3:6:3 Residential short courses for farmers

In order to emphasise and meet farmers training needs raised during the weekly outreach and field practicals, the institute should conduct residential courses for farmers. These can be half a day, one day to seven days long at the MATI or LITI or Farmer Training Centre. These courses are designed to meet specific needs of farmers in small groups. Students, farmers and tutors can exchange ideas during discussions when these seminars are being conducted.

3:6:4 Non-Residential courses for farmers

Farmers can receive training at the village, village communal farms and during village meetings. The outreach team can organise training sessions during the village visits and follow-up visits. By these courses a larger number of farmers is reached and often addresses common problems to the villagers. The need for this training can be initiated either by farmers, extension staff or the MATI-outreach team.

3:6:5 Farmer Training wing Demonstrations

One of the most successful training methods in the farmer training wings is the establishment of village crop demonstrations. Some institutes had demonstrations at the institute campus and village farms. In all the pilot project

sites very positive results are reported on the demonstration plots in the vallages. These results include high yields in crops grown and increase in farmers acceptance in new practices (see Chapter Four). These demonstration plots (see Table 4) give farmers an opportunity to see the new practices being tried on their land, thus they are able to participate, modify and get the experience and later accept the innovation (see Chapter 4).

3:6:5 In-service Training Courses

Some of the institutes conducted inservice training courses for field extension staff. This training need was realised during the implementation of the outreach programmes. The training courses focused on extension staff to learn new methods, refresh their memory on extension methods and upgrade their capabilities in extension work. The inservice courses were usually organised in conjunction with the district and regional extension personnel and the MATI provided the facilities. These courses usually lasted for one or two weeks.

3:7 Evaluation of Outreach Programmes

All outreach activities must be assessed to determine their effectiveness and contribution to teaching and helping the community accept new innovations. Where outreach is regularly scheduled and where a number of topics are inter-mixed, it is easier to combine the weekly outreach assessment scores with those for 3-week outreach. A full paper weight (see Appendix I) is already provided for outreach. A full

TABLE 4: FARMER TRAINING WING DEMONSTRATIONS

<u>MATI</u>	<u>TYPE OF DEMONSTRATION</u>
Milingano	Coconuts Pit Grain Storage Raised Grain Storage Maize Drying Crib Citrus Bananas Rabbits
Mtwara	Groundnuts Sorghum Cassava Bambara nuts Cow peas Green Grams Maize Sesame Raised Grain Storage Rabbits
Nyegezi	Cotton Sorghum Cassava Vegetable Gardening Tree Planting Nutrition
Uyole	Potatoes Vegetables 5 Shovel Cultivator Maize Nutrition Dairy production
Ukiriguru	Cassava Cotton Sorghum Vegetable Gardening Tree planting Farmyard Manure
Ilonga	Weed Control in Maize Time of planting in maize Paddy

paper has the content of about 115 hours (theories and practicals together) of the syllabus. In cases where only a few projects are undertaken by the students, it is probably best to allocate the marks to the relevant topic. The assessment schemes used must evaluate extension techniques on approaches as well as the technical agricultural skills. During the weekly outreach activities students are assessed on their extension skills and topic skills by the extension department and topic tutors. In the 8-week field practical students are assessed on their written reports, employability by the village chairman and follow-up assessment by tutors (see Appendix 6). A student who scores a mark less than 50 on this paper fails the paper and is asked to resist the field practical before he can graduate. Outreach programmes which are properly planned, organised, implemented and evaluated will overcome the observation made by Pickett (1933:II) when he was discussing competencies required of extension workers:

"We are now graduating MATI students poorly able to analyse and solve problems from a technical point of view or to operate as a change agent methodologically. We assume that a graduate who knows his principles of crop and animal production (knows his subject matter bookwise), is fully prepared to lead the agricultural development effort in the village. The application of scientific principles in a setting where economic, social, cultural and political forces collide and compete for few resources is not as simple as knowing ones pigs. Our graduates are generally

ineffective. They tend to displace blame onto the situation and fall into lethargy. Properly trained, they could be effective, despite the limitations of the situation."

3:8 Advantages of Outreach Programmes

The author argues that outreach programmes must be used in training extension workers. Their advantages in training are very essential.

If the objectives of the outreach programmes are achieved, this will result in a number of benefits as follows:

(i) To Administrators:

- outreach satisfies the Ministry of Agriculture directives requiring institutions to impact upon the surrounding villages.
- it improves the quality of student training.
- it brings good publicity for the institute, especially when the adopted villages win awards or improve their crop yields per hectare.

(ii) To Tutors:

- outreach programmes provide the long awaited opportunity to gain village problem-solving experience. This results in a better and more self-satisfied tutor.
- outreach programmes will lead to producing more effective extension workers and thus improve the image of agricultural tutors and institutes.
 - it adds new interest and challenge to the often boring repetition of teaching.

- it uses team teaching. Two or more tutors are usually involved and work together, motivating each other.

(iii) To students:

- outreach programmes improve students chances of being successful in their career by providing supervised real life experience. Thus Pickett (1982:4) emphasises by saying that:

"If future teachers need to practice - teach under supervision, future doctors need 'intern' under supervision and future mechanics need to practice in a supervised shop, how can we assume that future extension workers can learn their complex trade in MATI classrooms rather than in supervised village development activities."

- it adds challenge and interest to learning. Extension work is an applied social science. It offers the challenge of discovery both technologically and methodologically.
- if properly conducted, village outreach activities will bring students into contact with many development workers , including agricultural researchers, extension specialists, parastatal experts, villages managers and village leaders, creating interest, improving training and demonstrating to students how extension workers can benefit from such linkages.
- extension skills, such as use of dialogue or two-way communication, will be practised to becoming permanent behaviour.
- simultaneous involvement of tutors, professional extension

workers, students and farmers in solving village problems can improve the students' interest commitment, pride and confidence in their extension role. It will professionalise them. (see Figure 3 below).

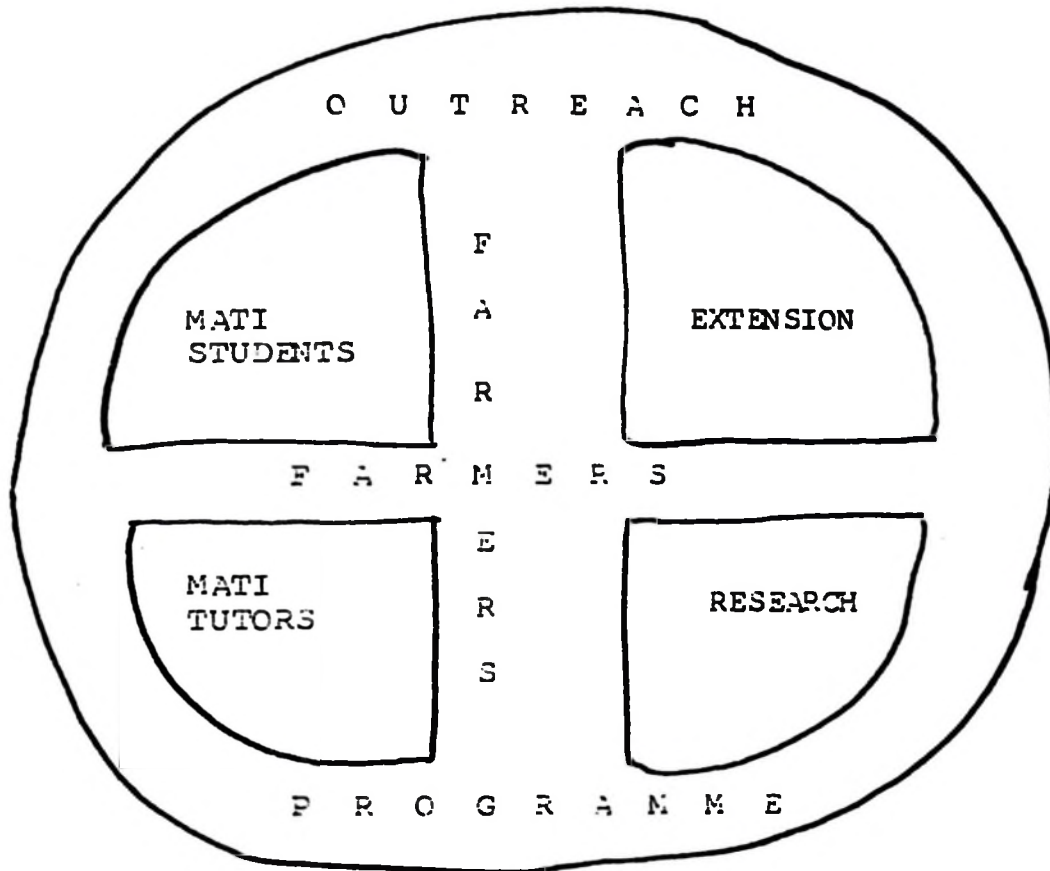


Fig. 3 Outreach programme cycle

In the discussion of the outreach programme at Bukura Institute (Kenya) wallace (1975:7) gives the advantages of carrying out community surveys by training institutions to include:

- "(a) students are trained in data collection, analysis and presentation.
- (b) students gain experience in dealing with rural people and are exposed to real life situations.

(c) The information gathered can be of value in preparing an outreach programme as well as preparing more relevant material for course content.

(d) Staff become closely involved with the community during the preparation and conduct of the survey.

(e) Farmers gain confidence in the institute and form a closer relationship with students."

3:9 The Constraints of the Outreach Programmes

There are several problems in carrying out outreach programmes in MATIS, as required by the Ministry of Agriculture. Each of the pilot Farmer Training Wings reported to be experiencing some or all of the following problems:

(i) Funds

During the first two years of the projects' operation the wings experienced shortages of operating funds. The funding support from the Ministry of Agriculture was improved greatly in the third and fourth years. The amount per wing increased from 50,000 Tshs to 172,000 Tshs. Acker (1984:76)

(ii) Fund Release

The procedure requires each wing to produce an annual budget and would receive the approved amount in quarterly allocations. The timely release of funds from the Ministry of Agriculture has been very difficult to achieve. This may be due to the amount of paper work required, the number of people who have to become involved and the number of trips made to regional offices or headquarters is out of proportion to the value of the money involved. This problem Acker (1984:76) was

estimated to cause a loss in operating efficiency of close to 20%.

(iii) Staffing

Critical gaps in staffing at the wings was experienced in the first two years of the project. The sites which were most affected by this factor were MATI Ilonga, MATI Ukiriguru, Uyole Agricultural Centre and LITI Mpwapwa. There was however improvement in staff members and quality at most wings by the end of the project period.

(iv) Staff Motivation

With low salaries and increasingly fewer opportunities for study tours and further training for MATI staff, the Ministry of Agriculture has had and will probably continue to have trouble in motivating and retaining staff. It is the author's feeling that this lack of motivation has led to poor teaching and poor outputs from agricultural institutes.

(v) Transport

All the wings and other sections of the training division of the Ministry reported lack of adequate transport facilities. Some institutions are in a very bad situation, for example, MATI Ilonga, which has one land-rover and one lorry. This institute and many others are expected to conduct outreach programmes as part of their extension worker training. Experience as wing staff in MATIS indicates that transport is a major hindrance to successful outreach programmes. This problem is even more serious when fuel shortages are predominant and the recurrent funds are not released in time. Lack of spare parts for the vehicles and motorcycles adds

to the magnitude of the problem. Experience in all the wings indicates that vehicles and motorcycles are properly used and maintained when the transport facilities are issued to individual staff.

(vi) Choice of village

Reports from all the wings show that they were undergoing difficulty in running outreach activities each in one village. This is usually the nearest village to the institutes. (see Figure 9). Participants in the Farmer Training Workshops

Figure 9 List of reluctant villages

MATI/LITI	NAME OF VILLAGE
UKIRIGURU	Ngudama
MLINGANO	Mkanyageni
ILONGA	Msalabani
MTWARA	Naliendele
NYEGEZI	Buhongwa
MPWAPWA	Iloilo
UYOLE	Uyole
TUMBI	Tumbi

refused the use of the conclusion that "Farmers were resistant." However, the situation was found to be useful by many extension tutors in teaching students the diversity of their work after graduation. This situation has yet to be resolved by each wing. Each training institute must develop awareness of the problems and potentials in the villages. Most villages are rich in ideas and experiences

(Brokensha et al, 1980) and have proven reasons for doing things the way we find them.

(vii) Administration

Administration support at the Institute, villages and Ministry Headquarters is very essential for the success of outreach programmes. Taking students to the villages will seem to be a waste of time if this programme does not receive back-up by the principal of the Institute, the village chairman and Chief Training Officer. In some institutes outreach was considered to be the duty of the extension staff alone. The Tanzania Agricultural Sector Manpower Study (1980: ix-30) reports:

"Outreach programmes which use local communities or villages as educational laboratories for joint learning by students, teachers, farmers and researchers, should be greatly increased....
.... Such experiences can create the new awareness which will help direct teaching toward the application of situations faced by Bwana/Bibi Shambas in a village.
The creation of a professional extension worker is necessarily the task of every tutor, not just the extension tutor."

(viii) Farmer production Inputs

Provision of training and extension services to farmers cannot be separated from an equal and concurrent effort to supply inputs to the farmer. Input supply programmes should be mounted in conjunction with training and extension programmes.

(ix) Teaching Materials

Teaching materials, including audio-visual aids, equipment, books, and simple teaching materials, are scarce. Most wings use very old literature and no audio-visual aids. One of the strongest outputs of the Farmer Training Project has been the preparation of teaching packages. These packages combine effective teaching techniques with the most up-to-date research recommendations available in the country. The target audience for these packages are small farmers and village-level extension workers. (see Table 5 and Appendix 7 for a complete list of the packages).

TABLE 5 TEACHING PACKAGES DEVELOPED BY THE FARMER TRAINING PROJECT

<u>Title</u>	<u>Author</u>
Cashewnuts	M.R.S. Mlozi/A.M. Mtukwe
Groundnuts	M.R.S. Mlozi
Rabbits	J. Sange/J. Gonsalves
Potatoes	C.O. Smith
Cabbage	C.O. Smith
Animal Traction	R.N. Nyamasagi
Nutrition for young children	M.F. van Rossum
Coconuts	T.C. Sechambo
Grain Storage	A.M. Mtukwe/D.G. Acker/ J.D. Lansdale
Dairy	O. Kussaga
Cotton	S.C. Lugeye
Maize	MATI-Ilonga
Sorghum	M.R.S. Mlozi
Cassava	S.C. Lugeye
Nutritional deficiencies	E.J. Samki
Lowland rice	C.E. Mchelle
Organic Farming	V.M. Masanja
Rat control	J.T. Christensen
Field Beans	B. Sensenig
Bio-intensive Food production	J. Gonsalves
Woodstoves and trees	T. Sensenig
Citrus production	T. Sensenig
Tree planting	D.M.Z. Sendeu
Bullrush Millet	D.M.Z. Sendeu
Pig production	O. Kussaga

Source: Acker (1934:47)

These teaching packages were written in both English and kiswahili. The kiswahili version being mainly for farmers and extension workers.

Summary of Chapter Three- "The Outreach Programmes in
the MATIS"

The author has reviewed the Concept of Outreach Programmes in the MATIS in Tanzania and its uses in other countries of the world. It is clear that Outreach has been used under different terms, methods and approaches. It is, however, based on a problem-solving approach. Outreach has been discussed as a teaching tool which provides village practical training and rural experience to the MATI tutors and students. It also improves the relationship between the training institutes and the surrounding community. The students who participate in the Outreach programmes improve their chances of being successful in their career as Bwana Shambas.

The next chapter will look at how the Outreach Programme involves MATI tutors, MATI students, extension staff, researchers, and farmers in training extension workers and solving village problems. In this discussion MATI-Ukiriguru will be used as a 'case study.'

CHAPTER FOURMATI-UKIRIGURU OUTREACH PROGRAMME - 'A CASE STUDY'4:1 Background Information

In order to see the complexity and importance of the Outreach programme in the Agricultural Training Institutes, MATI Ukiriguru Outreach Programme is going to be discussed as a case study. Training of extension workers at MATI Ukiriguru started more than fifty years ago. Since then, the number of graduates has been increasing and the criticism of their lack of efficiency in the field Harris (1968:3) has also increased. Agricultural institutes like MATI Ukiriguru have been doubted on their contribution to rural development and hence have conducted their training programmes in isolationism. They have become like foreign bodies in the local communities. The FAO (1972:65-71) reported a similar criticism when it stated that:

"Some institutions of higher learning have shut themselves up into ivory towers of academia. They hardly ever collaborate with the organisations of the government active in agrarian concerns: As a result, neither the staff nor the students really know what the agrarian problems in the country are and do not participate actively in any of the programmes of development in the rural areas."

In view of these statements, the Ministry of Agriculture decided in 1982 to bridge the gap between MATI Ukiriguru and the surrounding villages by establishing a Farmer Training

wing at the Institute. This FTW was to adopt the outreach programme approach which had already been operating in four pilot sites. This decision for MATI Ukiriguru was a revival of the similar activities which were partially being conducted by the Extension Department. As in the other FTWs, MATI Ukiriguru started staggering with one tutor responsible for this vital teaching tool, in the following year the outreach staff had increased to four tutors and transport and funds were made available by the Ministry of Agriculture. Outreach activities at MATI Ukiriguru became more acceptable among the teaching staff, villagers and extension personnel in the second year. The outreach programme has since started a new relationship between the institute and the surrounding community. This relationship has helped to reduce the MATI isolation from the villages.

4:2 The Objectives of the Outreach Programme at MATI-Ukiriguru

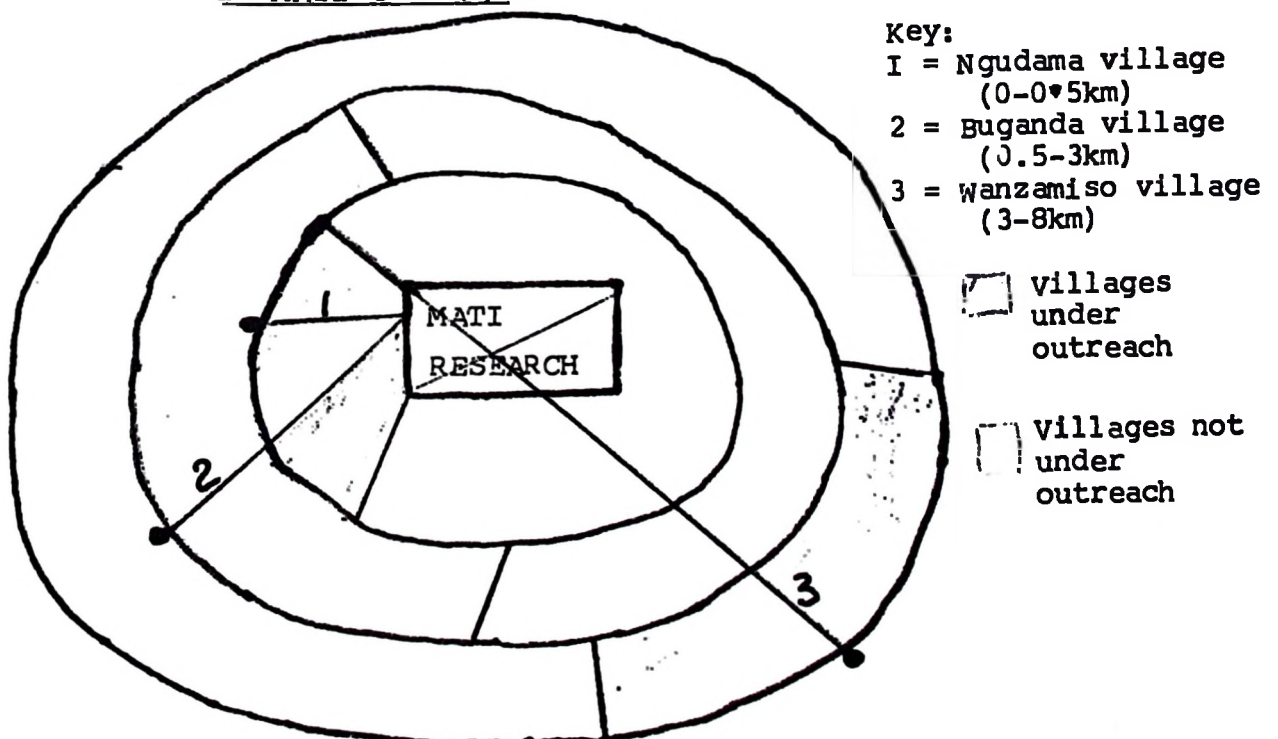
The outreach programme at MATI-Ukiriguru was established to meet the following objectives:

- (i) to improve the teaching techniques of tutors. This requires tutors to reduce using lectures by using a problem-solving approach.
- (ii) to provide rural experience and case study village situations for tutors to use in training.
- (iii) to create an awareness of the community on the help MATI Ukiriguru can give to villagers. This makes the community realise that the MATI is part of their villages and can be helpful.

- (iv) to establish a good relationship between villages and the institute.
- (v) to expose students to a live situation of their future place of work. Students will get the opportunity to practice what they will be doing after graduation. It will develop their skill and commitment to extension work.
- (vi) to improve the linkage between research and training activities at Ukinguru and farmers activities in the villages.
- (vii) to teach farmers new and relevant agricultural practices which have been tried out by Ukinguru Research Station and other research centres in the country.
- (viii) to assist and mobilize farmers, solve their problems by directing them to relevant organisations.

4:3 The Organisation of the Outreach Programme at MATI Ukinguru

Figure 10 Village sites under the outreach programme at MATI Ukinguru



The Outreach Programme at MATI Ukiriguru started by establishing a Farmer Training wing. This was a special team of tutors whose duty was to carry out outreach activities. Then later followed the selection of villages, and survey of the villages to get an understanding of the farmer's situation. After the data collected was analysed, outreach activities were identified by involving MATI tutors, extension staff and the village leaders.

The farmers training wing at Ukiriguru was incorporated into the MATI Extension Department and the wing staff do some formal teaching in the regular extension courses.

Three villages were being assisted in the first two years of operation. These villages include, Ngudama, Buganda and Wanzamiso and their distance from the MATI ranged from 0.5 - 8 km. (see Figure 10). Under the outreach programme one acre demonstration plots for cotton, sorghum, cassava and vegetable gardens were established for each village. The MATI started the outreach programme by going out to the villages twice every week. Farmers were organised by the village chairman, under their Village Development Committee and had to work at the village communal farm twice a week on selected days. The farmer training wing staff arranged with the village leaders to use part of the village communal farm for the demonstration plots for each village. The visits were also arranged to coincide with the village working day at the communal farm. This was Tuesdays for Buganda and Ngudama and Fridays for Wanzamiso. It was the duty of the wing staff to make proper arrangements with villagers and MATI

administration before taking students for outreach. This required extra informal visits, follow-up and discussion for wing staff with village leaders.

Research and extension staff in the field were involved in the outreach programme to supply information on current recommended practices for the area. Each department at the MATI was involved at varying levels depending on the activities to be carried out, as indicated in the table below.

TABLE 6: MATI UKIRIGURU VILLAGE OUTREACH ACTIVITIES

ACTIVITY	DEPARTMENT CONCERNED
Land preparation	Crops
Planting	Crops
Terrace constructing	Land use
Contour constructing	Land Use
Measurement of size of land	Land Use
Use of oxen-drawn equipment	Agromechanisation
Carrying out a demonstration	Extension
Preparing posters for the demonstration	Extension
Staking tomatoes	Horticulture
Preparing a balanced meal	Home Economics
Conducting a meeting	Extension
Farm record keeping	Farm Economics
Using questionnaires	Extension
Dehorning	Animal Science
Home visits	Extension
Farm visits	"
Farm trials	"
Village meetings	"
Method and result demonstrations	"
Surveys	"

4:4 Farmer Training Methods

A number of training methods were used. These included residential and non-residential courses, 3-week field practicals, weekly outreach, demonstrations, contact farmer approach and tours. Farmers from the three villages were brought to the MATI in groups of ten from each village for one day seminars. At these seminars farmers met MATI tutors, students and researchers. The non-residential courses were carried out at the village on the days agreed for outreach at the demonstration plots and at the village meetings. The weekly outreach programme gave opportunity where students, MATI staff and villagers exchanged ideas. The 8-week field practical was carried out, as discussed in chapter 3. The MATI students live and work with the farmers for eight weeks. It is important to note that MATI Ukiriguru reported very outstanding results in its outreach programme, especially by using the demonstrations, tours and contact farmer approaches.

4:4:I Demonstration and Contact Farmer Approach

In this approach contact farmers were identified by the wing staff. The main criteria for selecting contact farmers were (i) The farmers interest; (ii) The farmers readiness to use part of his/her farm as a demonstration plot and allowing other farmers to learn from it; (iii) Farmers readiness to follow recommended practices; and (iv) Farmers influence in the village.

During the outreach programme students are divided in

small groups to visit contact farmers at the demonstration plots. The demonstration plots were managed on a competitive basis. The first three farmers to get the highest yields awarded a prize by the MATI and all other contact farmers received certificates of participation. Results from MATI Ukiriguru Acker (1984) show that yields from contact farmers farms had increased by more than double the district averages. This completion also brought up a high demand for agricultural inputs and extension advice by farmers.

4:4:2 Tours

MATI Ukiriguru organised several tours of villagers to visit research stations, other villages and MATI farms. Farmers expressed very high interest in this learning experience by seeing what other farmers can do. Many farmers adopted agricultural practices after seeing success stories from other farmers farms. Farmers from the three villages exchanged visits in groups of ten farmers. The suggestions and experiences from farmers from another village was a very rich resource and powerful tool for farmers to change their practices.

4:5 Evaluation of the Outreach programme at MATI-Ukiriguru

Evaluation of the outreach programme can be looked at in two ways. There is need to consider the impact of outreach to the community and its contribution to the MATI training programme.

(1) Assessment of the Outreach Programme impact to the community

The effect of outreach activities on the villagers involved was assessed by observation and interviewing the villagers. In order to determine the impact of the outreach programme to the community visits were made by the MATI staff (the outreach team and advisory committee) to see village farms and activities. By comparing results from participating villages and those not involved in outreach, who served as a control, it was possible to make judgement on the effect of outreach. Also, the MATI developed questionnaires, which were completed by students during the outreach activities. The information collected was analysed by tutors and students and the results were reported to the Advisory Committee. Similarly the Ministry of Agriculture formed a team which carried out two major evaluation exercises. The Ministry evaluation team visited and interviewed farmers in all the villages involved in the programme and compared the results in the outreach villages with other nearby villages. The results for these evaluation exercises were very encouraging and show that the objectives for the outreach programme were being met. (see Section 4:6).

(ii) Student assesement in the Outreach Programmes

There were two main assessment procedures for the MATI students involved in outreach activities and they include:

(a) Assessment by tutors during weekly outreach activities. The students were assessed by subject tutors while performing the activity during the visit in the villages. Each group of students performed the assigned tasks, with the supervision of at least one tutor. The method of awarding grades was the

same as when that task (practical skill) would be conducted at the school farm without the presence of the farmer. The farmer in this case created a better environment for the subject tutor to determine the students confidence and competence. There were cases where the students would be assessed by two or more subject tutors, but only one grade was later agreed to be recorded under one specific subject. For example, a demonstration on how to plough by oxen. The extension tutor would be interested in the way this method demonstration was being conducted by the students, while the animal-power tutor would be assessing skills like plough adjustments, leading oxen and proper handling of the plough and animals.

(b) Students were also assessed by tutors and the village chairman during the 3-week field practicals. Both the tutors and the village chairman use a standard assessment procedure as given by the Ministry of Agriculture (see Appendix 6). Despite the importance of assessing students at a live situation in the villages, there were reported complaints by some students and tutors in the way the village chairman assesses the students. However, the author strongly feels that the village chairman is the user (employer) of the MATI graduates and therefore this contribution to the training of the extension workers is very necessary. It also follows that the student who fails to conform to the village expectations then is not a suitable extension worker.

The village chairman normally selects members from the village council (village production and village development

committee) and convenes a special meeting to give a grade to the students staying in their village. This meeting assesses the students on employability under:

- (i) attitude to work
- (ii) initiative
- (iii) punctuality
- (iv) relationship with other employees, and
- (v) interest in the village situation.

This assessment is treated confidentially. The grade given by the village chairman is 25% of the final grade for this paper. It is, however, important to note that a failure to score more than 15 marks from the village chairman means that the student fails the paper and has to resit the field practicals before graduating.

4:6 The Results of the Outreach Programme at MATI Ukiriguru

4:6:1 Programme Achievements

Experience at MATI Ukiriguru shows that the outreach Programme was very successful. The following are some of the outcomes which the institute was able to achieve under its outreach programme.

1. Yield increases by the farmers and the village communal farms. The village yields for cotton Acker (1984:62) in the participating villages was increased from an average 200 kg to 800 kg per acre in a period of two years. The district average for the same period and crop was reported to be 200 kg per acre. This increase was mainly due to farmers acceptance to apply farmyard manure, timely planting and weeding.
2. Adoption of agricultural practices by farmers. Acker

(1934:63) in the Farmer Training Project final report observed that:

"Of a total of 336 new practices which farmers said they have adopted during the last four years, 289 were attributed by farmers contact with the farmer training wing, while 65 practices were attributed by farmers contact with their extension worker."

- 3 Improved the teaching methods of MATI tutors. Tutors at MATI -Ukiriguru changed their teaching approach to a problem-solving approach. Reports from MATI-Ukiriguru show that more than 50% of the tutors were taking students for outreach activities as part of their normal teaching.
4. Increased number of contact farmers. The number of contact farmers registered by the farmer training wing increased from 10 farmers per village to 30 farmers for each village involved in the outreach programme. This increase in the number of contact farmers extended the benefits of the outreach programme to a larger population for each village.
5. Increased number of contact villages and activities. After three years of carrying out the outreach programme in three villages, MATI Ukiriguru extended its programmes to 4 primary schools and 2 womens groups. These were Buganda, Wanzaniso, Nyashimba and Nyamule primary schools and the Womens Organisation of Tanzania branches (UWT) at Buganda and Wanzaniso villages. The programmes for these new sites included: tree planting, cotton growing, gardening and human nutrition classes for children.

6. Increase extension teaching. As a result of the outreach activities there have been more extension methods, principles and practice being taught to the student without change of syllabus. The students participating in this programme have shown that they have developed more interest in extension work. However, a formal evaluation needs to be done to determine their efficiency in the field.

4:6:2 problems in the outreach programme at MATI Ukiriguru

The following are the major problems experienced during the implementation of the outreach programme at MATI Ukiriguru

- (i) Timetables: The timetable for outreach did disrupt some classes on the occasions when there was more activities to be done in the village, transport was broken down, or late and when the weather was not favourable.
- (ii) Villagers reluctance to participate in the outreach programmes: One village under the outreach programme at MATI Ukiriguru showed reluctance to attend demonstrations conducted at the village communal farm. This was eliminated by the adoption the contact farmer approach. Farmers liked this approach because it contributed directly to their individual increase in farm yields and incomes.
- (iii) Transport: MATI Ukiriguru experienced some problems related transport, especially fuel shortage. This problem was, however, universal to most training institutes in the region and the Regional Administration was active in solving it. This led to cancellation of some scheduled events.
- (iv) Demonstration Facilities: This was the most serious problem experienced during outreach activities. The supply

from inputs and equipment to the villages was very inadequate. It was very frustrating for the MATI staff and farmers when it was very difficult to get seeds, fertilizers, ploughs, or harrows, when they were needed in the villages. The Ministry of Agriculture and Regional Administration have tried to find a solution to this problem.

4:7 Summary of Chapter Four "The Outreach Programme at MATI Ukinguru"

The discussion in this chapter revealed how important and difficult it is for an institution to implement outreach programmes. The achievements obtained are a result of commitment of all the parties involved. Involvement of MATI staff, students, farmers and extension personnel in all stages of the outreach programme is a key to the success. Because the exercise is used for training extension workers, it is important that it is assessed and be reflected in the MATI-LITI curriculum.

CHAPTER FIVESUMMARY AND CONCLUSION

The discussion on the training of extension workers in Tanzania in this dissertation reveals that the agricultural institutes have been in operation for more than half a century. The number of the agricultural institutes has since been constantly increasing, but the quality of the trainees has been weakening. The users of the MATI and LITI graduates have doubted their competence in communicating technical information. The writer of this dissertation pointed out that major causes for this inadequate training of extension workers to be:

(i) selection criteria of trainees: The trainees currently being selected to join the Agricultural Training Institutes are not committed to becoming extension workers. A screening procedure by interviewing students before joining the MATI/LITI could help get the right kind of candidates.

(ii) The quality of tutors: The author observed that most tutors in MATIS and LITIS do not have rural experience and lack training in teaching. Most tutors have training in agriculture, but have never had a course in teaching methods. These tutors direct the students to memorise notes given during the lectures. Also, the number of highly motivated and well-trained tutors is very small. For example, in Table 7 MATI-Ilonga has a total number of 3 tutors only who are graduates from the agricultural universities. The remaining 23 tutors are diploma and certificate holders from the MATIS and LITIS.

TABLE 7 MATI LLONGA TEACHING STAFF DISPOSITION
AS OF 15/II/1985

PHD	MSC	BSC	Diploma	Certificate	Total
-	3	5	13	5	31

Source: Principal MATI-Llonga

(iii) The syllabus: The present syllabus emphasises technical subject matter, but the trainees need more training in extension practice and methods, which is not being offered. (see job description and syllabus appendix I & 3). The syllabus shows a deficiency in extension training. Hence the trainees find it very difficult to communicate technical information to farmers once they are in rural areas.

(iv) MATI facilities: Most training institutes lack the required training facilities, like housing, vehicles, books and teaching equipment, etc. (see section I:4). This situation influences the type of training offered by training institutes.

The author also discussed the Extension Service in Tanzania, which employs the MATI graduates and pointed out that most of the problems of the extension service are mainly a result of the inadequate training of the extension workers. They are intensified by the unstable organisation of the extension service in Tanzania. The extension service has



been falling under the leadership of several ministeries each year. The extension worker has been continuously receiving conflicting policies and guidelines from the ruling political party - CCM, the prime Minister's Office and the Ministry of Agriculture and Livestock Development. This leads the extension service to fail to adopt any specific extension approach and thus looks ineffective. But, as discussed in Chapter Two, the extension service does not deserve to receive all the blame and criticism it has so far experienced.

In the discussion and analysis of the outreach programmes in the training institutes, it has been argued that 'Outreach' is the Alternative and the most effective teaching tool which will reduce all the criticism related to the training of extension workers, isolation of training institutes from the community and the extension worker ineffectiveness in the field. Outreach programmes will give the tutors the rural experience required. These programmes will improve the teaching methods of tutors by providing real-life situations and case studies for training extension workers. The training will be closely linked to the surrounding community throughout the training period. Also, as a result of carrying out outreach programmes more extension training will be provided in the training of Bwana Shambas. Outreach Programmes (Figure 8) are essential practical programmes which involve the MATI tutors, students, farmers, researchers and extension personnel in the rural areas in addressing the problems of the farmers. It is through the Outreach

programmes where the students get experience in practising the duties of the extension workers, their future career after completing the course.

RECOMMENDATIONS

From this study and experience in MATIS and LITIS, the author makes the following proposals for the training of extension workers:

- (i) The Outreach programme should be adopted by each MATI and LITI. These programmes should be made compulsory in training extension agents. This will reduce the isolation from the community and will improve the training of the extension workers.
- (ii) The syllabus, selection of trainees and training policy in the agricultural institutes should be reviewed and be targetted towards training of extension workers using the concept of Outreach programmes.
- (iii) The Ministry of Agriculture and Livestock Development should be the only organisation responsible for monitoring programmes of the extension service and give the extension policy of the country. Other organisations, such as the Party CCM, Parastatals and Regional Administrators, should not be allowed to give extension policies to be followed by the extension workers in the field.

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APPENDIX I TANZANIA MAINLAND: SYLLABUS FOR AGRICULTURE CERTIFICATE COURSE

A. FIRST YEAR SYLLABUS				
TOPICS	THEORY	TEACHING HOURS		FINAL EXAMS PAPERS
		PRACTICALS	TOTAL	
1. CROP HUSBANDRY I.1. Principles of crop pro- -duction I.2. Horticulture I.3. production of major crops	41 32 -	192 45 at least 3 hrs/week	233 77 60+	2 papers $\frac{1}{2}$ paper 1 paper
2. LAND USE 2.1 Soil Science 2.2 surveying	48 44	54 56	102 100	1 paper 1 paper
3 AGRO-MECHANIZATION 3.1. workshop technology 3.2. Animal power & implements	32 14	63 39	95 53	1 paper
4. ANIMAL HUSBANDRY 4.1. General aspects	70	31	101	1 paper
5. FARM ECONOMICS	43	35	78	$\frac{1}{2}$ paper
6 EXTENSION	54	71	125	1 paper
7. FOOD SCIENCE & NUTRITION	31	51	82	$\frac{1}{2}$ paper
8. POLITICAL EDUCATION	-	-	-	-
9. EARLY MORNING & LATE EVENING PRACTICALS	-	-	-	$\frac{1}{2}$
TOTAL			1042	10 papers

B. SECOND YEAR SYLLABUS

TOPICS	TEACHING HOURS			TOTAL	FINAL EXAM PAPERS
	THEORY	PRACTICALS	TOTAL		
<u>I. CROP HUSBANDRY</u>					
I.3 Field crops	32	I08	I90		2 papers
I.4. Forage crops	8	I2	20		$\frac{1}{2}$ paper
I.5. Production of major crops	-	at least 3 hrs/week	69+		
<u>2. LAND USE</u>					
2.3. Surveying	8	62	70		I paper
2.4. Soil & water conservation	25	50	75		
2.5. Smallscale irrigation	30	60	90		I paper
<u>3. AGRO-MECHANIZATION</u>					
3.3. Tractor power	I6	5I	67		
3.4. Farm machinery	I6	30	46		
3.5. Other sources of farm power	2	-	2		I paper
3.6. Water supply equipment	7	I8	25		
3.7. Farm structures	2I	48	69		$\frac{1}{2}$ paper
<u>4. ANIMAL HUSBANDRY</u>					
	72	87	I59		I paper
<u>5. FARM ECONOMICS</u>					
	38	48	86		I paper
<u>6. EXTENSION</u>					
	48	49	97		I paper
<u>7. POLITICAL EDUCATION</u>					
	70	-	70		$\frac{1}{2}$ paper
<u>8. EARLY MORNING & LATE EVENING PRACTICALS</u>					
	-	-	-		$\frac{1}{2}$ paper
<u>9. FIELD PRACTICALS</u>					
	-	8 weeks in village	-		$\frac{1}{2}$ paper
TOTAL	443	623	1066		10 papers

A full paper = 115 hrs.

APPENDIX 2 SUMMARY OF THE MATI ILONGA POSTING OF
AGRICULTURE CERTIFICATE FINALISTS
JUNE 1935

<u>REGION</u>	<u>NO. OF STUDENTS</u>
ARUSHA	5
DODOMA	4
IRINGA	3
KAGFRA	1
KILIMANJARO	4
LINDI	3
MARA	1
MBEYA	2
MOROGORO	3
MWANZA	2
PWANI	4
RUKWA	2
RUVUMA	3
SINGIDA	3
TANGA	2
MINISTRY OF EDUCATION	1
ZANZIBAR	3

Source: principal MATI-Ilonga

NB: These students were trained at Mati-Ilonga, Morogoro Region, but were posted to work in many diverse regions of the country.

A:

APPENDIX 3 THE JOB DESCRIPTION OF A CERTIFICATE WORKER

The village level extension worker with a certificate level of training has the following duties:

I. Assisting the farmers in planning and evaluating agricultural activities in the village.

(i) work with farmers and researchers in analyzing problems and opportunities.

(ii) Assist farmers in obtaining external resources.

(iii) Cooperate with farmers and village level leaders in formulation of village agricultural plans.

(iv) Assist farmers in the implementation and monitoring of agricultural activities.

2. Assisting farmers in the acquisition of agricultural inputs (i.e. fertilizer, seeds, chemicals, etc.)

3. Agricultural data collection and reporting

(i) Routine data collecting and filing reports.

(ii) Monitoring and reporting incidences of crop pests and diseases.

4. Educating and helping farmers to adopt new agricultural practices

(i) teaching farmers improved agricultural practices

(ii) teaching farmers how to improve their diets

(iii) teaching farmers better management practices

(iv) teaching farmers better land use and conservation

(v) teaching farmers proper preservation and storage

(vi) teaching farmers sorting and grading of farm produce

(vii) teaching farmers simple animal husbandry practices

- (viii) teaching farmers appropriate farm mechanization.
5. Cooperating with research institutions, carrying out demonstrations and assist in carrying out verification trials.
 6. Training and supervising subordinate staff.
 7. Advising village leaders on agricultural rules and regulations.

source Min. of Agriculture, Tanzania.

B. DUTIES OF A CROP PRODUCTION DIPLOMA HOLDER

1. To investigate and assess the potential for increased agricultural production in his area of responsibility.
2. To plan, implement and control agricultural extension programmes.
3. To draft basic production, labour and financial plans for agricultural production in villages and ujamaa villages.
4. To organise training programmes for village members to become experts in basic agricultural skills.
5. To organise and participate in the training of staff of the crop development advisory service.
6. To participate in the preparation of district annual plans in the field of agricultural production as a specialist.
7. To manage commercial production units and state farms.
8. To serve as an advisor in parastatal organisation for agricultural projects.
9. To assist agricultural research officers at research centres and sub-stations.
10. To teach certificate course students at MATIS.

" source:" Kilimo Curriculum Dev. Section

APPENDIX 4

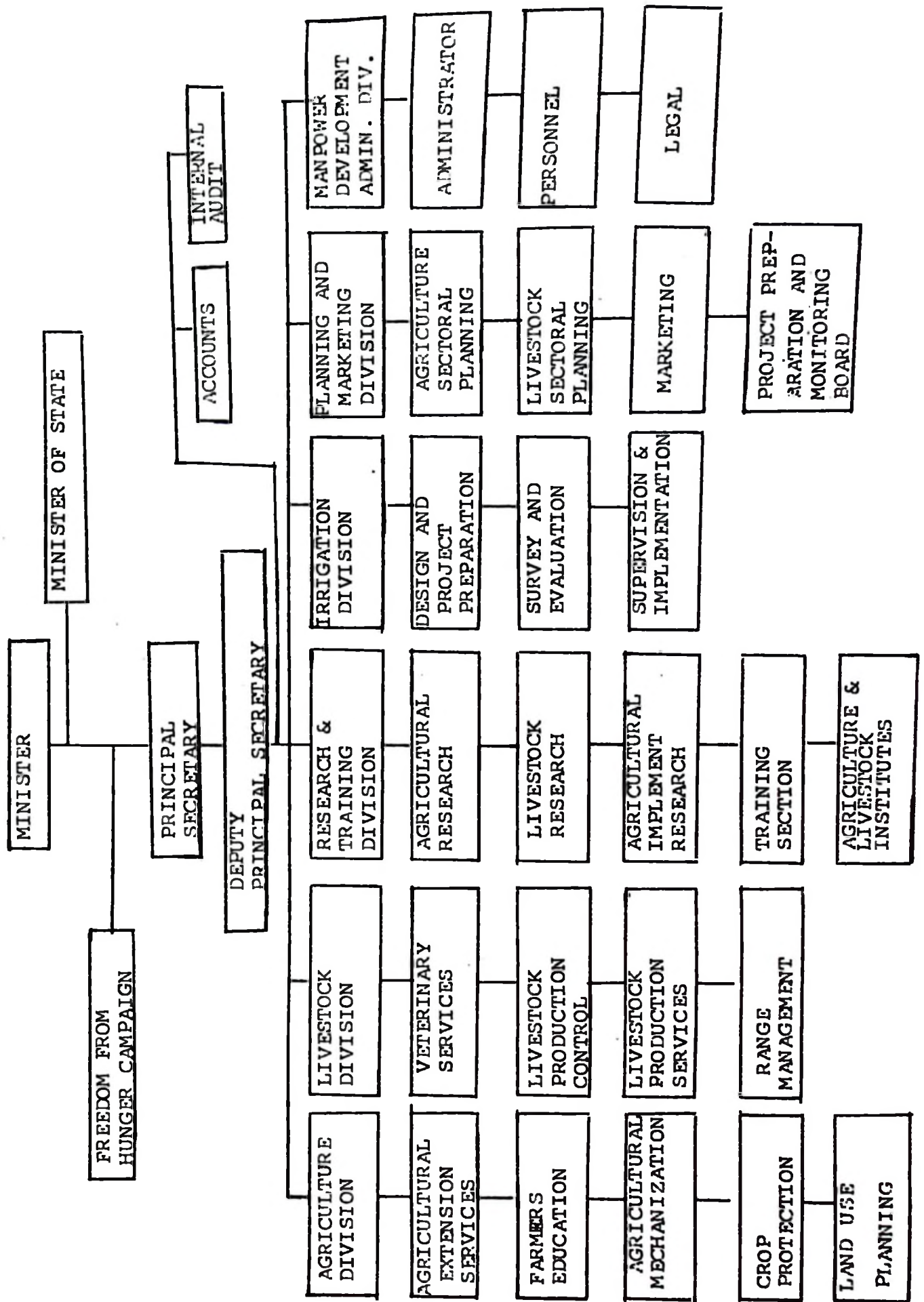
M.A.T.I. - ILONGA
CERTIFICATE COURSE 34 TIMETABLE - 2nd years

TIME	7 00 - 7 50	7 50 - 8 40	8 40 - 9 30	9 30 - 10 00	10 00 - 10 55	10 55 - 11 45	11 45 - 12 50	12 50 - 1 45	1 45 - 2 30
MONDAY	E X T E N S I O N SL/HL								
TUESDAY	A. SURVEYING (GSM) B. TRACTOR POWER (KIHM) C. CROP SCIENCE (UF/RAF) D. ANIMAL SCIENCE (CAM/MM)								
WEDNESDAY	A. TRACTOR POWER B. CROP SCIENCE C. ANIMAL SCIENCE D. SURVEYING								
THURSDAY	A. CROP SCIENCE B. ANIMAL SCIENCE C. SURVEYING D. TRACTOR POWER								
FRIDAY	A. ANIMAL SCIENCE B. SURVEYING C. TRACTOR POWER D. CROP SCIENCE								
SATURDAY	T E S T S								
	E A R L Y M O R N I N G P R A C T I C A L S								
	S.S. IRRIGATION (GSM)								
	CROP SCIENCE (RAF/MM)								
	TRACTOR POWER (KIHM/BNM)								
	CROP SCIENCE (RAF)								
	MAJOR CROP (RAF)								
	ANIMAL SCIENCE (CAM/MM)								
	C L E A N I N G								
	CROP SCIENCE (UF)								
	POLITICAL EDUCATION								
	S.W. CONSERVATION (LM)								
	SURVEYING (GSM)								
	S.S. IRRIGATION (GSM)								
	FARM STRUCTURE (JM)								
	E C O H I C H I C S								
	I I 55 - I 2 45								
	I J 00 - I 0 50								
	I 0 55 - I 1 45								

COORDINATOR OF STUDIES - 2/7/85

Source: Principal MATI-Ilonga

APPENDIX 5 ORGANIZATIONAL STRUCTURE - MINISTRY OF AGRICULTURE AND LIVESTOCK DEVELOPMENT
 (Source: Ministry of Agriculture & Livestock Development)



APPENDIX 6 STANDARDISED FORMAT FOR STUDENT
FIELD PRACTICAL ASSESSMENT

A. REPORT WRITTEN BY THE STUDENT

- Introduction	5 marks
- Village production activities	20 marks
- Village progress, problems and solutions	20 marks
- Major projects and activities	10 marks
- Comments	5 marks
	<hr/>
Total	60 marks
	<hr/>

B. EMPLOYABILITY ASSESSMENT BY THE VILLAGE CHAIRMAN
UNDER THE FOLLOWING POINTS:

- Attitude toward work	5 marks
- Initiative	5 marks
- Punctuality	5 marks
- Relationship with other employees	5 marks
- Interest in the village situation	5 marks
	<hr/>
Total	25 marks
	<hr/>

(The items above should be translated into Kiswahili and the village chairman grade to be collected during the follow-up visit)

C. STUDENT FOLLOW-UP: TUTOR'S ASSESSMENT OF STUDENT
UNDERTAKEN IN THE MIDDLE OF THE 3 WEEKS, COVERING THE
FOLLOWING AREAS:

- Attendance	2 marks
- Involvement	3 marks
- Cooperation	3 marks
- Contribution	3 marks
- Date of arrival/departure	1 mark
- Creativity	3 marks
	<hr/>
Total	15 marks
	<hr/>
Grand Total	100 marks
	<hr/>

Source: KILIMO

APPENDIX 7 MANUALS FOR TRAINING OF EXTENSION WORKERS

<u>TITLE</u>	<u>AUTHOR</u>
1. Tutor's guide to extension programme planning and evaluation	L.C. Pickett
2. Some considerations in village-level training	J. Gonsalves
3. Tutor's guide to farmer-centred in-service training for extension workers	D. Scheinman/G. Mariki
4. Tutor's guide to training agriculture and livestock students in data collection and analysis	D. Acker
5. Tutors guide to the organisation and conduct of the student 8 week field practicals	D. Acker
6. Special skills for extension workers (pacing, plane table mapping, etc.)	L. Pickett
7. Tutors guide to social, cultural and psychological factors in extension work	B. Sensenig
8. Tutor's guide to the organisation and conduct at weekly village outreach practicals at agriculture and livestock institutes.	L. Pickett

source: Acker (1984:46)