TANZANIA AGRICULTURAL MANPOWER PROJECT PROGRESS REPORT, JANUARY—DECEMBER, 1978

Submitted by

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TABLE OF CONTENTS

THE AGRICULTURAL MANPOWER PROJECT - A BRIEF DISCRIPTION

The initial Project Agreement between Tanzania and USAID was signed on 12 February 1974. The contract to provide services under this Project Agreement was awarded to a consortium of West Virginia University and North Carolina Agricultural and Technical State University. On behalf of the Consortium, Dr. James G. Harlow, then President of West Virginia University, signed the contract with AID/Washington on 11 November 1974. Project implementation was visualized in a three-phase sequence and included the following major project purposes:

1. To assist the Tanzanian Government in the overall development of its entire sub-professional (technical) and professional agricultural training programs/activities.

2. To assist the Ministry of Agriculture in strengthening two existing diploma/certificate institutions (Ukiriguru and Mpwapwa), by developing practical applied and operational training capabilities focusing on junior and intermediate level staff who are expected, over time, to provide manpower/ technical skills for the Tanzanian Government's food crops and livestock production programs.

3. To provide participant training assistance to the Tanzanian Government in selected areas of agricultural manpower training, to meet needs of the Ministry of Agriculture and the parastatals for management and technical skills in positions closely related to food crops and livestock production.

These purposes were seen to be in direct support of an overall sector goal of assistance to the Tanzanian Government in the achievement of increased self-sufficiency in the food crops and livestock agricultural subsectors.

In the terms of the announced goal and specific purposes, the following are seen as expected project outputs:

1. Manpower

   a) Annual student throughput - Ukiriguru Certificate - 125
   " Diploma - 40
   Mpwapwa Certificate - 110
   " Diploma - 36

   b) Teaching Staff

   Degree level trained staff at Ukiriguru - 13
   " " " " " Mpwapwa - 14
   " " " " " Entire MATI network - 45

c) Trained Tanzanian government and parastatal staff	
Individuals in key food crops/livestock positions with U.S. training	- 15
2. Facilities	
a) USAID Loan financed houses at Ukiriguru and Mpwapwa	- 9
b) USAID Loan financed tools/equipment/teaching supplies/library books and misc. aids	See tool list Appendix D, IP Report No. 56, WVU
3. Quality of training at the two MATI's	
a) Revised curricula, lesson plans, training materials	- 4 courses
b) In-service training courses	- MATI and KILIMO staff
c) Requirements analysis of establishing Agricultural Education program at Faculty of Agriculture, University of Dar es Salaam	- Final Report See IP Report No. 54, WVU
4. Other	
a) Permanent career service for teaching and administrative staff of MATI's	- for all MATI staff
b) Manpower development and training programs for Ministry of Agriculture staff	- to be determined by consultation
c) Classroom instruction	- 7 contract staff full-time teaching load
d) Advisory/assistance relationship with MATI principal	- 2 contract staff half-time
e) Advisory/assistance relationship to Director of Manpower Development Division in Ministry of Agriculture	- 1 contract staff full-time (C/P)

REVIEW OF PROJECT ACTIVITIES - JANUARY THROUGH DECEMBER, 1978

Introduction

The original Project Agreement between USAID and the Tanzanian Treasury was signed by the respective officials on February 12, 1974. At about the same time, Ndugu Henry M. Kasiga was named as the new Director of the Manpower Development Division (MDD) in the Tanzanian Ministry of Agriculture (KILIMO). The Pro-Ag spelled out in some detail the envisioned sequence of project implementation. The project was hoped to proceed on a three step basis, with some overlap between the steps.

Step I - Planning for Operations, FY 1974-75

The three Special Assistants will arrive (estimated arrival early to mid-CY 1974) and initiate planning for project operations, including development of detailed annual work plans and teaching duties for the Special Assistants at Mpwapwa and Ukiriguru. Duties during this period will be focused on assisting Tanzanian staff in:

1. Identification of initial participant training needs in the agricultural training institutes, the Ministry of Agriculture, and agriculturally related parastatals. Selection of initial candidates.

2. Appraisal of curricula, teaching aids, facilities, etc.; and planning improved training systems.

3. Assistance to the agricultural training institutes in the establishment of qualifications for teaching staff, including the six AID-supplied personnel programmed for Step II.

4. Development of regular schedules of in-service training for agricultural extension officers and training institute technical staff, as well as training for institute administrative staff in budgeting, programming, and planning.

5. Identification of equipment to be provided through loan funding, development of specifications, and establishment of a records system for essential follow-on commodities.

6. Development of appropriate amendments to the existing scheme of service for establishing a career teaching and administrative service for the agricultural training system, and submission of such amendments to the Establishments Section of the Principal Secretary's Office, Ministry of Agriculture, for action.

7. Development of terms of reference for a study of the agricultural education and extension training capability of the Faculty of Agriculture, University of Dar es Salaam.

Step II - Project Operations and Evaluation, FY 1975-77

During FY 1975-77, AID-provided teaching staff (four at Ukiriguru and two at Mpwapwa) will arrive (estimated arrival mid-CY 1975) and take up their assigned duties of:

1. Regular teaching of diploma and certificate students.

2. Administrative duties, as assigned.

3. Working with Tanzanian and other AID-provided specialists, in curricular development, developing teaching aids, developing practicals, field training systems, and similar training matters.

4. Working with their institutes and other Ministry of Agriculture and regional field staff in developing short courses and in-service training for both institute staff and other research and extension personnel.

Step II of this project will not be initiated until the amendments to the scheme of service for the agriculture training institute system, as specified in Item 6, Step I above, have been prepared.

After approximately two years of project operation, or by FY 1976-77, a major Tanzanian Government/AID evaluation will be scheduled to determine if new project directions or actions are required. This evaluation will be in addition to annual Tanzanian Government/AID evaluations, which are regular components of this project.

Step III - Consolidation of Project Inputs, FY 1977-80

It is expected that operations in Step III will continue largely as in Step II, with such changes as are indicated by the joint evaluations and with appropriate modifications as training institute participants return and begin their teaching duties. At this stage, AID-supplied staff will provide on-the-job assistance and train newly returned participants. During this period, in-service training for institute staff and for regional and national agriculture field staff will be stressed by AID-supplied technicians.

The nine-man contract team is scheduled to phase down and out during FY 1980, and the project to be completed in FY 1980.

The project in fact began nearly one year late, and was delayed even further by a lack of suitable housing for project staff. All staff members have been on board during the first half of this reporting period, and we have had two vacant positions during the last half of the period. The project is now in Step III of the original plan, with the mid-project evaluation having been completed. A report on project activities follows.

A. CONSORTIUM STAFFING PATTERN

1. Office of International Programs, West Virginia University, Morgantown, West Virginia 26506

   The Office of International Programs is an administrative component of the College of Agriculture and Forestry, West Virginia University. Throughout this reporting period Dr. Rodger Yeager has served as Director and has been assisted by David Harris, Contract Administrator, and supporting secretarial staff.

2. School of Agriculture, North Carolina Agricultural and Technical State University

   Throughout this reporting period Dr. William E. Reed, Associate Dean of the School of Agriculture, has served as the project liaison officer.

3. Field Team in Tanzania

   Several changes have occurred in the Tanzanian field team during this reporting period, which may be summarized as follows:

Name - Rank · Institution	Present Responsibility	Arrival Date
Dr. Robert H. Maxwell - WVU Professor - Agricultural Education	Chief of Party and Special Assistant to the Director of MDD	17 Feb 75
Dr. Will R. Getz - NCATSU Adj. Asst. Prof. - Animal Science	Animal Production Tutor MATI Mpwapwa Departed Tanzania 3 May 78	1 Nov 75
Dr. Richard C. Gray - NCATSU Adj. Prof. - Animal Science	Animal Production Tutor MATI Mpwapwa	4 June 78
Mr. John A. Mann - WVU Adj. Asst. Prof. - Plant Science	Crop Production Tutor and Department Head MATI Ukiriguru	23 April 76
Dr. Lloyd C. Pickett - WVU Adj. Prof. - Plant Science	Range Management Tutor and Deputy Principal MATI Mpwapwa Departed Tanzania 25 May 78	6 May 76
Dr. Harvey P. Hermanson - NCATSU Adj. Assoc. Prof. - Soil Science	Soil Science Tutor and Department Head MATI Ukiriguru Departed Tanzania May 78	8 May 76

Name - Rank - Institution	Present Responsibility	Arrival Date
Mr. Michael Kizer - NCATSU Adj. Asst. Prof. Agric. Engineering	Agro-mechanics Tutor MATI Ukiriguru	8 May 76
Mr. Frederick P. Holmes - WVU Adj. Prof. Agric. Education	Extension Tutor and Deputy Principal MATI Ukiriguru Departed Tanzania 26 May 78	15 May 76
Dr. Thomas J. Galvin - WVU Adj. Prof. Animal Science	Animal Health Tutor MATI Mpwapwa Departed Tanzania 6 December 78	15 Nov 76
Mr. Irving Russell - NCATSU Adj. Assoc. Prof. Agric. Economics	Rural Economy Tutor and Department Head MATI Ukiriguru Departed Tanzania 15 December 78	22 Nov 76

B. NEW PROJECTS

1. Farmer Training

As reported in the 1977 Annual Report, the Farmer Training Project was approved on November 7, 1977. To date nothing has been accomplished on the implementation of project activities because of problems related to the award of the contract. As of January, 1979, it is known that the Consortium has been selected and a great deal of preliminary work has been performed on the contract, but the latter has not yet been officially signed. Nevertheless, many supporting activities have been initiated during the year, but with relatively slow progress.

Housing for the staff of the Farmer Training Project was seen to be a problem from the outset. No definite action has been taken regarding housing for the one officer who will be stationed in Dar es Salaam, but it is hoped that Mission-controlled housing will be available for him upon arrival. An additional house is under construction for the staff member to be posted to MATI Mlingano. Money has been sub-warranted from KILIMO to begin construction on a similar house to be provided for the officer who will be posted to MATI Nyegezi, but actual construction work has not yet begun. In the event of an early arrival of these two staff members, temporary housing is available at both locations. Grade A housing exists at both of the other field locations, MATI's Mtwara and UAC-Mbeya. An approved Ministry of Communications and Works (COMWORKS) plan for a classroom at Uyole has been submitted to KILIMO, and COMWORKS is completing its drawings for a hostel that will be constructed at MATI Mlingano. A total of US $110,000 has been obligated in the project for the construction of

these two houses, two classrooms, one hostel and the various renovations necessary to accomodate farmers at the four field locations. In most cases, the building and renovations are being performed by the maintenance building crews of the MATI's, although it appears that a local contractor will construct the classroom at MATI UAC-Mbeya.

The vehicles for the project will be long-wheelbase, right hand drive Land Rover pickups and station wagons. They have been ordered but have not yet arrived. The latest word is that the three pickups are ready for collection at Nairobi, and that two station wagons will arrive from Britain by sea. The arrival date on the latter is unknown. Motorbikes have been ordered directly from the Honda Company in Japan, and are rumoured to be on the high seas.

KILIMO officials are still expected to participate in the final recruiting process for Farmer Training Staff, when the time comes.

It is expected that at least four of the proposed long-term study candidates will depart in August, 1979 for their degree work in the United States. The Project's short-term training programs have not been organized yet, and the final choice of training locales will depend on how project activities proceed. Some of the initial suggestions no longer seem appropriate and negotiations are still continuing with KILIMO as to the most appropriate locations for these candidates.

The Project Paper describing this activity is available in the offices of USAID/Tanzania.

2. Department of Agricultural Education and Extension, and Center for Continuing Education in Agriculture, University of Dar es Salaam, Faculty of Agriculture, Forestry and Veterinary Sciences, Morogoro.

The initial consultants' report for this project was prepared under the Manpower Development Project in July, 1975. A revised Project Paper was submitted early in the year and the Project was approved in July, 1978. Negotiations are now underway for the selection of a contractor to provide the services outlined in the PP.

Through the use of local funds, Treasury and KILIMO have agreed to support the construction of buildings for the Center for Continuing Education in Agriculture, together with office and teaching facilities for the Department of Agricultural Education and Extension. The tender for the first phase of construction has been awarded and construction activities are proceeding at the Morogoro campus. This calendar year some Shs. 700,000/- have been utilized, and the total for the financial year is expected to be about Shs. 2.6 million.

KILIMO looks forward to the time when the Center is ready for use. The additional numbers of degree-level candidates in the specialized fields of agricultural education and extension will be much welcomed in the MATI network and field services.

C. PARTICIPANT TRAINING

Fifty-eight of the available sixty participant training positions have been filled. Twenty-five long term participants are still in the U.S., and thirty-four long term and six short term participants have returned to Tanzania. Among the thirty-four long term participants who have returned, twenty-seven are working in KILIMO, one is with the Ministry of Education (ELIMU), two are posted to the Regions, three have returned to the University of Dar es Salaam, and one is deceased. Nineteen returned participants are now working within the MATI network. Thirteen long term participants are expected to return to Tanzania during 1979. The following summary table provides an analysis of the participant training program.

All of the participants selected during this reporting period have been post-graduate candidates. The new selection procedure, designed in KILIMO, has worked quite well, although the increasingly stringent admissions policies of many American universities have provided a slight obstacle to our efforts. With the raising of acceptable passing grades on both the TOEFL language test and the Graduate Record Examination, we have to be more careful in the original screening of potential candidates.

While the selection pool for post-graduate candidates is neither wide nor deep, we have been able to obtain very good candidates, and expect to have the last two remaining positions filled by August, 1979.

Summary of Participant Training Status

Client and Speciality	B.SC. Completed	B.SC. Still in USA	M.SC. Completed	M.SC. Still in USA	PH.D. Completed	PH.D. Still in USA	SUB-TOTAL Completed	SUB-TOTAL Still in USA	TOTAL
KILIMO									
L.S. Research	2	1	-	-	-	1	2	2	4
Crop Research	2	2	-	-	-	1	2	3	5
Planning	-	-	2	-	-	-	2	-	2
MATI Network	15	5	4	6	-	-	19	11	30
Irrigation	1	-	-	-	-	-	1	-	1
Tsetse Research	*	-	-	-	-	1	-	1	1
Deceased	1						1		1
ELIMU									
Agric. Education	-	-	1	-	-	-	1	-	1
REGIONS									
Crop Production	2	1	-	1	-	-	2	2	4
L.S. Production	-	-	-	-	-	-	-	-	-
Economics	-	1	-	1	-	-	-	2	2
PARASTATALS									
Crop Production	-	-	-	1	-	-	-	1	1
L.S. Production	-	-	-	-	-	-	-	-	-
UDSM									
Crop Production	2	-	-	1	-	1	2	2	4
L.S. Production	1	-	-	-	-	-	1	-	1
Ag. Ed./Ext.	-	-	-	-	-	1	-	1	1
Sub-Totals	26	10	7	10	-	5	33	25	
TOTALS	36 (M=33 F=3)		17 (M=14 F=3)		5 (M=4 F=1)		58 (M=51 F=7)		58

* Two other participants have utilized Manpower Project funds one short-term heavy equipment specialist from Masai Project and one B.Sc. Entomology for the Tsetse Research Project.

Yet to be selected/recruited	2
GRAND TOTAL Main Project	60

PARTICIPANT TRAINING PROGRAM - AGRICULTURAL MANPOWER PROJECT

Participants Name	From	Date of Departure	Type of Training and Institution	Date of Return	Where Posted - Utilization
(Direct Funding - Long Term)					
1. V. Mrisho	KILIMO HQ	6/72	Economics M.A. Williams College	6/74	AO - Agricultural Planning, KILIMO HQ
2. E. Ngaiza	MATI Ukiriguru	12/73	Agric. Engineering B.Sc. U. of Missouri	5/75	ATO-Farm Mechanics & Dept Chrmn MATI Ukiriguru
3. A. Senyagwa	MATI Ukiriguru	12/73	Agric. Educ. & Ext. M.Sc. U. of Missouri	5/75	ATO-Rural Economy & Extension & Dept Chrmn, MATI Ukiriguru 6/76-Principal, MATI Ukiriguru 12/78-Principal, MATI Ilonga
4. A. Mosha	MATI Ukiriguru	12/73	Agronomy M.Sc.	12/75	ATO-Agronomy & Dept Chrmn MATI Ukiriguru 6/75-Principal, MATI Mlingano
5. F. Mwijage	KILIMO HQ-MDD	9/74	Animal Science M.Sc. New Mexico State U.	6/76	ATO-Animal Production Uyole Agric. Center MATI Mbeya 12/77-MATI Maruku, Bukoba
6. J. Magoti	KILIMO - Regions	12/74	Irrigation Eng. B.Sc. Prairie View A & M	12/76	AO - Arusha Seed Farm 6/78-KILIMO HQ, Irrigation Division
7. M. Shayo	MATI Mpwapwa	6/74	Veterinary Pathology M.Sc. Nairobi University	12/74	Nairobi University was closed, necessitating his return
		9/75	Veterinary Pathology Auburn University	9/77	ATO-Animal Health MATI Mpwapwa

Name	From	Date of Departure	Type of Training and Institution	Date of Return	Where Posted - Utilization
(Contract Funding - Long Term)					
1. D. Msafiri	KILIMO - Regions	8/75	Range Mgt. B.Sc. New Mexico State Univ.	12/76	ATO-Range Management MATI Morogoro
2. S. Mwakipesile	MATI Tengeru	8/75	Animal Science B.Sc. WVU	1/77	ATO-Animal Production MATI Nyegezi 9/77-MATI Tengeru
3. T. Itegereize	MATI Nyegezi	8/75	Agric. Economics B.Sc. NCATSU	5/77	ATO-Agric. Economics MATI Mlingano
4. D. Kirumbi	UDSM - FAF	8/75	Animal Science B.Sc. WVU	5/77	Animal Science Lecturer, UDSM
5. B. Lawa	KILIMO - Regions	8/75	Crop Production B.Sc. WVU	5/77	RADO Dar es Salaam Region
6. B. Rweyemera	MATI Mlingano	8/75	Farm Mgt/Agric.Econ.B.Sc. WVU	5/77	ATO-Agric. Economics MATI Mlingano
7. S. Sigera	MATI Tengeru	8/75	Dairy Technology B.Sc. NCATSU	5/77	ATO-Dairy Technology MATI Tengeru
8. G. Masigara	MATI Ukiriguru	8/75	Agric. Education B.Sc. WVU	5/77	ATO-Extension & Agric. Educ., MATI Ukiriguru
9. R. Mbonika	UDSM - FAF	8/75	Soil Science B.Sc. NCATSU	6/77	Soils Lecturer UDSM
10. Joseph Lyakurwa	MATI Nyegezi	12/75	Animal Science WVU	8/77	ATO-Animal Science MATI Mpwapwa, 12/77- Principal, MATI Mtwara
11. U. Mwanganda	MATI Nyegezi	8/75	Pastoral Agronomy B.Sc. WVU	8/77	ATO-Agronomy, MATI Mtwara, 6/78 TRDB Mwanza

Name	From	Date of Departure	Type of Training and Institution	Date of Return	Where Posted - Utilization
(Contract Funding - Long Term)					
12. N. Sembuli	KILIMO - Regions	8/75	Dairy Science B.Sc. NCATSU	8/77	ATO-Animal Science MATI Mpwapwa 10/77 UAC Mbeya
13. N. Musisa	KILIMO - Research	8/75	Soil Science B.Sc. WVU	9/77	RO - Soils A.R.I. Mlingano
14. K. Kissavike	MATI Ukiriguru	8/75	Home Economics B.Sc. NCATSU		In Training
15. B. Manyala	MATI Mlingano	8/75	Agric.Mechanization B.Sc. NCATSU	1/78	ATO-Agric. Education UDSM
16. L. Mosha	MATI Ukiriguru	8/75	Library Science B.Sc. WVU M.Sc.-U. of Pittsburgh		In Training
17. Jackson Keregero	UDSM - FAF	6/76	Agric.Extension M.Sc.-Ph.D. U. of Wisconsin		In Training
18. Amon Mattee	UDSM - FAF	6/76	Agric. Education M.S. U. of Wisconsin	6/78	Agric. Education Lecturer, UDSM
19. Michael Mulray	KILIMO HQ-MDD	8/76	Agric. Education B.Sc. WVU	5/78	Planning Officer-Manpower KILIMO HQ-MDD 9/78-Professional Training Officer-MDD
20. George Lulandala	MATI Tengeru	8/76	Agric. Education B.Sc. WVU	8/78	ATO-Curriculum Dev. KILIMO HQ-MDD
21. Kaprasio Kalemela	KILIMO - Research Ukiriguru	8/76	Agronomy B.Sc. NCATSU	5/78	RO - Crops A.R.I. Tumbi

Name	From	Date of Departure	Type of Training and Institution	Date of Return	Where Posted - Utilization
(Contract Funding - Long Term)					
22. Marco Noah	KILIMO - Regions	8/76	Agric. Ext. Educ. B.Sc. NCATSU	5/78	AO - Field Services Shinyanga Region
23. Ignace Gwau	MATI Maruku	8/76	Agric. Education B.Sc. WVU	5/78	ATO-Crop Production Coordinator of Studies MATI Nyegezi
24. Gabriel Kasengwa	MATI Mpwapwa	8/76	Agric. Education B.Sc. WVU	5/78	ATO-Crop Production MATI Mtwara 8/78 Deceased
25. Silas Bolo	KILIMO - Research Mpwapwa	8/76	Animal Science B.Sc. WVU	8/78	RO-Artificial Insemination NAIC-Usa River
26. Richard Shayo	Uyole Agric. Center MATI Mbeya	8/76	Agric. Education B.Sc. WVU	6/78	ATO-Crop Production MATI Mbeya-Uyole
27. Sebastian Sarwatt	KILIMO HQ-MDD	8/76	Animal Science B.Sc. NCATSU		In Training
28. Bedda H. Katani	KILIMO HQ-DAP	1/77	Agric. Economics M.Sc. WVU	5/78	AO - Agric. Economics KILIMO HQ-DAP
29. Ildefons Lupanga	KILIMO HQ - on secondment to ELIMU	1/77	Agric. Education M.Sc. WVU	1/79	EO - Inspector of Schools - ELIMU
30. Martha Quentin	UDSM -FAF	1/77	Agronomy B.Sc. Entomology M.Sc. - WVU		In Training
31. Francis M. Shao	KILIMO - Research Ukiriguru	5/77	Plant Path./P. Admin. Ph.D. WVU		In Training

Name	From	Date of Departure	Type of Training and Institution	Date of Return	Where Posted - Utilization
(Contract Funding - Long Term)					
32. Charles Chacha	MATI Mpwapwa	8/77	Animal Sci./Agric. Ed. B.Sc. NCATSU		In Training
33. Michael Ngazi	MATI Mpwapwa	8/77	Animal Sci./Agric. Ed. B.Sc. NCATSU		In Training
34. Bede L. Msoffe	MATI Mlingano	8/77	Agric. Mech./Agric. Ed. B.Sc. WVU 8/78 Iowa State Univ.		In Training
35. Ntalyaga Meghji	MATI Morogoro	8/77	Agronomy/Agric. Ed. B.Sc. WVU		In Training
36. Rachel Tuvana	KILIMO - Regions Morogoro	8/77	Production Agronomy B.Sc. NCATSU		In Training
37. Ersom Manyiri	KILIMO - Regions Mwanza	8/77	Agric. Econ./Land Plan. B.Sc. NCATSU		In Training
38. Robert Mushi	KILIMO - Research Ukiriguru	8/77	Agronomy B.Sc. WVU		In Training
39. Juma Katundu	KILIMO - Research Ukiriguru	8/77	Agronomy B.Sc. NCATSU		In Training
40. Julian Machange	KILIMO - Research West Kilimanjaro	8/77	Pasture Agronomy B.Sc. NCATSU		In Training
41. Daniel Msuya	KILIMO - Research Mpwapwa	8/77	Animal Science B.Sc. WVU	12/78	RO-Animal Science LRC Mpwapwa
42. Rose Tarimo	KILIMO - Research Tanga	8/77	Entomology M.Sc.-Ph.D. WVU		In Training
43. Mathias Materu	KILIMO - Regions Musoma	8/77	Plant Sci./P. Admin. M.Sc. WVU		In Training

Name	From	Date of Departure	Type of Training and Institution	Date of Return	Where Posted - Utilization
(Contract Funding - Long Term)					
44. Vincent Hiza	MATI Mtwara	8/77	Animal Sci./P. Admin. M.Sc. WVU		In Training
45. Gaspary Madata	KILIMO - Research Mpwapwa	8/77	Animal Nutition Ph.D. WVU		In Training
46. Johnson Semoka	UDSM	9/77	Soil Science Ph.D. Univ. of Calif.-Riverside		In Training
47. Andrew Ibrahim	MATI Tumbi	12/77	Agric. Ed./P. Admin. M.Sc. WVU		In Training
48. J. K. Rwelamira	SUDECO Financial Control Officer	3/78	Agric./Finan. Mgt. M.Sc. Univ. of Florida		In Training
49. A. K. Kerenge	U.A.C. (Mbeya) A.T.O.	8/78	Agric. Economics M.Sc. WVU		In Training
50. John Mkamba	MATI Ukiriguru A.T.O.	8/78	Crop Agronomy M.Sc. WVU		In Training
51. C. D. Nyakimori	KILIMO - Regions Dar es Salaam	8/78	Agric. Economics M.Sc. WVU		In Training

D. PROJECT VEHICLES

Of the original project vehicles, one at Mpwapwa has been turned over to the MATI, another at MATI Ukiriguru has been overturned and is not roadworthy, and the pickup used by the Chief of Party is still in use. Two additional vehicles from FY 77 funding are in use at the two MATI's. We still have no response to our request for a waiver to purchase three Land Rover replacement vehicles from FY 78 funding. An AID/W consultant, Peter Hagan, visited Tanzania during early 1978, and we hoped for definite subsequent action from AID/W on the Mission request for waivers to purchase these vehicles. This decision has not been forthcoming although the vehicles are badly needed. Some determination must soon be reached regarding the type of vehicles to be ordered. Safety of the driver, local availability of spare parts and service, and the value of the vehicles at the end of the project should provide overwhelming justification to the Agency for the purchase of Land Rovers. In the meantime, it should be emphasized that careful handling and good preventive maintenance programs for the existing vehicles will greatly prolong their serviceable lives.

E. CURRICULUM DEVELOPMENT ACTIVITIES

The Project consultants' report on curriculum development in KILIMO's Manpower Development Division was accepted and has been implemented. Two returned participants have joined the curriculum development effort, one in supervision and another in teaching materials. The search continues for suitable candidates to fully staff this new section of the Division.

During the year, several diploma syllabi have been standardized to require two years of study. These include the nutrition, horticulture, agro-mechanics, home economics, and ranch management syllabi. It is hoped that within another year, we will have standarized student intake dates, so that the whole system will operate somewhat more smoothly. A new Irrigation diploma is underway at Nyegezi, and plans are proceeding for a Dairy diploma at Tengeru.

At the certificate level, six institutes are offering the multi-purpose (or agro-vet) syllabus, Nyegezi is still offering the specialized certificate in land planning, and the artificial incemination program at Butiama is classed as a special course whose future is not yet clear. No training has yet started at Usa River, in artificial insemination.

A special effort will be made this year in the Curriculum Development Section, to organize and publish teaching notes on several areas of certificate instruction. The activity will focus first on extension, since this discipline requires the most help and will provide the most support for Tanzanian Government attempts to assist the agricultural field services.

F. MANPOWER PLANNING

Although we fully expected to complete an agricultural manpower survey during this reporting period, this has not happened. Several factors

account for this delay; the most important of which include a thorough overhaul of the initial terms of reference (scope of work) for this survey, and a variety of funding and support problems. A revised scope of work was produced by consultant Roger Simmons during the year, and at the time of writing the logistical problems are near resolution.

During the last short term consultation of Mr. Simmons, plans were made for the arrival of the manpower study team in early 1979. The revised scope of work is included in this report as Appendix A. We now expect an outside team of three full-time equivalents (four individuals) who will be joined by five full-time Tanzanian officers to conduct the study. The expected results of this study will contribute much needed data to KILIMO's manpower planning effort. The timing for this study will present some problems, since most of the field work in the districts and regions will have to take place during the long rains. However, given the importance of this study, we have decided to proceed and deal with the elements accordingly.

Some relevent manpower data are included as Appendix B of this report. Such data should become much more reliable and greatly augmented as a result of the manpower survey.

G. NATIONAL AGRICULTURAL LIBRARY PROPOSAL

A proposal to support the library system was prepared soon after the first of the year and submitted to Ford Foundation. Unfortunately, the Foundation indicated that they were not in a financial position to fund the proposal, but strongly supported the approach and parent concept. We have continued to seek a sponsor, and the interest level in the idea is still high. An indication of the concept's worth is the consideration which will be given to improving agricultural library services at the upcoming Research Support Conference, sponsored by the World Bank, to be held in Arusha in February, 1979. The Irish Government has indicated an interest in assisting the proposed library project, although it will not be able to support the project's total costs. It is hoped that USAID will also consider the value of this proposal, and provide partial or full support to the implementation of such an important component of Tanzania's agricultural development.

H. EVALUATION

Drs. Burril and Meisner arrived in February, to perform the mid-term evaluation of the project. They were joined in this task by Larry Abel, then USAID/T Project Manager, and Ndugu Hidaya Mlege, Principal of MATI Morogoro. Their findings are presented as Appendix C of this report.

Copies of the full evaluation report are available in the offices of USAID/T. The recommendations of this evaluation are still under discussion between KILIMO and USAID/Tanzania, although no unexpected recommendations were made.

I. CONSORTIUM VISITORS

In May Drs. Yeager of WVU and Reed of NCATSU arrived for a two-week working visit. Their visitation schedule included MATI Ukiriguru, relevent officials of USAID and KILIMO, and the staff of MATI Mpwapwa who were able to meet them in Dar es Salaam.

Two executive visits also occured during the reporting period; Dr. Dale Zinn, Dean of the WVU College of Agriculture and Forestry in August, and Dr. Jay Barton, WVU Vice-President and Provost for Academic Affairs in October.

A full report of Consortium personnel arrivals and departures is included as Appendix D.

J. CONSORTIUM FIELD STAFF ACTIVITIES

A fairly complete overview of my own activities is presented in much of the foregoing discussion. Rather than paraphrase the comments of my team members, I have included their progress reports and end-of-tour reports, as Appendix E. These reports are intended to demonstrate to our Tanzanian colleagues that members have been fully involved in teaching activities, preparation of teaching materials and aids, representing their disciplines and institutes at KILIMO and professional group meetings around the country, and a variety of service and extra curricular activities.

I recommend that readers interested in gaining a fuller understanding of the MATI network, its approach to training, and some of its problems should examine the record of the Annual Training Conference, held this year at MATI Ukiriguru, and also the annual proceedings of the National Council for Agricultural Education. These documents are available in KILIMO.

I should like to conclude the main body of this report by commenting on some of the year's highlights and problem areas from my vantage point as Chief of Party.

1. We have been mightily cheered by the return and enthusiastic professional endeavors of the Project's graduating participant students. This particularly applies to the MATI network, but similar reports are received from the other clients such as UDSM, KILIMO research, the Regions, and ELIMU. It is probably true that the average agricultural education program offered in the U.S. land-grant system is more theoretical than may be required in Tanzania, but interweaving formal study with practical programs during academic terms and the long summer vacations has given us a group of returning professionals who are performing very well. Their presence within the system augurs well for the future efforts that are required.

Students planting production plots at MATI Ukiriguru.

Weeding Ukiriguru soybean plots.

2. From the standpoint of overall planning, this has been rather a difficult year. The financial and psychological atmosphere of Tanzania has been rather fluid. A number of new appointments have been made in KILIMO, and almost a complete staff turnover has occured in the AID Mission. Recent administrative changes in AID/Washington were supposed to streamline processes relevent to the Project, but operations seem to take even longer now. Here in Tanzania we are still struggling with effects of decentralization, villagization, and the implementation of Party Policy. We are trying to work smoothly with the regions, parastatals, and the various ministries which are presently involved in agricultural and rural development. However, a number of different points of view have emerged on development, and some radically new, and as yet unoperationalized, concepts have been developed as a result.

3. Internally, one of our problems during this reporting period has involved staff recruitment. Two terminations were effected with short notice at midyear, and both of those positions remain open. One midyear termination was well-planned, the replacement officer arrived in good time and there were no continuity problems. The two year-end terminations were planned, and expected, and the replacement officers for these positions will be nominated in the near future.

   Recruiting problems are unique neither to Tanzania nor to the Manpower Project. They affect all development projects of a similar nature to ours, and overseas-based U.S. government agencies as well. Other USAID-assisted projects have experienced similar "down" times, and the Mission itself has had numerous positions vacant for from six to eight months during the reporting period. This is not to minimize the problems that lags in recruiting and placement cause, but to put things in their proper context. We recognize the problem, and are seeking the best means to solve it.

   Many of the incentives for acceptance of overseas assignments, within a university setting at least, have been diminished during this reporting period. The war with Uganda at year's end has adversely affected recruiting, as have recent changes in U.S. tax legislation relevent to university employees working overseas.

   The WVU-NCATSU Consortium has a responsibility to provide the best people available, and we pledge to field these people as expeditiously as possible. It is not something that can happen overnight, given the nomination and concurrence procedures required by the U.S. and Tanzanian Governments. And we still believe that in the long run, a vacant position is better than one hastily filled with an individual who does not fit the job description, cannot adapt to the working conditions, or lacks the will and the ability to strive for the objectives of the Project. My colleagues in KILIMO, USAID/T, and the home campuses share a common view on the problems of recruiting, and I feel confident that a positive recruitment pattern will soon emerge.

MATI Ukiriguru students surveying foundations for screenhouse laboratory.

Erecting trusses for screenhouse laboratory.

4. We have been disappointed in the Mission's project support effort during the year, and disturbed by the inability of the Tanzanian Government to provide appropriate financial and physical support to teaching activities at the two Project MATIs. It is easy to make these kinds of statement in a progress report, and easier still to use them as excuses for non-achievement.

   On reflection, I suspect that we have actually had better psychological and material support than we might have had in a U.S. setting. Moreover, we operate in a country where "Kujitegemea" (self-reliance) is a primary policy of the Government, and it is good for us to remember this. Self-reliance was heavily emphasized by our own forefathers, as a quality that furthered their self-preservation and development efforts. We should nurture a spirit of modern day self-reliance to meet the daily challenges of working in Tanzania. Tanzania requires initiative and ingenuity, and perhaps a bit of second wind, for successful achievement. I think part of our responsibility here is to plant ideas, procedures, and systems that can germinate in Tanzania administrative soil and thrive on the basis of their own validity and vitality.

5. Our basic assignment in this project is curriculum development in its broadest sense. Curriculum development includes the development of support systems, staff, and quality of teaching, as well as teaching aids, materials, and syllabi. Curriculum development is a continuous process and it is hard to gauge progress at any given moment. Over time, the results show in the quality of people who emerge from the training system and their impact on the Country's development.

   It is difficult to report on the quality of Tanzanian Government support for the individual MATI's, as it varies widely. In terms of the entire MATI system, support has improved over the years of this project. Yet there is a long way to go toward providing uniform support for all of the individual MATI's. In my judgement, completely uniform support is impossible, given the conditions under which the MATI system operates. In light of these conditions, I recommend that our best alternative is to consolidate the Country's training efforts at two or three locations. This would allow more uniform support and greatly increase staff utilization and efficiency. It would also probably improve student and staff morale and produce better graduates with the same expenditure of public funds. In terms of maximum utilization of scarce resources, I believe consolidation is the correct way to improve training support.

   Staff development is all too often looked upon in terms of further training and promotion in rank. The improvement of teaching skills and technical knowledge is certainly an important component of staff development, but at least two other factors should be given consideration. Supervision and helpful guidance of teaching staff

are essential and these are almost completely missing from the MATI network. Systematic support of these functions by principals and coordinators of studies must somehow be built into the system. Another important factor is the professionalization of teaching in agriculture. Until the system rewards teachers sufficiently, both psychologically and materially, little true staff development will take place. Many of our senior officers sense this deficiency, and are struggling with the difficulties of bringing about the needed changes. In the meantime, teaching effectiveness suffers.

Syllabi may be the least important component of curriculum development, but the emphasis on syllabi in the MATI system has been over-riding. We have performed much experimentation, sometimes under pressure, and have tried to be all things to all people via the syllabus. We have made promises that we could not keep. We have embarked on educational ventures that were doomed to failure from the outset. Experimentation, like salt tends to flavor things. Too much of either tends to produce harmful results. I fear that this homely analogy may bear on our efforts with the agricultural training systems of Tanzania. Many educational principles have been tried often enough elsewhere, that we know of their validity. We would gain a great deal in our programs if we reemphasized these principles, and allowed other professionals, who enjoy more degrees of freedom than we do in Tanzania, to undertake the experiments. This particularly applies in the teaching of practical skills, which is one of our main objectives, as well as in evaluation and the development of teaching methods.

For the first time since the inception of this project, sufficient exceptionally well-trained participants have returned to the system, who are qualified to assist in this redirection of effort. Perhaps not enough "yeast" is present at the moment to leaven the whole system, but the bases for change and redirection are present. This prospect makes our efforts exciting and worthwhile. We hope for another good year in 1979.

APPENDIX A

Second Draft

TERMS OF REFERENCE

TANZANIA AGRICULTURAL MANPOWER STUDY

Drafter: Roger J. Simmons
April, 1978

1527 Woodacre Drive
McLean, Virginia 22101

13 March, 1978

To: Rodger Yeager, WVU/Director of International Programs
From: Roger J. Simmons, Consultant
Re: Tanzanian Agricultural Manpower Study: Terms of Reference (2nd draft)

1. Enclosed please find the second draft terms of reference for the study. This draft is a more than normally detailed terms of reference, and takes advantage of the first draft prepared by the Manpower Development Division. It is built upon further discussions held with the Division in early March in Dar es Salaam, briefings and reference documents supplied by MOA and USAID, the Comments and Suggestions paper of March 8, and the consultancy report of March 13.

2. As noted in the March 13th report, the principle objectives of the consultancy have been to:

A. Provide fuller specification of study outputs, in terms of types of information to be collected, and areas in which analysis would be conducted to derive recommendations;

B. Specify general methodological approaches which appear to be suitable;

C. Set out a timetable based upon work-load analysis, proper sequencing and scheduling of essential activities;

D. Specify and schedule the appropriate numbers and qualities of personnel to carry out the study.

In addition, the present draft includes three other sections:

E. Specification of logistical requisites to support the st y;

F. Enumeration of some cost factors for bu calculations;

G. Specification of some assumptions underlying the study, and the ability to complete it successfully.

3. As with most all terms of reference, it is wise to caution that unanticipated factors may occassion the need to depart from the original framework to deal with situations that seem to require flexible responses. Consultation among the concerned parties and appropriate adjustments would then be in order.

4. These draft TOR have not yet benefited from additional discussions with colleagues. Therefore your substantive and editorial comments would be especially appreciated. This draft will be sent to Tanzania by hand to save time. Their written reactions and suggestions would be welcome. It is hoped that the TOR can be finalized in discussions when the team arrives to proceed with the study sometime in June.

SUMMARY

Goals: The study is designed to answer the following five questions with specific sets of recommendations:

1. How many persons are needed at each qualification level, in each specialty, for which agricultural sub-sectors over the next five years?

2. Given a set of manpower needs, how many persons can and how many persons should be produced by the training institution in the light of various constraints such as funding levels, general economic outlook, and so forth?

3. What can be done to improve the qualitative performance of pre-service, in-service, and adult education farmer training institutions with regard to both their programs and management?

4. How can the efficiency and effectiveness of agriculturally specialized manpower be enhanced through improvements in organizational structures, personnel system incentives, supervisory activities, and financial, logistical, informational and planning/programming systems and procedures?

5. In the light of recommendations on the above issues of manpower planning, education, and utilization, what would constitute the general outlines of an implementation plan to schedule the required activities?

An integral part of the study effort is to skill transfer and institutionalize the capacity to conduct such studies in the future within the Ministry of Agriculture.

Methods: Basic approaches involve:

1. A decentralized survey, with detailed questionnaires on supply, demand, education, and utilization covering districts, regions, parastatals, other ministries, at each supervisory management level.

2. To utilize an unconstrained questionnaire on demand estimates, which is later scaled by budget limitations; but which nonetheless contains appropriate proportions with regard to educational qualification levels and fields of specialization.

3. To follow-up questionnaire data collection with interpretive interviews for greater depth.

Staffing: WVU/NCATSU - 2 Manpower Planner/Analysts (6 months each)
- 1 Agric. Education Specialist (3.2 months)
- 1 Manpower Utilization Specialist (6 months)
- 1 Survey Interviewing Specialist (2.4 months)
- 1 Reviewing Consultant (0.4 months)

Total of 24 Person-Months

Min of Ag - 2 to 4 persons (12 to 24 Person-Months)

Scheduling: Start to Finish Estimate of Six (6) Months (Optimistic Est.) Contingency person days estimate of twenty percent (20%), making for pessimistic estimate of seven point two (7.2) months.

Second Draft

TERMS OF REFERENCE

TANZANIA AGRICULTURAL MANPOWER STUDY

Drafter: Roger J. Simmons
April 11, 1978

I. BACKGROUND

Demand and Supply of Agriculturally Specialized Personnel

Over the past 12 years there have been two manpower supply and demand studies done by the Ministry of Agriculture. The last was that done by Yeaman, Schwencke, and Wamunza in 1972; and before that the study by Nelson in 1967. Both of these attempted to grapple with the projection of manpower needs and the provision of trained personnel by the educational system. Within the confines of the methodologies used, each of these was able to contribute to policy making through their quantitative forecasting, as well as making recommendations relevant to qualitative aspects of agricultural education, and in suggesting utilization improvements.

There has always been and will likely always be continuing debate about the proper methodology to employ in manpower studies. Unfortunately, manpower planning is one of the more imprecise areas of development planning, and is not a fixed and exact science.[1] The Government of Tanzania and the Ministry of Agriculture in particular have been concerned about this issue for some time. They wish to make progress in evolving increasingly reliable projections upon which future educational intakes can be based.

The last two studies have been based on demand estimates being made by a limited number of persons at a centralized headquarters location, using a combination of three approaches. The program approach attempts to secure a grasp of the number of agricultural projects and programs being carried out over a plan period, the workloads, and types of agricultural personnel needed to accomplish the specified tasks; and therefore the effective demand. The ratios approach posits a target set of optimum numerical relationships between different levels of personnel. For example, in the 1972 study, it was assumed that there should be a ratio of 1 graduate to 2 diplomats to 20 certificate holders to 10,000 farmsteads. Demand is then calculated to close the gap between existing and desired staffing magnitudes and proportions. The budget constraint approach takes the existing staffing pattern and makes projections for each level based on the expected annual increases in the personnel emoluments line-item, and thus the number of personnel who can be afforded. The budget constraint is derived either from a ceiling set by the Ministry of Finance, or a review of average increases in past years.

Each of these approaches has its strengths and limitations. On the strengths side, they are useful in making estimates in a short time, at

low cost, using certain rules of thumb as guidelines. There is a good amount of common sense and logic in the enumeration of projects and their personnel needs, just as it is only realistic to apply a budget constraint to any set of figures to keep them within the bounds of feasibility. Similarly, ratios are an expression of broad staffing patterns which experience might indicate have been desirable.

On the other hand, each of the above approaches also has its limitations. The major concern which the Government and professionals in the field have about them are:

1. Programs and projects are always in flux and rarely does Government know all the agricultural efforts it will be making in coming years. In addition, since there is always a significant time lag between the point manpower demands are known and when training production could be increased, shortages would likely continue through the actual program implementation period.

2. Ratios tend to be inflexible, and thus cannot take into adequate consideration the diverse agricultural situations in the country which may require staffing patterns with significant variations.

3. Neither ratios nor budget ceilings consider changing needs from past patterns. They cannot capture sufficiently detailed information on specializations required, nor changes in the ratios among qualification levels, over time.

4. Neither the ratios nor the budget constraint approaches base their estimates on the volume of agricultural development work that has to be accomplished; and therefore what numbers and skills at which qualification levels are required to do the job in different parts of the country. Each is based on a broad formula which is unable to uncover the important practical differentiation needed among staff resources.

5. The above approaches do not utilize the opinions and perspectives of the principal supervisory managers in the field; and not even all of those at headquarters. These personnel can be expected to possess practical information about the agricultural development potentials and problems in their geographic and functional specialization areas of responsibility. The variations from place to place in farmers, crop and livestock patterns, and other situational factors so important in operational planning, cannot be sufficiently considered without detailed consultations.

The Ministry is therefore understandably concerned about its ability to plan and justify an agricultural education and training supply capability which will respond to the genuine needs of the agricultural sector. It is further concerned about the utilization of personnel, in terms of their efficiency and effectiveness. The Ministry recognizes the fact that the country must minimize any wastage of expensively produced quality manpower in its daily operations.

In recognition of this situation, the Ministry of Agriculture, United States Agency for International Development, and the West Virginia/North Carolina Agricultural and Technical State University consortium have decided to collaborate on a study which will update the manpower projections, review the agricultural education institutions, and examine issues of manpower utilization.

Subsequent sections of the terms of reference attempt to spell out various aspects of these matters. Section II describes the General Purposes of the study by enumerating the particular questions which the study is attempting to answer. Section III gives the Detailed Objectives and Methods to be employed. Section IV indicates an Implementation Plan which covers activity scheduling, staffing, and logistical and cost factors. Section V concludes the terms of reference by noting the assumptions on which the study's inquiries and scheduling are based.

II. GENERAL PURPOSES OF THE STUDY

As the background section indicates, the purposes of the study are to respond with recommendations to five major areas of concern. The particular questions which the study poses are:

A. Demand and Supply

1. How many persons are needed at each qualification level, in each specialty, for which agricultural sub-sector over the next five years?

2. Given a set of manpower needs, how many persons can and how many persons should be produced by the training institutions, in light of various constraints such as funding levels, general economic outlook, and so forth?

B. Agricultural Education and Training

3. What can be done to improve the qualitative performance of pre-service, in-service, and adult education farmer training institutions with regard to both their programs and management?

C. Utilization

4. How can the efficiency and effectiveness of agriculturally specialized manpower be enhanced through improvements in organizational structures, personnel system incentives, supervisory activities, and financial, logistical, informational and planning/programming systems and procedures?

D. Implementation Planning

5. In the light of recommendations on the above issues of manpower planning, education/training, and utilization, what would constitute the general outlines of an implementation plan to schedule the required activities?

III. DETAILED OBJECTIVES AND METHODS

This section attempts to specify the particular data collection objectives and general methods which will be employed in the study. This is done in part by listing the information needed, indicating the rationale for its collection, and noting how it will be utilized. Data collection includes not only quantitative aspects, but also qualitative factors. In these activities, interpretive interviews will be conducted where applicable to document the factors influencing numerical estimates; and to gain relevant information which is not easily quantifiable. In the education/training and utilization sections, of course, interpretive interviews are the principle modes of data collection.

The sub-sections of the study detailed here are those for supply and demand, education/training, utilization, and implementation planning.

A. Supply and Demand

The two supply and demand inquiries involve obtaining responses to a number of inquiries. The basic tasks can be divided into about eleven phased activities noted below.

1. Compilation of lists of users and suppliers of agriculturally specialized personnel

While the vast majority of users and suppliers are fairly well known, there is always the possibility that some oversight could occur. Double checking will be necessary. Public, parastatal, and private sub-sectors will be covered.

On the demand or user side, these will include:

a. Public Sector

(i) Ministry of Agriculture Headquarters, Regions, Districts

(ii) Other Public Sector Organizations
- Ministries of Education, Lands, Finance, Commerce and Industry, Economic Affairs and Planning, Labor, Natural Resources and Tourism, Water Development and Power, Prime Minister's Office, Prisons, and National Service

(iii) Parastatal Organizations
- Producing or Holding Companies, Boards, Authorities, Banks, Institutes, Corporations, etc.
- Subsidiary Companies

(iv) Others

b. Private Sector

(i) Estates

(ii) Larger scale agri-business industries

(iii) Individual professions

(iv) Others

On the supply side, the following would be included:

c. Public Sector

(i) University of Dar es Salaam

(ii) Diploma granting programs at Institutes

(iii) Certificate granting programs at Institutes

(iv) Foreign institutions at university, diploma, and certificate levels

(v) Others

d. Private Sector

(i) Students from other institutions at all levels, with studies not financed or arranged by or through Government

(ii) Others

To compile user and supplier lists careful consultations with known principal users and suppliers in both sub-sectors will be conducted, soliciting their information. Cross checks with the Bureau of Statistics, Ministry of Commerce and Industry and Finance Ministry private sector directories and lists will be made.

2. Compile a data base on existing user organizations, including information on all agriculturally specialized personnel at each level and in each specialization, with regard to:

a. Authorized establishment

b. Vacancies

c. Numbers in-post

d. Duty station

e. Basic educational level (elimu)

f. Technical/professional education (sifa)

g. Citizenship

h. Age

i. Departures from organizations due to retirement, death, dismissal, and resignation to employment outside the sector, over past few years

j. Specialty field

This data is to be obtained by examination of personnel records in the various user organizations, as well as through field interviews. Consistency cross checks between the sources can then be made to enable heightened accuracy. Personnel records on departures are essential for computing annual average turnover rates. Other items permit useful cross-tabulations to be made among categories. Basic information on the immediately visible needs (present vacancies and non-citizens in-post) may be obtainable at an early point. Vacancies, non-citizens in-post, and turnover rates are three of the four basic components necessary for requirements estimation. Factors affecting these levels will be ascertained.

3. Collect data on additional needs (and rationales) for the coming five years, by qualification level and specialization field

The supervisory manager of each headquarters, region, and district organizational unit (or significant sub-unit) will be interviewed to obtain his/her estimates of the numbers of new positions required over the next five years. (This is in addition to each supervisory manager's contribution to the data base mentioned above in Section III.,A.,2.) The art and science in practical manpower planning at this moment indicates that the question about additional manpower needs should be asked in an unconstrained context. That is, respondents will be requested to use their professional judgments alone in responding to the inquiry, and not be constrained by budget limitations, policy directives, and other factors. Their professional judgments would likely be based on their perceptions of what their areas need, what support services farmers require to deal with outstanding problems, or capitalize on particular opportunities for agricultural development. Such a question normally yields higher requirement figures (in the public sector) than can be funded. However, it avoids distorting the pattern of needs among qualification levels and specialization fields which are so critical to improved educational planning. It has the benefit of being based in the diverse field conditions which exist, the work volume, and is given by those officers closest to the situation. Where incumbant officers are too new to be fully acquainted with their areas, guidance to locate the most informed person(s) will be sought.

Interpretive information on the rationales for respondents' estimates will also be gathered to permit understanding of the professional and local contextual considerations involved. Inquiries as to prioritization of needs will also be carried out (after the basic unconstrained responses have been recorded), to attempt to capture the practitioners' sense of the trade-offs desirable among numbers and across specializations. In this way, more reasoned assessments of needs and budgetarily feasible "effective demand" can be made.

4. Obtain data on projections of supply and relevant circumstances from the educational institutions

Information will be gathered by the agricultural education specialist and Manpower Development Division for the use of the manpower analysts, including the following:

a. Current enrollments (domestic and foreign institutions) by specialization

b. Insitutional student place capacities

c. Wastage rates for each level

d. Outputs produced in past

e. Teacher/student ratios, actual, desired, and recommended

f. Approved short term plans for capacity expansions

Data sources would be the records of the Manpower Development Division, the Directors and Deans of relevant institutions, the Ministry of Manpower Development, and the Ministry of Education.

5. Compare new position requests with supply projections

This first step in the analytic procedures is designed to uncover the magnitude of possible imbalances between needs and likely suppliers. Shortages and/or surpluses can thus be identified for each level.

6. Apply budget constraints to determine the numbers of personnel who could be hired, in order to derive "effective demand"

"Effective demand" is a central concept to more realistic manpower planning. The needs expressed by respondents in the survey represent unconstrained requests for new positions. Because it is usually impossible to satisfy all of these requirements under existing financial constraints, the figures for each level need to be subjected to a range of more likely budget limitations. "Effective demand" defines the numbers of personnel that can be hired under the assumption of particular annual increases in the personal emoluments line-item. A range of estimates can be given, including those for high, low, and expected.

To carry out this procedure, certain basic information is assembled: the percentage distribution of position requests across qualification levels; the present base budget for personal emoluments at each level; the projection of funds available at the likely constraint figure; and the unit cost of personnel at each qualification level. These figures then permit a calculation of how many positions could be established within the budget constraint.

7. Apply other constraints and factors of a judgemental nature which seem relevant to proper scaling of demand

As with most all policy considerations there are a number of elements which cannot be encompassed within precise quantitative reasoning processes. There are such matters as the influence of general economic conditions, competition among the sub-sectors for the limited supply of specialized personnel, the returns to be expected from an investment in training and personnel as compared with other investments, the trade-offs between investments in utilization improvement activities and those in increased staffing, and so on.

To deal with these issues, the quantitative effective demand figures will be set forth as the most precise statement possible to make under the existing state of the manpower planning methodology. Analytic discussion will then proceed based on surrounding situational factors that might indicate increasing or decreasing the levels of demand above or below present perspectives on budget limitations.

8. Convert effective demand into training requirements

Once it is known how many people can and/or perhaps should be hired over the coming five years, the next calculation derives the numbers of personnel who should enter training. "Training requirements" figures are a function of effective demand plus three additional factors: the turnover rates uncovered through baseline data collection (see III.,A.,2.,i.); the wastage factor of students who leave training due to death, resignation, course failure, or other causes; and the number of teachers needed to be produced at higher levels of agricultural education, to handle the enlarged student bodies at lower levels (which in turn is a function of desired ratios of students to teachers). Each of these factors, turnover, wastage, and derived teacher demand, will affect planning for the size of educational institution intakes and the facilities which will be needed for both staff and students.

9. Make recommendations about personnel levels, institutional capacities, and phasing of alterations in capacities

This section would attempt to make recommendations regarding personnel numbers in the various sub-sectors, student place capacities of the training system, and how the scheduling of capacity alterations could best be done. Options and rationales for varying alternatives would be presented where appropriate. Policy makers could then examine the choices and their consequences within a rational framework for decision making.

10. Report and analyze specialization needs by qualification level

The personnel position requests in their unconstrained proportions at each level will be presented. The prioritization constraint data also

collected would be analyzed in contrast with the unconstrained responses. The rationales for the requests of various specialty fields will be examined; and comparisons of current production with requested patterns will be noted. The results of these calculations will provide operating guidance to those who will implement alteration recommendations of the producing institution's departments; and would allow readjustment of production in accord with the survey's responses where appropriate.

11. Resurvey sub-sample to validate data collection

It is desirable to have a check on the accuracy of the quantitative data collected, should time and funds permit. In the field of manpower planning in developing countries personnel projections are naturally based more on practitioner estimates than rigorous and detailed calculation of scientifically determinable workloads. Given present shortages of qualified staffs to carry out complex planning tasks, it is only natural that there is a dearth of detailed knowledge. Most practitioners are so busy carrying out routine operations that they do not normally have time to devote to planning. This is the reason, in part, for the relative imprecision of the science. However, practitioners do usually have a good intuitive feel for the general scale of the work to be done, and the areas in which effort should be expended to return the greatest value. These are the reasons why the methodology is built on their estimates, rather than those of relatively isolated central managers or planners alone.

Nonetheless, a resurvey of a sub-sample of respondents by different interviewers would be able to indicate what measure of confidence can be placed in the original survey, from a statistical point of view.

B. Agricultural Education and Training

The agricultural sector in Tanzania relies on the products of the agricultural education/training system to provide it with specialized manpower to perform the functions which are required by the development goals of the country. The user agencies require persons with the knowledge, skills, and behaviors relevant to their endeavors. The agricultural education system consists of pre-service post-graduate, degree, diploma and certificate programs in a number of fields; as well as domestic and international staff development training, and adult education farmer training efforts.

The agricultural education system has two major dimensions by which it can be looked at: that of its programs to serve user agencies; and that of its organization and administration. Each of these dimensions will be examined in the attempt to respond to the basic inquiry regarding what can be done to continue to improve the qualitative performance of the agricultural education institutions.

An assessment of the programs of the institutions must cover a number of subject areas having to do with the quality and relevance of training. These involve the following activities:

- Assessment by supervisory managers of staff performance as related to education, assessment by present and former students, assessment of relevance of education to tasks performed on the job, capacities of institutions in terms of curricula offerings, training methods, materials, timing of courses, libraries, research, consultancy and other supplementary missions of education institutions.

- Assessment of the organization and administration of the educational/training function involves examination of guiding policies, institutional planning, staffing, costs, budgeting processes, capital development plans, financing, physical plant facilities, utilization, intakes, wastage, output, efficiency and effectiveness of operations, internal and external coordinative structures, and so on.

The basic method for undertaking these tasks will be the interpretive interview with the heads, staff and students of institutions, education system administrators, and user officials at all levels. Some basic data will be gathered by the interviewing teams from supervisory managers in the field. Most information however will come from the education specialist's own weeks of interviewing. Because of the on-going efforts of the WVU/NCATSU technical assistance team, a recent project evaluation, and past examination of curriculum development, agricultural education, continuing education and library, the number of person-weeks required for fulfillment of this set of tasks is fewer than for other sections of the study.[2]

The particular areas of programs into which the education specialist will inquire are as follows:

1. Supervisory managers' views of education and staff performance

   Part of the questionnaire to be administered will be a section which asks for information on the following:

   a. Rating of adequacy of training for staff immediately after leaving institutions

   b. Specification of the areas of adequacy and inadequacy

   c. Opinions to explain less than adequate performance

   d. Suggestions for remedying inadequacies

2. Staff's views of adequacy of training as related to the nature of field work and the quality of their own performances

   Another form for field interviewing will seek a sampling of opinion from staff at each level with varying lengths of service. It will request information similar to those items noted immediately above.

3. Relation of education and training to work tasks

A sample of staff at each level will be asked to list their major duties and tasks, and the percentage time spent on each of them. This should provide a view of the nature of the practical work done, which can be compared with training curricula.

4. Examination of curricula

The existing and future plans for curricular offerings will be viewed. The essential data to be collected concerns:

a. Types of programs offered, with which emphases and approaches

b. Client groups and individuals for each program

c. Objectives of each program curriculum

d. When offered

e. Where offered

f. How up-dated and evaluated

The major curricula will be examined in terms of their educational quality (level of complexity, sequence in learning process, comprehensiveness, testing, evaluation, etc.); and relevance (to the agricultural economy, practical field conditions, national priorities, etc.). Problems and suggested remedies will be identified.

5. Training methods and materials

The strategy and tactics with which knowledge, skills and behaviors are taught frequently determines the success and efficiency of the educational process. An examination of the major teaching methods will be made, their appropriateness, the problems experienced with various methods, their timing, sequence, and the skill with which they are utilized. Similarly, samples of the materials available with which to work will be surveyed, noting relevance, effectiveness, and adaptations to field conditions. The prospect for improved modularized materials will be examined, looking for the least cost, time, and widest possible utility in materials development. Who could develop them, how long it would take, when such materials could be developed, and how the trainers could be trained will be explored.

6. Non-teaching functions of agricultural educational institutions

The supportive work which institutions do through library resources applied research, consultancies, outreach and other programs will be appraised. These functions will be examined from various points of view such as contributions to the teaching function, effects on

faculty development, cost-effectiveness, contributions to self-reliance, benefits to farmers, and so forth. Implicit in this subject is the assessment of the utility values which such activities may have for the agricultural sector, the trade-offs among them, and what comprises a proper balance.

The organizational and administration inquiries consist of the following:

7. Policies and educational system planning

An examination of the guiding policies and rationales for agricultural education in Tanzania will be made. System planning based on strategic goal selections will then be analyzed. As with so many other facets of this study, the process will be looked at in the light of desirability, feasibility, and consistency criteria. Dilemmas with goal decision desirability, feasibility constraints, consistency among objective will be probed. Suggestions for improvements in policies and system-wide planning will be made.

8. Financial resources planning

The adequacy and procedures by which finance is planned and made available to the agricultural education system will be considered. Costing and estimates processes for capital and recurrent budgets will be looked into, deriving unit costs for facilities, staff, and students wherever possible. Problems will be identified and remedies will be suggested.

9. Physical resources and planning

The adequacy and procedures by which physical planning is done, involving fixed plant, equipment and other facilities, utilization measures, design issues and others will be examined for areas in which useful suggestions might be made.

10. Staff resources and planning

The quality of staff resources and their capacity to meet current and projected needs will be examined. The academic backgrounds and other experiences of faculties will be analyzed as related to the subjects taught, methods and materials used, and relevance to field situations. Staff planning for the future will be covered. This is a sensitive area, and any information collected will refer only to groups and numbers, without reference to individuals. (In passing, it should be noted that all individual personnel information here and elsewhere in this study will be kept entirely confidential.) Recommendations will be made where appropriate relating to strengthening staff resources.

11. Student resources and planning

Data will be collected about and consideration given to items such as the following: intake pools, intake numbers, background and

qualities of intakes, recruitment and selection standards and procedures, receptivity of participants to training, socio-cultural fit with future clients, wastage, and outputs for each level and specialization. The cost implications will be examined. alternatives investigated, and system efficiency and effectiveness assessed.

12. Internal and external coordinative structures

Within any educational institution, among institutions, between institutions and their headquarters, between institutions and their output users, and between institutions and their immediate community environments, there are usually numerous issues. Communications, cooperation, and coordination is a never ending process fraught with continuing difficulties. As these effect the efficient and effective management and planning of operations, problems will be identified and suggestions made for improvement.

In appraising any educational system, there are rarely scientifically precise measures of universal validity. Assessment is necessarily a subjective area which cannot always be certain. This is even more true when the observer may be from overseas. The education specialist will therefore approach his tasks with full recognition of this, relying on his Tanzanian colleagues. He will attempt not to portray certainty so much as to contribute to relevant discussion of common professional issues.

C. Manpower Utilization

Generally speaking, there are two principal methods of increasing the efficiency and effectiveness of agriculturally specialized manpower. The section on agricultural education will attempt to uncover ways in which the training function can contribute to these goals. A complementary approach is to find ways of improving the management of human resources particularly as regards planning, supervising, supporting, motivating, and organizing.

In this study questions on manpower utilization will be asked in order to identify problems and bottlenecks which have affected work performance in the agricultural services delivery system. A special section of the survey instrument will be devoted to utilization issues, and further interpretive interviews will be held by the management specialist to supplement the basic data. Suggestions to cope with the problems identified will be put forth.

The major areas in which inquiries will be made include the following:

1. Personnel system

a. Position descriptions/job analyses. Is there a close relationship between what is done on the job, and the educational qualifications? Do job descriptions fit the positions? What changes should be made, and how?

b. Recruitment and selection. Is search pattern effective? Suitability of criteria used? Schemes of service? Relationship between academic credentials and work performance?

c. Placement. How done? Efficacy? Criteria employed? Matching of individual preferences and organizational needs? Handling of transfer requests? Turnover in postings? Causes? Effects?

d. Remuneration. Policies and problems? Cost of living issues? Increments? Bases and procedures? Allowances? Junior most staff conditions? Women employees, contracts, allowances?

e. Performance incentives. Increments on merit? Competition? Promotion? Recognition, bonuses, awards, symbols, length of service citations? Results of present policies and procedures? Problems and suggestions?

f. Staff development. Efforts to identify and assess talent and potential? Rotation programs? Optimum length of assignments? Mobility blockages in system? Inter-organization personnel exchanges?

g. Personnel files. Form, accuracy, utility for planning and routine administration?

2. Supervision

a. Orientation and induction training. How done? Where and when? For whom? Adequacy and effects?

b. Work planning and control. Joint planning work schedules, objectives specification, performance standards, use of monitoring inspections, charts, tables?

c. Performance appraisal. Present practices, forms, feedback mechanisms? Creditability and understanding of system?

d. On-the-job training. Formal or informal OJT? Coaching and counseling approaches?

e. Training needs assessment and planning. Practices? Capability for? Institutionalization? Who does, when, how? Coordinated with supervisors and training specialists?

f. Performance sanctions. Rewards, corrections, negative sanctions? Disciplinary processes? Relative effectiveness?

g. Leadership and human relations. Skills in interpersonal and group dynamics? Sharing goals, proper use of authority, clear communications, concern for subordinates, staff meetings, motivation, role modelling?

3. Budget and Finance

   a. Estimates procedures. Quality level of estimates? Timeliness? Accuracy? Form? Routing submissions?

   b. Funding levels. Adequacy? Significance of constraints? Imbalances? Priority items?

   c. Disbursement procedures. Major rules and regulations? Delays? Bottlenecks? Lead times? Effects and causes?

4. Logistics

   a. Supplies and equipment. Quality of procurement calculations? Advance planning? Stockist supplies? Transport, storage, security, inventory records and control, distribution processes, reorder system?

   b. Transport. Petrol, oil, lubricants, maintenance and repair, needs calculations? Spatial factor? Boarding procedures?

   c. Travel/Accommodations. Bus fares, bicycle allowances, use of personal vehicles, accommodations, etc.?

   d. Farm inputs. Timeliness of arrival, and proper distribution?

   e. Housing. Urban and rural locales? Effects?

   f. Other.

5. Information Communication

   a. Availability. Existence of useful information stocks in both administrative and technical research fields? Sources?

   b. Flows. Incentives to communicate information? Capability to communicate? Networks? Methods used? Accuracy and timeliness of flows? Receiver receptivity? Feedback? Organization for dialogue of producers and users? Major filters and blockages? Effects?

6. Organizational Structures

   a. Internal structure. Authority relations; chain of command; unity of command; span of control; divisional breakdowns as related to functions, processes, clientele, and area?

   b. Headquarters-field relations. Decentralization approaches, effects on cooperation and coordination of service delivery to farmers?

   c. External relations. Inter-organizational/ministerial processes and effects on manpower efficiency and effectiveness? Linkages?

7. Planning/Programming

   a. Cycle of events. Calender of activities for each organization level? Timing, accuracy, comprehensiveness, coordination; skills, time, and motivation to plan? Institutionalization of processes?

8. Agricultural and Rural Development processes - and Cost/Effectiveness

   a. Approaches. Values to be maximized: participation, control, learning, equity, growth, national and local priorities, and consequences for efficiency and effectiveness.

   b. Extension technology. Individual farm visits, group methods? Targeting of clienteles? Methods selection and appropriateness of area situations?

   c. Generalists and specialists. Economizing on manpower? Feasibility?

   d. Deployment. Concentration, scatteration and balance?

   e. Womens' roles. Recognition and extent of utilization?

D. Implementation Planning

The aims of the implementation planning section of the study are to take the principal recommendations made and evolve:

1. Activity schedules

   A set of bar chart schedules will be developed to indicate the principal tasks and sequence required to implement the major recommendations. Approximate lead times and beginning and completion dates for each activity would be estimated.

2. Rough cost estimates

   All recommendations involving major capital and recurrent costs would be impossible at this state of program and project development; but some rough scaling of the magnitude of funds involved might be of use.

3. Administrative guidelines

   Suggestions on the manner of implementation will be given.

IV. STUDY IMPLEMENTATION PLAN

The supply and demand, education, and utilization sections of the manpower study are closely inter-related. Data collected in one aspect feeds into computations for another, and is then employed for analysis by still another. Similarly, the data collection process involves both quantitative and qualitative elements; and naturally both must be brought together in evolving reasoned recommendations that fit particular situations. A great deal of integration and coordination are therefore necessary in the design and implementation of the tasks and schedules as well as the staffing, and logistical support patterns. Such efforts usually require exceptional flexibility from both the individuals involved in the study, as well as from their sponsoring and cooperating organizations. Fundamental to the endeavor is a basic consensus on and understanding of what goals are sought by the study, and what basic approaches are to be taken to achieve them. Next in importance is the recognition of the level of effort to be required, especially the time commitments of personnel, funding by sponsors, and the essential logistical/administrative supports.

This section attempts to deal with these and other questions. What should be done is covered in Section III of this document. When it should be done, the task and activity schedules are then specified. Who should do it, the staffing pattern, individual responsibilities, general qualifications and scheduling of staff are dealt with next. What facilities are needed, the logistical requirements follow. How much it might cost, the factors which enter into such computations are then noted.

A. Activity Scheduling

1. Task identification, workload analysis, and time estimation

There are seven main phases to the study for the consultants; the time estimates of each phase are noted below.

	Days	
a.	15	Pre-departure design. Basic orientation and preliminary work on study instruments and data processing arrangements.
b.	12	Orientation and team formation. Briefing by Ministry officials, finalization of terms of reference, scheduling and travel arrangements.
c.	21	Questionnaire design, testing, revision, and interview training.
d.	42	Data collection. Field and headquarters interviewing.
e.	18	Data processing and analysis. Questionnaire editing, coding, verification, processing, and basic analysis.
f.	24	Draft report writing, typing, reproduction.
g.	24	Workshop reviews and report finalization.
	156	Total Days (Optimistic Estimate)

Estimates of the time for completion of each of these activities are necessarily subject to change as events unfold. A twenty percent (20%) allowance for contingencies will be budgeted in person-day figures, in addition to the above optimistic figure. Time estimates have been made on the basis of experience elsewhere in similar endeavors; and a workload analysis of the major data collection task.[3] The seven week data collection phase is based on the following calculations:

a. 20 regions (field)

b. 96 districts (field)

c. 6 MOA headquarters division (headquarters)

d. 6 other ministries using agriculturally specialized manpower (headquarters)

e. 13 parastatals (headquarters)

f. ? parastatal boards, institutes, and subsidiary companies (field and headquarters)

g. 15 private firms (headquarters)

156+ number of interviews, plus unknowns (of which 116+ are in the field; 40+ are primarily at the headquarters)

At an average of one interview per day, an optimistic estimate is that four interviewing teams will take six to seven weeks to perform the data collection phase.

2. Workload schedule

A schedule portraying these seven phases of the study is shown in Table I. A slightly more detailed breakdown is depicted in Table II.

B. Staffing

1. Size of team

The size of the team is determined by four factors. First, the workload to be accomplished within a certain time frame; second, the range of skills required; third, the objective of skill transfer from more to less experienced data collectors; and forth, the desirability of having two interviewers whenever possible for the methodological benefits its brings - accuracy in recording, ease of form filling, reality-checking from different perspectives, and the filling of local experience and inter-cultural gaps (if the teams are comprised of one Tanzanian and one expatriate each).

As noted in the immediately preceeding section, four interviewing teams will allow the job to be done in about six to seven weeks

TABLE I. ACTIVITY SCHEDULE

TASKS	DAYS	WEEKS 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32
1. Pre-departure design	15	XXXXX
2. Orientation and team formation in Tanzania	12	XXX
3. Questionnaire design, testing, revision, and interviewer training	21	XXXXXXX
4. Data collection	42	XXXXXXXXXXXXXX
5. Data processing and analysis	18	XXXXXX
6. Draft report writing, typing, reproduction	24	XXXXXXXXX
7. Workshop reviews and report finalization	24	XXXXXX
	156	

20% Contingency Days

TABLE II. DETAILED ACTIVITY SCHEDULE

TASKS	WEEKS 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32
1. Pre-departure design	XXXXX
2. Orientation and team formation in Tanzania	XXX
3. Questionnaire design	XXX
4. Pilot testing questionnaire	XXX
5. Interviewer training	XXXXX
6. Questionnai -evision	XXX
7. Field interv_____g	XXXXXXXXX
8. Headquareters interviewing	XXXXX
9. Data Collection and Processing	XXX
10. Data analysis	XXXXXXXX
11. Preliminary draft report writing and typing	XXXXXX
12. Workshop on preliminary report	XXXXX
13. Report revision	XXX
14. Final report submission and policy making workshop	XXX

20% Contingency Days

(an optimistic time assessment). For skill transfer, four or more Tanzanian colleagues would provide a solid base of newly experienced personnel in manpower planning. If only one or two persons were involved, there would be a higher risk that they might be transferred elsewhere; and never be available to utilize the skills again. Further, as properly supervised interviewing is an important insurer of study accuracy, four experienced persons would respond to this need. Should the Manpower Development Division be able to identify experienced Tanzanian manpower and survey research interviewers/analysts who would be able to give the estimated minimum of six months to the project full time, expatriate consultant positions could be reduced commensurately. It is the understandable shortage of readily available Tanzanian colleagues with these skills or time to devote to the project which has created the demand for consultant participation. Thus, prudent planning should proceed along the minimum of 24 person-months of consultant time, with about six consultants involved. Detailed breakdowns of consultant skill areas, major responsibilities and general selection criteria are given below.

2. Consultant skills, primary responsibilities, and selection criteria

   a. Human Resource Planner and Analyst I (166 - 199 Person-Days)

      (i) Conceptualization and design of quantitative manpower data collection instruments; and contributions to education and utilization instruments

      (ii) Training of interviewers

      (iii) Participation as interviewer in data collection, and supervision of other interviewers

      (iv) Principal analyst of quantitative manpower data

      (v) Drafter of quantitative findings and recommendations; and contributor to all other sections

      Selection criteria would include considerable experience with human resource studies, research management, survey research, interviewer training, statistical analysis, familiarity with computer processing, developing countries and preferably East African and rural development experience.

   b. Human Resource Planner and Analyst II (166 - 199 Person-Days)

      (i) Contribute to all tasks for which Planner and Analyst I is responsible

      Selection criteria similar to above.

   c. Survey Research Interviewing Specialist (58 - 69 Person-Days)

      (i) Responsible to Planner and Analyst I, this position would

provide from 58 - 69 days of interview training and field interviewing. (Inclusion of this position becomes essential because the responsibilities of the WVU agricultural education specialist will not permit the latter's participation as a survey interviewer. The education specialist must spend all of his available field time in interpretive interviews with the relevant institutions.)

Selection criteria would include experience with consultancy studies, interviewing, survey research, and analysis. Familiarity with developing countries and East Africa are desirable.

d. Agricultural Education/Training Specialist (88 - 105 Person-Days)

(i) Designer of instrument questions relating to relationship of education and jobs

(ii) Trainer of interviewers in proper utilization of above instruments

(iii) Designer of interpretive interview guidelines for educational institutions, including quantitative data on students, staff, and finances needed by Planner/Analyst I

(iv) Interviewer of pre-service, in-service, and adult education training institution heads, staff, students, and system managers and users

(v) Analyst and drafter of findings and recommendations to facilitate qualitative improvements in both program and organization and management areas

Selection criteria would include extensive experience with agricultural education and training programs in Africa, major institutional planning and management of training operations. Sensitivity to complex management and organizational issues.

e. Manpower Utilization Specialist (166 - 199 Person-Days)

(i) Design of interview guidelines and questions relating to utilization issues

(ii) Training of interviewers in proper utilization of above segments of study questionnaires

(iii) Participation as field interviewer in data collection

(iv) Analyst and drafter of findings and conclusions

Selection criteria would include familiarity with African management and organizational issues, planning/programming of agricultural and rural development, organizational analysis, supervisory systems, budgeting, logistics, personnel, and leadership issues.

f. Reviewing Consultant (10 - 15 Person-Days)

(i) Reviewing all draft findings and recommendations for desirability, feasibility, and consistency, bringing fresh perspectives to study teams' drafts

(ii) Review methodology employed

(iii) Suggest additional or alternative interpretations of data, and other analyses. Draft revisions

(iv) Make editorial contributions to structure, order, phrasing, data display, and general presentation of report

Selection criteria would include extensive experience in human resource and institutional planning, survey research and methodology, agricultural and rural development planning; and editorial skills.

3. Staffing schedule

Table III indicates the detailed tasks and timing of activities for each position, with estimates of person-days for each.

4. General selection criteria

Other criteria which apply to all overseas consultants are: interpersonal skills for working in groups cooperatively; inter-cultural sensitivity; willingness to travel extensively in rural areas; interest and commitment to practical development studies.

C. Logistics

The capacity to execute the schedule depends on a number of supportive services being provided fully and on time. They are as follows:

1. Transport in Tanzania

a. Headquarters orientation and coordination: 1 vehicle or extensive taxi use

b. Questionnaire pilot testing: 4 vehicles

c. Field interviewing: 4 vehicles

d. Headquarters interviewing: 1 vehicle, extensive taxi use

e. Drivers for each vehicle are desirable

f. Spare parts availability

g. Petroleum, oil, lubricants

TABLE III. STAFFING SCHEDULE

POSITION Tasks	DAYS	WEEKS 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32
MANPOWER PLANNER/ANALYST I MANPOWER PLANNER/ANALYST II MANPOWER UTILIZATION SPECIALIST		
1. Pre-departure design	15	XXXXX
2. WVU orientation	2	X
3. Travel to Tanzania	2	X
4. Tasks - Numbers 2 thru 8	75	XXXXXXXXXXXXXXXXXXXXXX
5. Travel to U.S.	2	X
6. Tasks - Numbers 9 thru 11	42	XXXXXXXXXXXXX
7. Travel to Tanzania	2	X
8. Tasks - Numbers 12 thru 14	24	XXXX
9. Travel to U.S.	2	X
	166	
AGRICULTURAL EDUCATION SPECIALIST		
1. Travel to Tanzania	2	X
2. Orientation	6	X
3. Instrument design	6	XXX
4. Interviewing institutions	24	XXXXXXXX
5. Travel to U.S.	2	X
6. Draft report section writing	20	XXXXXXX
7. Travel to Tanzania	2	X
8. Tasks - Numbers 12 thru 14	24	XXXX
9. Travel to U.S.	2	X
	88	
SURVEY INTERVIEWER SPECIALIST		
1. Travel to Tanzania	2	X
2. Tasks - Numbers 5 thru 8	54	XXXXXXXXXXXXXXXXXX
3. Travel to U.S.	2	X
	58	
REVIEWING CONSULTANT		
1. Review, revise, edit	15	XXXXXXXX
TOTAL	659	(Approx. 110 Person-Weeks; 27 Person-Months; 2.5 Person-Years)

20% Contingency Days

2. Travel schedules and accommodation arrangements

These would be made during the first two weeks within Tanzania.

3. Per-diems

For overseas and Tanzanian team members, and drivers, for field trips.

4. Housing for visiting consultants

Firm and confirmed reservations would be required at hotels or the provision of other housing facilities to hold 4 to 5 consultants adequately. A car and driver would be required if housing is too far from the MOA.

5. Office space

To handle from 5 to 8 persons on a regular basis, at least three good sized offices are desirable. Air conditioning would be desirable for productivity impact.

6. Office equipment

Three well functioning typewriters would be desirable as many team members would probably draft documents on typewriters themselves. This would cut down on secretarial services needed. Other equipment includes: desks, chairs, photocopy machine or immediate access, fans (if no AC), mimeo machines, three electronic calculators (battery), etc.

7. Secretarial services

One full time secretary is desirable at any time the team is working in capital. At short peak workload periods, additional assistance will be needed.

8. Materials and supplies

Up to 5,000 photocopy pages, minimum of 30 reams of mimeo paper, stencils, pens, pencils, erasers, paper clips, staple guns, staples, correction fluids, drawing kit for stencils, envelops, glue, etc.

9. Imprest account and reimbursement procedures

Provision should be made for adequate funds to handle above logistical arrangements, and to permit reimbursement of expenditures for justifiable purchases by any consultant team member of incidental items (maps, books, documents, petrol, rulers, paper, etc.).

10. Computer processing, coding, verifying, programming, running time

11. Excess baggage allowances

Because of reference materials needed, data carried to and from Tanzania for analysis, 300 pounds of excess baggage should be permitted over the course of the project, involving one and one-half round trips.

D. Cost Items

In addition to the logistical supports which have costs associated with them, the following a-pear to be the major heading breakdowns:

1. International travel

4 team members two round trips, U.S. - Tanzania
1 team member one round trip, U.S. - Tanzania
2 Tanzanian colleagues one round trip, U.S. - Tanzania

2. International travel per-diems

For each of above trips, two days in transit

3. Per-diems in Tanzania

5 persons for varying lengths, with adjustments for travel outside capital city
2-4 Tanzanian colleagues for travel outside capital city
4 drivers for travel outside capital city

4. Per-diems in U.S.

Pre-departure orientations - 4 team members for days at WVU
Data collation and analysis - 3 team members for 3 weeks at WVU
- 2 Tanzanian colleagues for 3 weeks at WVU
Preliminary report drafting - 2 Tanzanian colleagues for 2 weeks at WVU or in Washington area

5. U.S. travel

Pre-departure orientations - 4 members, Washington - Morgantown & return
Data collation and analysis - 3 members, Washington - Morgantown & return
Preliminary report drafting - 3 members, Washington - Morgantown & return
- 2 Tanzanian colleagues, Washington - Morgantown & return

6. Communications

Domestic and international cables, calls, and postages

FOOTNOTES

1. See, for example, papers emerging from last two International Congresses of the International Institutes of Administrative Science, Association of Schools and Institutes of Administration, Working Group on Public Sector Manpower and Education Planning, Congresses at Mexico City, 1974, and Abidjan, 1977 for dimensions of the issue.

2. See, for example:

   Mende, J. J., KILIMO Manpower Development, Livestock Development Conference, 23-27 January 1978, Dar es Salaam.

   Maxwell, R., Agricultural Education in Tanzania - 1977, Ministry of Agriculture, Government of Tanzania (draft)

   Dowdy, L. C., G. F. Rankin, R. C. Nelson, and P. V. Armbrester, Program Proposal for A Department of Agricultural Education and Extension and A Center for Continuing Education in Agriculture at the Faculty of Agriculture and Forestry at Morogoro, Tanzania, West Virginia University and North Carolina Agricultural and Technical State University, Contract Report USAID/afr-C-1067 I.P. No. 54 - October 1975.

   Armbrester, P. V., and L.D. Lawrence, Report of the Ministry of Agriculture Curriculum Development Team, West Virginia University and North Carolina Agricultural and Technical State University, Contract USAID/afr-C-1067, Report No. 58, April 1977.

3. See Kenya experience in:

   Richards, Lois, Telegram from Program Officer/Nairobi, to SECSTATE WASHDC UNCLAS NAIROBI 0477 of 11 January 1978, titled Min Ag Studies - A Saga in Collaboration; which chronicles their experiences.

APPENDIX B

KILIMO TECHNICIAN TRAINING OUTPUT - 1966 through 1978

NUMBER TRAINED

		1966-1970	1971	1972	1973	1974	1975	1976	1977	1978	TOTAL
1. CERTIFICATE LEVEL (Pre-Service)											
a) MATI System - Tanzania											
Ukiriguru	Agriculture	349	108	81	142	71	102	88	98	32	1071
Nyegezi	Agriculture	154	72	88	91	80	121	59	72	0	737
	Land Planning	0	0	0	0	0	27	21	35	30	113
Morogoro	Veterinary	169	76	87	89	74	67	76	0	0	638
	Poultry	0	0	0	11	12	14	14	0	0	51
Mpwapwa	Veterinary	0	0	0	0	0	0	0	74	65	139
Tengeru	Agriculture	156	0	0	0	0	0	0	0	80	236
	Veterinary	81	0	0	0	0	0	0	0	0	81
	Dairy	0	0	0	19	28	44	37	40	0	168
Maruku	Agriculture	0	10	40	45	18	53	35	43	46	290
Tumbi	Agriculture	0	0	28	38	24	48	50	50	46	284
Ilonga	Nutrition	0	0	0	39	38	38	18	0	30	163
CVL-Temeke	Lab Technicians	0	3	4	5	9	0	13	0	0	34
Mtwara	Agriculture	0	0	0	0	0	0	0	60	45	105
Mbeya-Uyole	Agriculture	0	0	0	0	0	0	0	79	50	129
	Veterinary	0	0	0	0	0	0	0	42	0	42
	Home Economics	0	0	0	0	0	0	0	14	0	14
b) Kenya											
Kenya Polytechnic-Nairobi	Institutional Mgt.	2	2	3	2	3	2	2	0	0	16
Ahiti-Kabete	Range Management	19	10	13	10	9	4	4	1	7	77
		930	281	344	491	366	520	417	608	431*	4388

*Of this number, 401 were Agro-Vet or Multi-Purpose certificates and 30 were specialized Land Planning certificates.

		1966 - 1970	1971	1972	1973	1974	1975	1976	1977	1978	TOTAL
2. DIPLOMA LEVEL (Pre-Service)											
a) Kenya											
Egerton College Njoro	Agric-Engineering	39	11	11	5	0	6	6	6	0	84
	Animal Husbandry	32	12	9	8	0	5	6	11	0	83
	Range Management	27	10	7	5	0	5	4	7	0	65
	Dairy Technology	11	2	2	1	0	2	1	0	0	19
	Agric-Education/Ext.	0	0	6	4	0	6	6	1	0	23
	Home Economics	0	0	0	5	0	6	4	1	0	16
	Farm Management	0	0	0	0	0	0	2	9	0	11
	Horticulture	0	0	0	0	0	0	1	0	0	1
3. DIPLOMA LEVEL (In-Service)											
a) MATI System - Tanzania											
Lyamugu/ Tengeru	Horticulture (1 yr)	0	0	0	0	0	0	22	24	0	46
Mlingano	Agro-Mechanics (2 yrs)	0	0	0	0	0	0	0	29	0	29
	Farm Management (2 yrs)	0	0	0	0	0	0	79	0	40	119
Mpwapwa	Animal Health (2 yrs)	0	0	0	0	0	36	34	0	33	103
Mkata/ Morogoro	Ranch Management (1 yr)	0	0	0	0	0	0	30	0	33	63
Ukiriguru	Crop Production (2 yrs)	0	0	0	0	0	0	0	43	41	84
Mbeya-Uyole	Animal Production (2 yrs)	0	0	0	0	0	0	0	29	30	59
	Crop Production (2 yrs)	0	0	0	0	0	0	0	31	31	62
	Agric-Home Economics (1 yr)	0	0	0	0	0	0	12	0	22	34
Ilonga	Nutrition (1 yr)	0	0	0	0	0	0	0	15	0	15
CVL-Temeke	Lab Technician (1 yr)	0	0	0	0	0	0	14	13	9	36
		109	35	35	28	0	66	221	219	239	952

N.B. All Diploma courses are now of two years duration, although several programs do not have annual intakes.

CURRENT STUDENT NUMBERS - 31 December 1978

MATI System - Tanzania

1. CERTIFICATE LEVEL PRE-SERVICE

	1st Year	2nd Year	TOTAL
Multi-Purpose Agro-Vet			
Ukiriguru	58	57	115
Mpwapwa	80	58	138
Tengeru	129	82	211
Maruku	49	44	93
Tumbi	52	50	102
Ilonga	36	35	71
Mtwara	65	52	117
Uyole	25	-	25
Land Planning			
Nyegezi	47	49	96
Lab Technician			
Temeke	14	7 - 10*	31
Artificial Insemination			
Butiama	29	-	29
	584	444	1028

Males	904	=	87.9%
Females	124	=	12.1%
	1028		

*The Lab Technician course is presently a 3 year program.

2. DIPLOMA LEVEL (IN-SERVICE)

	1st Year	2nd Year	TOTAL
Tengeru (Horticulture)	28	0	28
Mlingano (Farm Management)	25	0	25
(Agro-Mechanics)	22	0	22
Mpwapwa (Animal Health)	0	34	34*
Morogoro (Ranch Management)	38	0	38
Ukiriguru (Crop Production)	39	43	82
Uyole (Crop Production)	87	93	180
(Animal Production)	61	58	119
(Agricultural Home Economics)	27	0	27
Ilonga (Nutrition)	21	12	33
Nyegezi (Irrigation)	50	19	69
(Agro-Mechanics)	32	29	61
	430	288	718

Males	593	=	82.6%
Females	125	=	17.4%
	718		

*Graduated in December, 1978.

INTENDED UTILIZATION OF CERTIFICATE FINALISTS - 1978

Postings				Numbers
Regions	(Agro-Vet or Multi-purpose)			350
KILIMO	MATIs	6		
	Research Crop	35		
	L.S.	18		
	U.A.C.	2		61
Parastatals & Others	NAFCO	2		
	Sisal	3		
	LIDA	3		
	JKT	5		
	Zanzibar	6		
	SUDECO	5		
	TTA	9		
	Others	1		34
			Total	445

INTENDED UTILIZATION OF DIPLOMA FINALISTS - 1978

Postings				Numbers
Regions	Crop	78		
	L.S.	62		140
KILIMO	MATIs	14		
	Research Crop	10		
	L.S.	17		
	U.A.C.	13		54
Parastatals & Others	CAT	3		
	TCA	12		
	Sisal	3		
	CATA	1		
	LIDA	11		
	SUDECO	1		
	TTA	3		
	TFNC	1		
	JKT	3		
	Prisons	2		
	TRDB	2		
	ELIMU	2		
	Zanzibar	3		
	Others	2		49
			Total	243

INTENDED UTILIZATION OF DEGREE FINALISTS - 1978

Postings				Numbers
Regions	Crop	4		
	L.S.	11		15
KILIMO	MATIs	5		
	Research Crop	2		
	L.S.	14		
	U.A.C.	4		25
Parastatals & Others	NAFCO	3		
	Sisal	1		
	CATA	1		
	GAPEX	1		
	SUDECO	2		
	Prisons	1		
	ELIMU	1		
	UDSM	1		
	JKT	1		
	Others	1		13
			Total	53

APPENDIX C

report

CR-A-211

Evaluation of Tanzania Agricultural Manpower Project

Performed by:

George Burrill
Robert Meisner

Submitted to:

AFR/DR/EAP
Agency for International Development
Washington, D.C. 20521

Under:

AID/afr-C-1142, W.O. #60

April 1978

ATAC

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68

ACKNOWLEDGMENTS

The Evaluation Team is indebted to the USAID Mission, to the Tanzanian Ministry of Agriculture personnel, and to the West Virginia University and North Carolina Agricultural and Technical State University (WVA/NCATSU) consortium team for their assistance and cooperation during this evaluation. Special appreciation to Ms. Virginia Culp, Ms. Muriel Southwick and Ms. Hedwiga Mbuya who typed this report.

TABLE OF CONTENTS

SUMMARY AND RECOMMENDATIONS

SUMMARY

The purpose of this evaluation is to review the progress of the Tanzanian Agricultural Manpower Project, a joint effort of USAID and the Government of Tanzania (TanGov), Ministry of Agriculture (MinAg), which includes a technical assistance component provided by the consortium of West Virginia University and North Carolina Agricultural and Technical State University (WVA/NCATSU).

The evaluation team was comprised of the following people:

Ms. Hidaya Mlege, Principal, MATI Morogoro and evaluation team leader, TanGov, MinAg

Mr. Lawrence Abel, Project Manager, USAID Dar es Salaam

Dr. Robert Meisner, Agriculture Education Specialist/American Technical Assistance Corporation

Dr. George Burrill, Evaluation Specialist/American Technical Assistance Corporation

The American Technical Assistance Corporation (ATAC) members of the team visited the West Virginia campus in January prior to departure for Tanzania. They then joined the other team members in Tanzania during the month of February 1978 for comprehensive interviews and data gathering with Tanzanian officials and training personnel in Dar es Salaam and other locations in the country.

Details of the scope, protocol, and findings of this evaluation effort are included in later sections of this report.

The team arrived at the following conclusions:

A. Ministry of Agriculture, Manpower Development Division

The evaluation team judged that the Ministry of Agriculture (Manpower Development Division) supports the purposes of the USAID project and the

efforts of those American technicians involved in implementing it. The team observed that the Manpower Development Division was well organized and was carrying out all of its mandated functions. The team noted evidence of an on-going process of upgrading of staff in this Division.

The Division, and the twelve Ministry of Agricultural Training Institutes (MATIs) it operates, are hampered by two major constraints: (1) budget limitations and (2) too frequent rotation of staff. These constraints not only influence morale but also hinder the planning of a rational growth pattern.

The evaluation team found a major weakness in the program to be a lack of in-service training, particularly for new MATI teachers. This situation was considered critical because of the lack of trained manpower in agricultural education and in educational administration.

The Division staff includes an American technician designated as Project Specialist who fulfills a key role in the Division's planning and related activities.

B. Agricultural Manpower Development Project

The West Virginia University/North Carolina Agricultural and Technical State University Consortium (WVU/NCATSU) has performed satisfactorily as Contractor in implementing the project. In spite of a late start up and numerous implementation delays (mainly housing and commodities), the Contractor is proceeding towards achievement of stated project outputs and purposes.

Two of the eight technicians provided by the Contractor are serving in Deputy Principal positions at MATI Mpwapwa and Ukiriguru without Tanzanian counterparts. Three others serve as Department Heads, again essentially without counterparts. The absence of counterparts has diverted them from their teaching duties and other responsibilities related to achieving project objectives.

Except for problems experienced by some participants relating to the choice of institutions for participant training, the training component of the project seems to have gone extremely well. To date only twenty of the

fifty-four selected for training have returned, most of whom are assigned to MATIs. The evaluation team doubts that the original number projected for training will be sufficient to achieve project purposes in satisfying critical manpower needs.

Due to lack of baseline data, and some unclear indicators, the evaluation team was not able to accurately measure all major benefits accruing to the Tanzanian development effort.

RECOMMENDATIONS

To achieve end-of-project status and to consolidate project inputs under Phase III, the evaluation team recommends that the following actions be carried out:

1. That the MinAg, in cooperation with the Prime Minister's office and the University, College of Agriculture, undertake a comprehensive study of the Tanzanian Extension Service. This study should assess its present organization and role with the aim of strengthening coordination and liaison with the Ministry of Agriculture and should determine the type of extension education necessary for producing quality extension workers.
2. That the contractor (WVU/NCATSU Consortium) continue with the Manpower Development Project implementation (Phase III), as originally designed, at Mpwapwa and Ukiriguru through completion date (September 1980).
3. That the MinAg, Manpower Development Division, develop and implement a systemwide in-service program for new personnel assigned to the MATIs who have had no prior teaching experience and/or teacher preparation.

   (Focus should be on classroom and practical skill teaching methodology, preparation of teaching materials, communication skills and human relations. This function at some future time may become the responsibility of the DSM/FAF's Department of Agriculture Education and Extension and the proposed Center for Continuing Education in Agriculture.)

4. That the MinAg, in cooperation with the Prime Minister's office, undertake studies so that diploma and certificate holders (graduates) from newly designed programs can be evaluated as to their performance in the field in approximately three to four years after graduation of the first classes.

   (Evaluation should be designed to measure their field effectiveness and determine competencies needed. Relationship of these competencies to prior training should then be clarified.)

5. That the MinAg find methods to expand activities such as the village outreach components, and fuse them into each of the MATIs certificate and diploma programs so as to ensure more student contact with village farmers and to improve feedback from village personnel (including extension workers, farmers, etc.) to the MATIs.

   (These activities should be arranged to occur on specified week days, be made a part of extension practicals, and extend into vacation times.

   A major purpose of this feedback system is to provide experience, data and learning exchanges for MATI students and staff so that a more practical curriculum aimed at appropriate village level conditions and constraints can be developed over time.)

6. That USAID, with the contractor, establish the baseline data and evaluation system as originally proposed in the project description and establish, revise, and update qualitative and quantitative indicators for accomplishing project outputs to ensure adequate data base for final evaluation.

7. That USAID increase the number of participant trainees by 30 more than currently planned for Phase III of the contract.

   (Seventy percent should be postgraduate in Agriculture Education and Extension with a minor in administration. This requirement is due to lack of adequate trained manpower in these critical areas. Undergraduate training should be in specialized areas not available in Tanzania.)

8. That the MinAg, Manpower Development Division, identify by September 1, 1979, qualified Tanzanians to phase into all positions and roles now occupied by American technicians. It is especially critical to identify Tanzanians to serve as counterparts to American Deputy Principals at Mpwapwa and Ukiriguru, and this should be done earlier, by January 1, 1979.

9. That the contractor initiate an improved personnel management process in consultation and cooperation with the Ministry of Agriculture and USAID, which includes a more precise timetable for renewing or not renewing, extending or recruiting contractor personnel.

10. That the MinAg, Manpower Development Division, have each MATI assign to one of its technicians (preferably a returned participant with training in Agriculture Education) the responsibility for organizing and conducting in-service activities aimed at improving the teaching capabilities of MATI staff. (This person could be an institutional coordinator for "Instructional Improvement," a position which does not now exist.)

11. That the MinAg, Manpower Development Division, in cooperation with the contractor, select and assign an administrative assistant to the WVU/NCATSU Chief of Party. This assistant would relieve the Chief of Party of administrative details and allow him to better carry out his responsibilities to the Division, as specified in his job description.

12. That the MinAg provide the additional budgetary support to the MATI system necessary to provide adequate recurrent costs for maintenance, transportation and instructional needs.

    (This is critical to Phase III and to progress towards a viable MATI system following the departure of contract technicians.)

13. That the contractor, in cooperation with the MinAg, Manpower Development Division, exercise more discretion in the assignment of participant trainees to U.S. institutions in order to ensure the best of training opportunities.

(This recommendation should also apply to participants already in training who are experiencing a lack of opportunity.)

Part I

INTRODUCTION

The purpose of this evaluation is to review the progress of the Agricultural Manpower Project towards achievement of project purposes stated and inherent in the project design. The Agricultural Manpower Project is a joint effort of USAID and the Government of Tanzania (TanGov), Ministry of Agriculture (MinAg). The initial Project Agreement and PIO/T were signed on February 12, 1974. A contract to implement the technical assistance component of the project was negotiated with the consortium of West Virginia University and North Carolina State Agricultural and Technical State University and signed in November 1974. The project got under way in February 1975 with the arrival of the Chief of Party, who also fills the role of Assistant to the Director of Manpower Development in the Ministry of Agriculture. The stated goal of the project (from the project paper and logical framework) is to assist the Government of Tanzania to achieve its objectives of increased self-sufficiency in the food crop and livestock agricultural sub-sector. The purpose level objectives are: (a) to assist the TanGov in the overall development of its entire sub-professional and professional agricultural training programs/activities; and (b) to assist the MinAg to strengthen two existing diploma/certificate institutions (Ukiriguru and Mpwapwa) by developing practical, applied and operation training capability focusing on junior and intermediate level staff who are expected, eventually, to provide manpower/technical and management skills for the TanGov food crop and livestock production programs/projects and operations; and (c) to provide participant training assistance in selected manpower need areas.

Evaluation Team Mission

In order to assess the degree and the nature of progress towards achieving these higher level project objectives, the following scope of work was mandated to the team by USAID and the Manpower Development Division, Ministry of Agriculture:

1. The Manpower Development Division of the Ministry of Agriculture

Examine the organizational and functional role of the Manpower Development Division in performing its responsibility of producing well-trained personnel for the agricultural extension service. In this context, the role of the extension service and its relationship to the MATI system should be assessed.

2. The Ministry of Agriculture Training Institute program

a. Review the comparable performance of the Mpwapwa and Ukiriguru MATIs relative to other MATIs with regard to:
   1. Changes occurring in the Ukiriguru and Mpwapwa programs and implementation capabilities.
   2. Student skills and attitudes.
   3. Graduate performance.
   4. Teaching effectiveness of returned participants.

b. Determine the extent to which and in what areas the Mpwapwa and Ukiriguru MATIs can serve as models for other similar institutes.

3. The Agricultural Manpower Project

a. Review and determine if the project purposes are relevant and if satisfactory progress is being made toward achieving the conditions that are expected at the end of the project.

b. Review the status of achieving projected outputs.

c. Evaluate the effectiveness of the USAID in managing the project and the capabilities and effectiveness of the Contractor in implementing the project.

d. In view of the above, (1) assess the roles and scopes of work and (2) make recommendations as to Ministry of Agriculture, USAID or Contractor actions required to improve the project.

Itinerary

The American Technical Assistance Corporation (ATAC) members of the team visited the West Virginia campus in January prior to departure for Tanzania. Between their arrival on February 1, 1978, and departure on

February 25, 1978, the team traveled extensively throughout Tanzania, interviewing people and examining MATI facilities. A complete schedule of all evaluation team activity, including persons interviewed, is in Appendix A.

Due to the assistance of many people the team was able to conduct an in-depth and extensive evaluation in a relatively short period of time. We would especially like to emphasize the openness and friendly cooperation the team received from all the Tanzanian officials and people with whom we came in contact. Following the MATI visits, they spent a week and a half in Dar es Salaam, meeting with USAID and MinAg officials and drafting this report.

Evaluation Team and Evaluation Process

The evaluation team was comprised of the following people:

Ms. Hidaya Mlege, Principal, MATI Morogoro and team leader, TanGov, MinAg

Mr. Lawrence Abel, Project Manager, USAID

Dr. Robert Meisner, Agriculture Education Specialist/American Technical Assistance Corporation

Dr. George Burrill, Evaluation Specialist/American Technical Assistance Corporation

The degree of individual team member(s) involvement during the visitation schedule is noted in Appendix A. For example, Ms. Mlege and Drs. Burrill and Meisner participated in all interview sessions except those with the American contract personnel, Kilimo and the principals of MATIs. These latter three groups were interviewed by Drs. Burrill and Meisner.

The team organized a series of informal questions on an individual basis, which were focused on subject areas and issues of interest to the individual team members. Observations were then shared. At the direction of USAID/T the responsibilities for report preparation were as follows: observations from interviews and the team visits were shared, agreed upon by the team, and form the basis of part two of this report. The ATAC members of the team, Drs. Meisner and Burrill, then drafted the report and are responsible for the conclusions and recommendations.

In addition to information gathered in the field, the team utilized the Project Paper (PROP), annual reports from the contractor, and other documents listed in the bibliography. Both the evaluation team's scope of work and the logical framework from the Project Paper have been used to structure the team's analysis of the project and this evaluation report.

Part two of the report, "Team Findings and Observations," is organized according to sections one and two in the team's scope of work.

Part three, "Project Status and Implementation," of the report covers section three in the team's scope of work; however, it is structured according to the logical framework in the Project Paper (PROP). This structure works from lower level inputs to higher level objectives in the logframe. Thus, part three of the report provides information on the status and performance of the project at the time of this evaluation and details implications of this status for achievement of project objectives within the context of the logical framework.

Recommendations cover the final statement in the scope of work and contains the team's recommendations for the MinAg, USAID, and the contractor.

This report has been prepared with the intent of helping to improve the Agricultural Manpower Development Project. We hope it is concise and clear. We have intentionally included only those issues, ideas, information, and recommendations which we feel are of major importance and have strong bearing on the integrity and success of the project.

Part II

TEAM FINDINGS AND OBSERVATIONS

A. The Manpower Development Division of the Ministry of Agriculture

The Manpower Development Division is one of five divisions within the Ministry of Agriculture (see Figure 1). The Division is primarily concerned with the training and recruitment of certificate-diploma and professional-level personnel and the provision of retraining and in-service training. These functions are the responsibility of two sections within the Division: Technical Training & Recruitment and Professional Training & Recruitment.

The manpower planning function includes estimating the aggregate professional and technical level manpower requirements, setting priorities, and matching these needs with training capabilities. This is done in cooperation with the Agriculture Planning Division. All of the technical level training is carried out by the Ministry of Agriculture's Training Institutes. Professional level training within the country is the responsibility of the University of Dar es Salaam Faculty of Agriculture and Forestry (DSM/FAF) at Morogoro.

Other sections within the division are Farmer's Education and Nutrition. In addition, the Division has responsibility for General Workers Education, Freedom from Hunger Campaign, and Library Services. The former Personnel Administration Section was recently made a part of the Ministry's Administration and Finance Division.

Given the available resources and operating constraints, the Manpower Development Division seems to be doing a good job of training people for technical careers in agriculture. Although the team did not have the time to undertake a thorough analysis of all of the Division's operations, the team had the impression that it is adequately organized and making efforts to function better. This will undoubtedly become clearer when a study of the Extension Service is completed.

MINISTRY OF AGRICULTURE - CURRENT ORGANIZATION

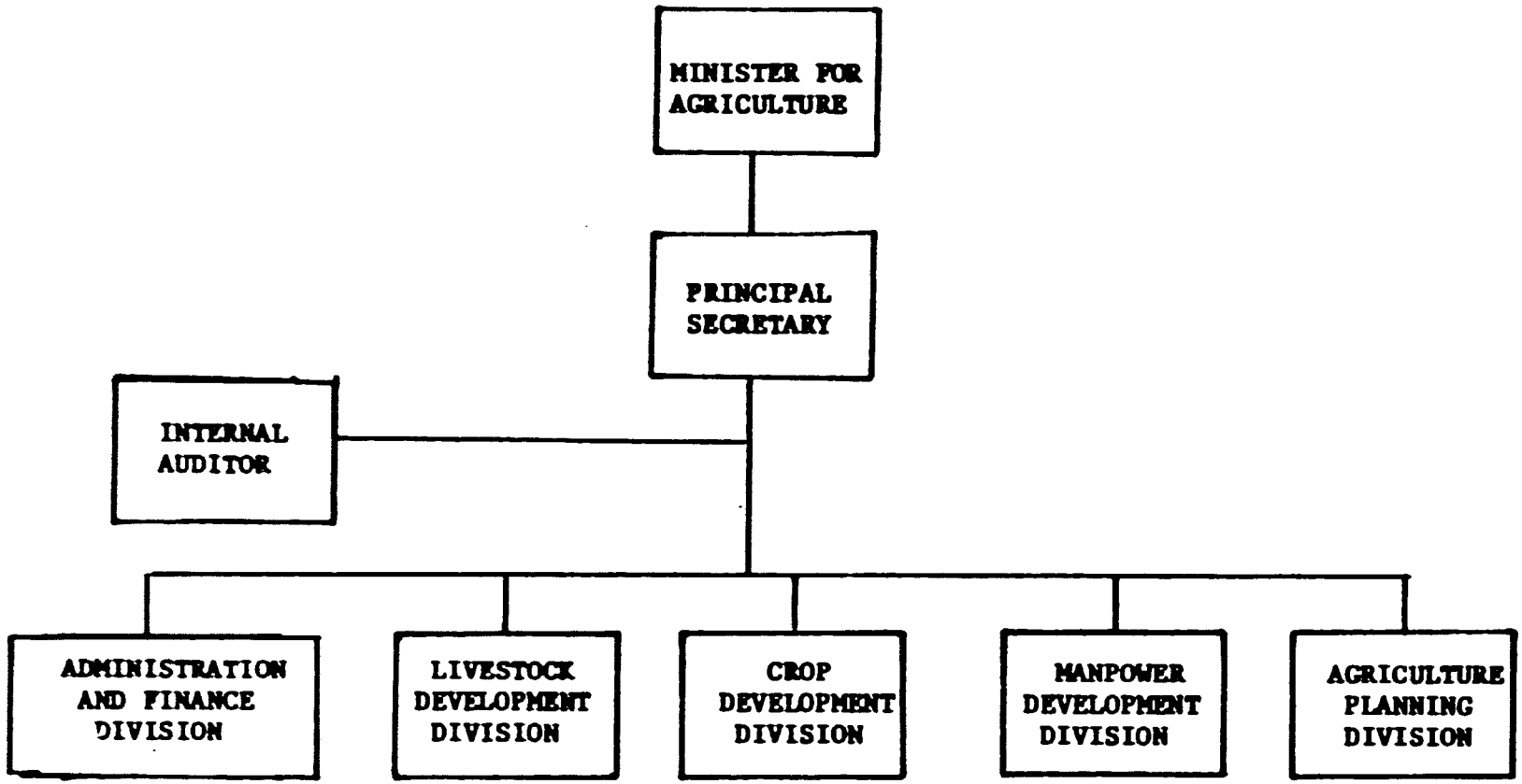

Figure 1

B. Manpower Agricultural Training Institutes (MATI)

The Manpower Development Division operates twelve training institutes. Their locations and programs are as follows (for Current Student Numbers, see Appendix B):

1. MATI Mbeya - Uyole (near Mbeya)
   a. Two-year certificate course in Agriculture and Veterinary (Agro-Vet)
   b. Diploma courses in Crop Production, Animal Production and Agriculture Home Economics
2. MATI Mtwara
   a. Two-year Agro-Vet certificate course
3. MATI Morogoro
   a. Diploma course in Ranch Management
   b. Three-month retraining courses in Crop Production and Animal Production
4. MATI Ilonga (near Kilosa)
   a. Two-year Agro-Vet certificate course
   b. Diploma course in Human Nutrition
5. MATI Mlingano (near Tanga)
   a. Diploma courses in Agro-Mechanics and Farm Management
6. MATI Mpwpawa
   a. Two-year Agro-Vet certificate course
   b. Diploma course in Animal Health
7. MATI Tengeru (near Arusha)
   a. Two-year Agro-Vet certificate course
   b. Diploma course in Horticulture
8. MATI Ukiriguru (near Mwanza)
   a. Two-year Agro-Vet certificate course
   b. Diploma course in Crop Production
9. MATI Nyegezi (near Mwanza)
   a. Certificate course in Land Planning
   b. Diploma course in Agro-Mechanics and Irrigation

10. MATI Maruku (near Bukoba)
    a. Two-year Agro-Vet certificate course
11. MATI Tumbi (near Tabora)
    a. Two-year Agro-Vet certificate course
12. Central Veterinary Laboratory, Temeke
    a. Certificate course in Veterinary Laboratory Technology
    b. Diploma course in Veterinary Laboratory Technology

Upon completion of certificate and diploma programs, MATI students are assigned to agriculture extension, production, training, and research-related posts. Utilization by type of activity is shown in Table 1. (For a more detailed projection of certificate and diploma finalists utilization for 1977, see Appendix C.)

Table 1

MATI UTILIZATION BY TYPE OF ACTIVITY (1976 and 1977)

CERTIFICATE	1976	1977
Extension type activities (region/district/ward level, parastatals, prisons, JKT and Farmers Education	76	87
Teaching - MATIs	5	3
Research-Kilimo and parastatals Crop & Livestock	7	5
Other	12	5
DIPLOMA		
Extension as above	54	66
Teaching - MATIs and ELIMU	24	15
Research-Kilimo and parastatals Crop & Livestock	12	13
Other	10	6

Source: Ministry of Agriculture

Data in Table II show that a very high proportion of the 1977 certificate (87%) and diploma (66%) holders went into agriculture extension related employment. However, 1978 will be a year of transition in that the first Agro-Vet certificate holders will complete their MATI training and be posted to Ujamaa village assignments under the reorganized extension service.

The abrupt introduction of the Agro-Vet certificate program, though somewhat disruptive not to mention controversial, was an effort to devise a new type of training for the reorganized extension service. In the past, as evidenced by Table I, MATI's certificate holders have been assigned to a variety of positions and activities. Consequently, the certificate and diploma curricula have been expected to prepare people for varying situations, requiring types of skills often different from those specialized skills which they received in training. The team could not judge to what extent this situation will continue, but it should be studied carefully.

One important trend noted by the team was the increased number of women, both in staff positions and as students. As of this report, of 455 staff members in the MATI system, 86 or approximately 19% were women. And of the 1495 students, 159 or approximately 11% were women. Although exact figures for the past four to five years were not available, it is clear from conversations and individual MATI records of the past few years that there is a very definite improvement in opportunities for women in this field in Tanzania.

The Extension Service

The team, as a result of a series of interviews conducted with extension personnel (and development officials) at the Regional, District, Ward, and Village level, was able to better understand the role of the extension service. These visits provided only cursory information, and no attempt was made to evaluate the extension service's effectiveness or organization (see Recommendation 1). The team uncovered several studies which have been done (e.g., see Bibliography). A variety of opinions were voiced to the team mainly in terms of the day-to-day problems encountered

by extension workers in the field in their attempts to serve the farmers, problems which include lack of transportation and limited ability to obtain seeds, fertilizer and other commodities.

As the extension service is presently organized, each region has Regional Development Officers (Crops and Livestock) under the Regional Development Director along with several support staff (specialists). Each district is organized similar to the region with support specialists familiar with livestock and crops grown in the region (there are no agriculture specialists at the division level).

At the ward level, the plan is to retrain assistant livestock and/or agriculture field officers as agricultural-livestock generalists.

At the village level, a second cadre of MATI-trained Agro-Vet certificate holders will be posted beginning in 1978 and will be remunerated by the village.

C. Comparable Performance Capabilities of the Mpwapwa and Ukiriguru MATIs Relative to Other MATIs

The team found substantial variance from MATI to MATI in both individual MATI purposes and goals, as well as support and available inputs for achieving those purposes and goals. Some MATIs have been established for several years and have substantial tradition while others are completely new. Some MATIs are conducting training programs which are similar to those they carried on several years ago while others have had complete changes in program offerings due to higher level policy decisions. Some MATIs have had substantial donor aid while others have had little or none. The one operational goal or purpose most constant in the MATIs is the new Agro-Vet certificate level program (however, this too is present at only eight of the twelve MATIs). Due to recent startup of this curriculum, there is no quantitative or qualitative data available which would allow for meaningful or standardized comparison among MATIs as to relative performance. Therefore, no attempt was made to delineate performance capability between MATIs. The team did, however, observe and find evidence of changes within

individual MATIs which are sufficiently measurable that comparison over time of the MATIs own present performance to past performance can be made.

The team's visits and interviews at Mpwapwa and Ukiriguru verified numerous changes indicating progress. This is also detailed and substantiated in the annual reports of the contractor. Some obvious improvements are:

- syllabus development and changes

  Contract personnel participated in development of the new MATI-wide standardized certificate syllabus. They also participated in development and improvement of the syllabus in Crop Production at Ukiriguru and in Animal Health at Mpwapwa. These latter activities are ongoing.

- facility improvement and construction (buildings and library)

  The evaluation team observed that the facility construction under the project has greatly upgraded the instructional capabilities of these two MATIs over the period 1975 to March 1978. Libraries at both institutes were particularly good and evidence dramatic improvement over the 1975 situation. Housing and workshop facilities have also been clearly upgraded.

- strengthening of administrative procedures

  The two contract technicians working as Deputy Principals have been responsible for organizing and overseeing classroom and practical teaching timetables, advising on assessment and examination procedures, assisting MATI committee work, developing academic calendars, teacher load charts, new grade sheets, and other record-keeping activities. They have been attempting to organize these procedures into a coherent process to be institutionalized.

- non-capital equipment

  The commodities now present at MATI Mpwapwa and Ukiriguru are important inputs to the improvement of MATIs. Laboratory and field teaching conditions are greatly improved by these

items, e.g., the much larger plots for crop production related activities at Ukiriguru. Also, the situation now exists (which did not before the project) where use of classroom teaching aids can increase substantially.

- strengthening of institutional teaching capability

  This area is one of the most dramatic areas of change between 1975 and March 1978 for these two MATIs. The presence of contract technicians, plus the return of U.S.-trained Tanzanians, has greatly upgraded the teaching capability. Comparison of Appendix D with the qualification of teaching staff in 1975 clearly demonstrates this.

Noting these improvements, the team concluded that the Manpower Development Project has enhanced the institutional capability of these two MATIs to produce better trained individuals for the Ministry of Agriculture. Similar observations were made at other MATIs receiving outside donor assistance, e.g., Tengeru, Nyegezi, Mbeya-Uyole.

1. Observations of the team with regard to <u>student skills and attitudes throughout the MATI system</u>.

   In general, given the institutional constraints, the team observed a relatively high level of student willingness to acquire requisite skills. Few attitudinal difficulties were observed. However, interviews with students and extension personnel revealed some dissatisfaction with <u>practicals</u>. Examples included lack of relevance to actual field situations in the villages and that practicals are often too "theoretical." Some practicals are inhibited by lack of adequate facilities and equipment, transportation, and are sometimes conducted by inadequately trained teaching staff. These factors contribute to student criticism and dissatisfaction (see Recommendations 5 and 12).

2. Relative to <u>graduate performance</u>, the team relied heavily upon comments made by those supervising MATI graduates. Generally, persons interviewed expressed support for and satisfaction with their performance.

However, some concern was expressed regarding the inability of recent MATI graduates to perform at the "farmer's level" and to easily integrate themselves into the life of their assigned villages. This criticism was felt in part to relate to lack of adequate training in these areas (see Recommendation 5).

3. Teaching effectiveness of returned participants was assessed by the team on the basis of interviews with students and MATI principals and deputy principals. Returned participants were consistently ranked high by those interviewed. However, there was common agreement that approximately one-half of all MATI tutors are in need of additional teacher preparation due to their lack of teaching experience and/or inability to communicate. There was no criticism directed at the substantive knowledge of the tutors, however. Some students complained about having too many "guest lecturers" from nearby or adjoining research stations whom they characterized as lacking good teaching skills (see Recommendations 3 and 10).

D. Potential Areas Where the Mpwapwa and Ukiriguru MATIs Can Serve as Models for Other Similar Institutions

Success in developing and testing models and then transferring them to other sites requires that the model being tested be given sufficient time to prove its worth and replicability. In the opinion of the team there are four potentially transferable models presently under development: the student outreach programs, student handbook, administrative handbook, and the teaching guides being developed by the contract staff. The student and administrative handbooks are very straightforward. The student outreach programs are in their initial stages of development (see Recommendation 5). All American technical teaching staff are in various stages of developing teaching guides. In the opinion of the team the outreach programs and the teaching guides have strong potential and could be of great help to other MATIs. When completed, the teaching guides should be published by the MinAg or contractor.

Part III

PROJECT STATUS AND IMPLICATIONS

This section of the evaluation report assesses the project status according to the structure of the logical framework in the project description. Several other important policy issues related to the purpose level are discussed following the logical framework analysis.

TanGov officials, USAID/T personnel, and the contract team were in agreement that the stated goals and purposes of the project were accurate reflections of the nature and intent of the Agricultural Manpower Project. However, the evaluation team noted several internal problems in the logframe, i.e., lack of clarity in some purpose statements and end of project status statements. There are also insufficient or absent objectively verifiable indicators, both quantitative and qualitative. Means of verification are sometimes unrealistic or inappropriate. The evaluation team realizes that most of these project design problems are endemic to the context and process of designing development projects. Therefore, we have identified in the logframe discussion only those of the above items that we feel would be of help to the field success of the project and determination of that success as opposed to improving the readable logic and completeness of the logframe on paper. We would suggest a review of the logframe with the intent of possible revisions. Also, see recommendation 6.

INPUTS

Job descriptions for the technical services and advice, along with other contract input activities, are detailed in Appendix A, Operational Plan of the WVU contract, and are not repeated here. Other inputs to the

project are detailed in the program agreement of the Tanzania Agricultural Projects Support Loan II (Loan 621-H-017).

1. U.S. Technical Assistance Personnel

a. Direct Hire Project Manager

Status/Performance: The Project Manager has been in this role since project implementation began. Lack of clarity in the WVU contract (section, "Relationship of Contractor to Cooperating Country and AID") does not delineate sufficiently the role of the project manager and the contractor's Chief of Party. The evaluation team observed that, for all practical purposes, this relationship has not yet been clarified. The degree to which this lack of role delineation has contributed to apparently poor communication between these two, rather than other factors, needs to be examined by USAID and the contractor.

Implications: Until roles and responsibilities are clarified, mutually understood, and agreed upon, this condition is likely to persist.

b. Special Assistant to the Director, Manpower Development Division/ Chief of Party

Status/Performance: The present Chief of Party has served in this capacity since the beginning of this project and has strong support from the MinAg and from his team. The evaluation team judged that he is performing satisfactorily in his position and that his role and efforts are contributing adequately towards project and Division objectives. This is evidenced by such contributions as developing the importance of practicals in all MATI programs, gaining acceptance of the idea of Agricultural Education as a discipline within the Ministry, implementing a curriculum development process, contributing to the overall planning within the Division, and the positive execution of all contract TDY activities including follow-up on them.

In addition, it should be noted that WVU backstopping for the Chief of Party is also an important element of project success. With the exceptions of reimbursement delays and staff appointment procedures, WVU backstopping was judged to be adequate. The evaluation team observed that there is strong support on the WVU campus for this project evidenced by

the commitment of additional personnel to the project and the establishment of an international program office from WVU's own funds. There also appears to be a good understanding of the higher level objectives of the project. Nevertheless, the support functions of the Chief of Party have consumed much of his time and have diverted him from other important responsibilities at the MinAg.

Implications: Unless some form of administrative assistance is made available to the Chief of Party, this situation will continue and indeed worsen should additional project or new project activities occur (see Recommendation 13).

c. Special Assistants (Planning and Development) to the Principals at Mpwapwa and Ukiriguru (2)

Status/Performance: These technicians have been serving as Deputy Principals (not as counterparts to the Principals) and have strong support from MATI staff members. The evaluation team judged that they are doing excellent work in all facets of their activities. However, a concern expressed by these contract team members, and shared by the evaluation team, is the proportionately high amount of time taken up with administrative duties in addition to their half-time teaching responsibilities and their roles in an advisory capacity to the principals. They have no counterparts.

Implications: Unless a mechanism is found to change this situation, adequate time to carry out major responsibilities under Phase III of the project will not be available. Moreover, when they leave at project termination, the skills they have been using may be lost (unless transferred to Tanzanians) and the MATIs administrative performance will suffer (see Recommendations 7 and 8).

These implications for phase-out apply to the six instructor/trainers discussed below as well.

d. Instructors/Trainers at Mpwapwa and Ukiriguru (6)

Status/Performance: In general, the Principals, staff, and students are pleased with the quality of instruction they have experienced with the contract technicians. The evaluation team concurs with this

assessment after observing their performance and their obvious knowledge and understanding of their fields. Three of six technicians have been serving as department heads. All technicians have had personnel reviews through the MinAg staff performance reporting system and by the Chief of Party. However, several technicians are unsure of their status re renewal of contracts.

Implications: Unless contractor develops and communicates its policy as to the deadlines (this must be adequate, e.g., six months) for mutual contract renewal, with MinAg involvement, problems of personnel renewal or nonrenewal, replacement, etc., will persist (see Recommendation 9).

e. TDY Analysis Team (8 person months)

Status/Performance: To date, three TDY studies have been carried out and completed by the contractor. An agricultural manpower study is planned as an additional TDY.

Implications: As a result of the curriculum development team's recommendations, the beginning of a curriculum development section has been established in the MinAg, Division of Manpower Services. A curriculum development process recommended by the team is being followed. As a result of the Library Services report, implementation on improving a nationwide agricultural library system is underway at the Faculty of Agriculture and Forestry at Morogoro and elsewhere in the country. As a result of the Agricultural Education and Extension, and Center for Continuing Education report, there are USAID proposals pending to obtain partial support for the establishment of these activities/programs at Morogoro.

2. Commodities

Six vehicles and parts.

Status/Performance: There are maintenance difficulties due to lack of parts. Three vehicles are operating; three replacements have been ordered.

Implications: Non-U.S. vehicles (e.g., Land Rovers) would have been easier to maintain and of more value to MinAg at the end of the project.

3. Evaluation

Status: Just completed.

Implications: See Recommendations.

4. Local Costs

Project support and in-service training costs.

Status/Performance: Proceeding as planned.

Implications: None.

5. Participant Training - $900,000 USAID. (Original authorization of total all DG $3,388,000.)

Status/Performance: Funds available for participant training have been increased; approximately $1,423,000 has been obligated as of March 1978.

Implications: Successful input.

6. Agricultural Project Support Loan II - Total $390,000.

Status/Performance: Except for $10,000 which must be deobligated, these funds have been utilized. Some major delays in processing of equipment orders (USAID and AID/W), port delays, and transportation problems slowed timely delivery of equipment. Housing construction delays were also a problem.

Implications: Major morale problems and teaching-related problems.

7. a. TanGov Personnel, Financial and Logistic Support: $5,660,000

Status/Performance: Limited amount of input from TanGov. Not quantifiable as it was not possible to obtain from data supplied.

Implications: Limited in-country travel, affect operating costs and maintenance, limited in-service training opportunities. These should be perceived as constraints which are part of the Tanzanian context and are related to project assumptions.

b. IBRD, NORDIC and DANAID Assistance - $11,600,000 (for entire MATI system.

Status/Performance: Has gone as planned (approximately $839,000 spent of construction, equipment, and supplies at Ukiriguru and Mpwapwa MATIs).

Implications: Successful inputs.

INPUT TO OUTPUT ASSUMPTIONS

1. The TanGov and all donors will continue to coordinate their efforts support, and inputs.
2. Required capital and recurrent budget support will be provided by the TanGov.
3. The TanGov will provide suitable staff for training at the proper time to accomplish the phased training schedule.

Status/Performance: To date, assumptions one and three have achieved a relatively high degree of probability as compared to assumption two. All Principals complained about lack of adequate budget support for both recurrent and capital expenditure needs.

Implications: Continuation of low probability on assumption two may affect lesson plans and preparation of training materials, ability to adequately provide and develop in-service training, classroom instructions, and adequate maintenance of facilities and commodities. These effects are likely to be qualitative rather than absolute (see Recommendation 12).

OUTPUTS

1. Manpower

a. Trained Students Annual Output

Status/Performance:

(1) Trained Students	Beginning	Current	End of Project
Ukiriguru			
Certificate	100	106	125
Diploma	0	86	45
Mpwapwa			
Certificate	110	131	110
Diploma	36	34	36

Satisfactory progress is being made towards output objectives. However, there are no qualitative aspects on the indicators in the logframe. In order to arrive at more objective judgments, credible and independent qualitative aspects could be added to the present indicators. Examples and Means might include:

(1) "Job Satisfactoriness" evaluation by supervisor and/or employers.

(2) Survey of former students to rate benefits derived from training program by course (theory, lab and practicals).

(3) Self ratings on competencies essential to their job performance, e.g., extension worker.

(Note: see related qualitative observations in Part II of this report.)

Implications: Probable achievement of objectives, but it will be difficult to obtain a useful qualitative assessment (see Recommendation 6).

b. Teaching Staff

Status/Performance:

MPWAPWA	1.1.75	1.1.76	1.1.78	End of Project Status
Principal (degree level)	1	1	1	1
Degree level	4	3	12	13
Diplomates	4	3	14	-
Certificates	3	4	14	-

UKIRIGURU	1.1.75	1.1.76	1.1.78	End of Project Status
Principal (degree level)	1	1	1	1
Degree level	2	11	14	12
Diplomates	6	6	14	-
Certificates	12	5	11	-
Less than Certificates	2	1	1	-
Foreign Volunteers (degree level)	2	-	-	-

Source: Ministry of Agriculture

Note: 75 figures rough estimate
76 figures good estimate
78 figures firm
See Appendix D for complete listing of Mpwapwa and Ukiriguru teaching staff.

Entire MATI System	1972	Current	End of Project Status
Degree holders	30	138	60

Excellent performance. Again no qualitative aspects on indicators were given in logframe, but qualitative observations are made in Part II of this report. Some possible means of ascribing qualitative aspects to these indicators and systematically measuring them are contained in:

(1) student appraisals
(2) self evaluation
(3) supervisor ratings
(4) qualifications
(5) demonstrated efforts towards professional improvement (CEVs), i.e., workshops, short courses.

Implications: Same as a. above, i.e., objectives will probably be achieved, but useful qualitative assessement will be difficult to obtain.

c. Trained TanGov and Parastatal Staff

Status/Performance: End of project output is 25 individuals in key positions in food crops/livestock production with U.S. training. Six returned participants have such assignments.

Implications: None, as most participants have yet to return.

2. Facilities

See current commodity list printouts and contractor annual reports.

Status/Performance: All facilities are in place. There were major problems caused by delays in housing construction and the quality of construction.

Implications" Continued maintenance problems for MATIs.

3. Quality of Training at the Two MATIs

a. Revised curricula, lesson plans, training materials.

Status/Performance: Efforts in all three areas are ongoing. Considering the late project start-up, performance has been good. However, no baseline data is available and quantitative/qualitative targets and guidelines have not been established as called for in the logframe.

Implications: If present efforts on the part of U.S. technicians continue, it is probable that quality outputs will be achieved. However, this is hard to judge and will be difficult for final evaluation purposes to make any firm or reliable judgments without the data and indicators mentioned above. The procedure for this is indicated in the logframe and PROP. (Recommendation 6.)

b. In-Service Training Courses.

Status/Performance: Approximately 200 participants per year have been involved at selected MATIs. Development of these courses has been extremely slow, although there have been some efforts made at both MATIs to obtain limited improvement in teacher instruction.

No MATI-wide or MinAg program is being developed. Everyone seems to be waiting for the establishment of a Center for Continuing Education at Morogoro.

Implications: Unless a major effort is mounted within the MinAG, this objective will not be achieved. Teaching quality will be impaired (see Recommendations 3, 7, 10).

c. Requirements Analysis of Establishing AgEd Program at Faculty of Agriculture, Morogoro

Status/Performance: A comprehensive study was completed.

Implications: See previous comments under input section (c).

4. Other

a. Permanent career service for teaching and administrative staff of MATIs.

Status/Performance: This is in force. No data were available on performance, but the evaluation team had the impression that it is too early to determine what are the qualitative effects or what they will be in the future.

Implications: None.

b. Manpower development and training programs for MinAg staff. See b above under 3.

c. Classroom Instruction

Status/Performance: Two deputy principals teaching half-time and six technicians teaching full time. Three of these technicians are also department heads.

Implications: See discussion of technicians under input section.

OUTPUT TO PURPOSE ASSUMPTIONS

1. Budget support for capital and recurrent costs will be provided per PROP Section, TanGov Contributions.
2. TanGov production programs/projects will utilize project trained manpower.
3. TanGov will effectively coordinate inputs.

Status/Performance: Probability level on assumptions one and three is certainly less than optimal. As mentioned before, this is the result of fairly predictable constraints in the Tanzanian development situation, e.g., less than adequate budget support for capital and recurrent budgets

costs, and delays in construction. Probability level on assumption two is fairly high.

Implications: Present budget support is inadequate to provide future maintenance, repairs, and replacement on improvements in facilities and equipment brought about during the project period at Mpwapwa and Ukiriguru. Assumptions one and three are significant in terms of the success of the project. Without increasing the probability level, optimal goal achievement will not be realized (see Recommendation 12).

PROJECT PURPOSE

1. To assist the TanGov in the overall development of its entire sub-professional and professional agricultural training programs/activities.

Status/Performance: One of the three conditions listed for end of project status has already been achieved: (a) The TanGov has established a professional career system for the administration and technical staffs of MATI systems. The second condition, (b) regular in-service training program under way, is scheduled for major implementation in Phase III and only minimal activity has already occurred. Delays (related mainly to adequate manpower and budget support) have occurred in getting the project started at the Faculty of Agriculture and Forestry at Morogoro. Consequently, both (b) above and (c) - the TanGov will have favorably responded to the recommendations of the AID-funded Requirements on University Level Training for training of agricultural teachers - have been adversely affected.

Improved training activities for students graduating as agricultural teachers have been initiated, but no students have yet graduated.

Implications: Although condition (a) has been achieved, its effectiveness cannot yet be verified. Achieving project purpose within the project timeframe (Phase III) for conditions (b) and (c) may not be fully realized due to delays already experienced.

2. To assist the MinAg to strengthen two existing (Ukiriguru and Mpwapwa) diploma/certificate institutions by developing practical, applied and operational training capability focusing on junior and intermediate

level staff who are expected over time to provide manpower/technical and management skills for the TanGov food crop and livestock production programs/projects and operations.

Status/Performance: Judging the status and performance of the above purpose, according to end of project conditions, is practically impossible due to inadequacy or absence of qualitative and quantitative indicators. However, the team judged:

a. Curricula revision in progress with adequate curriculum development capability towards achieving purpose. See Part II, C.

b. Approximately 30 percent of the teaching positions already filled with holders of BS or higher degrees. The logframe calls for approximately two-thirds, or 60 percent. See Output section, Manpower, Teaching Staff (b).

c. With the completion of construction presently under way at both institutes under Title II, laboratory and field space will be adequate for present student needs.

d. The present curricula structure and purpose seems to provide a proper balance between classroom, laboratory and field teaching.

e. In-service training for technical and administrative staff is minimal.

Note: See comments in Assumption section, page

Implications: Without more adequate means of verifying qualitative and quantitative indicators, it will be extremely difficult to determine at end of project whether purpose has been achieved.

3. To provide participant training assistance to the TanGov in selected areas of agricultural manpower training to meet needs of the MinAg and parastatal organizations for management and technical skills in positions closely related to and involved in food crop or livestock production.

Status/Performance: An up to date listing of all participants can be found in Appendix E. Only six participants remain to be selected and sent for training. Despite the absence of full data on end of project status indicators, it was judged that good progress is being realized relative to targeted numbers of participants, although the target may not be reached (see 2.b. above).

It seems that it would take a substantial increase in in-country BS training and in participant training outside of Tanzania in order to achieve the goal of "2/3 rds of all MATI teachers with a BS degree or higher." There is another important factor. One of the reasons for contract technicians assuming administrative roles is the critical lack of trained administrators and managers. These management functions and agricultural education skills are the weakest of all critical staff areas at the MATIs. An increase in participant training positions by 30, with the majority allotted to these two areas, would allow for approximately two individuals at each MATI to acquire the kinds of managerial, administrative, and educational skills needed at this time.

Some participants were critical of the quality of the programs they attended.

Implications: Targeted numbers will be realized but purpose not achieved. (see Recommendation 7). Unless a review of University placement possibilities which takes into account training opportunities outside the consortium is followed, the situation is not likely to improve. This applies to participants yet to be selected and those already in the program (see Recommendation 13).

PURPOSE TO GOAL ASSUMPTIONS

1. The TanGov continues to emphasize to the food/livestock subsectors. Essential financial, manpower and policy issues will be resolved by the TanGov so as to provide a permissive environment for increased productivity of food crops and livestock by Tanzanian producers.

Status/Performance: These assumptions have a fairly high level of probability, except for previously mentioned financial constraints and policy issues which are dealt with at the end of this section as they are purpose level assumption related issues.

Implications: In terms of goal achievement these assumptions were judged to be valid.

GOAL OBJECTIVES

1. To assist the Government of Tanzania achieve its objectives of increased self-sufficiency in the food crops and livestock agricultural subsectors. (This project will address a main constraint to this goal, trained managerial and technical manpower for the agricultural sector.)

Status/Performance: No baseline data were available to the evaluation team.

Implications: Without an operating system for data gathering, final evaluation at goal level will be impossible. However, this situation is not crucial to obtaining a useful evaluation of project success at the managerial level.

ADDITIONAL ISSUES RELATED TO LOGFRAME

Several policy-related issues of great importance were found by the evaluation team over the course of the evaluation. These have been separated from the logframe discussions for analysis and discussion purposes as they were not apparent at the time of logframe design. They are outside the "manageable interest" of the project but affect the validity of the assumption column at the purpose level in the logical framework.

1. Extension Service

Under the new reorganization all extension personnel at the ward level and above are to be administratively responsible to development directors and officers who report to the Prime Minister's Office. Below the ward level Agro-Vet certificate holders are to be employed and remunerated by the villages. This arrangement leaves little opportunity for MinAg supervision and at best limits coordination effectiveness. The Agro-Vet policy change, which affects the curriculum at the certificate level, came about after the project was designed and affects purpose two. This has proven disruptive to the planned curriculum development process (see Recommendation 4).

2. Village Managers

More recently, personnel including MATI staff members have been called for posting to villages as village managers. The original list included 80 persons from the Manpower Development Division of the MinAg. Of this number 11 are degree holders, 36 are diploma holders, 13 are certificate holders, and 20 are in post graduate, degree, or diploma level training. This development calls into question the ability of the project to achieve purpose one and two at the logframe purpose level (see Recommendation 7). It also affects the already limited pool of trained and capable administrators, the need for which is particularly noted by the evaluation team. Such an action seems contrary to the purposes of the new career development system and should be carefully reconsidered in relation to the overall goals and status of this critical manpower development effort of the Government of Tanzania.

Appendix A

ITINERARY

January 8, 1978 University of West Virginia (WVU) Campus, Morgantown, WV	1. Meisner arrived. Briefing with Dr. Rodger Yeager, Director, International Programs and Chairman, WVU-NCATSU Consortium Council. 2. Met with Professor P. Vernon Armbrester, Associate Dean of College of Agriculture and Forestry, and Dr. Layle D. Lawrence, Associate Professor of Agriculture Education and Education Resource Management, consultants to the Manpower Development Project on curriculum development.
January 9 WVU Campus	1. Burrill arrived. Met with the following WVU/Tanzania participants: A.K.K. Abraham, Ignace Gwau, Gaspary S. Madata, Robert S. Mushi, Martha Quentin, Frances M. Shao and Richard J. Shayo. 2. Met with Dr. Dale W. Zinn, Dean, College of Agriculture and Forestry, and Dr. Ralph E. Nelson, Vice-Provost for Academic Affairs, Dr. William Reed WVU-NCATSU Consortium Representative, North Carolina Agricultural and Technical State University, Rodger Yeager and P. Vernon Armbrester. 3. Met with Dr. Robert F. Munn, Dean of Library Services, consultant to Manpower Development Project on Tanzanian agricultural library services.
January 10 WVU Campus	1. Continued discussions on Manpower Development Project with Dr. Rodger Yeager. 2. Departure, Burrill and Meisner.

February 1, 1978		Arrived Dar es Salaam
February 2		Met with Mr. Lawrence Abel, Project Manager; Mr. Jack M. Cornelius, Agriculture Development Officer; Mr. Richard Cobb, Assistant Agriculture Development Officer; Dr. Richard Podol, Acting Director.
USAID Mission		
February 3	1.	Conferred with: J. E. V. Mchechu, Director of Manpower Development Division; Mr. V. B. K. Menon, Technical Training Officer; Dr. R. H. Maxwell, Project Specialist; Mrs. Malima, Professional Training Officer; Dr. F. K. Kaijage, Nutrition Officer; and Miss Hidaya Mlege, Principal, MATI, Morogoro.
Ministry of Agriculture		
USAID Mission	2.	Mr. Lawrence Abel, Project Manager.
February 4	1.	Conferred with David Masanja, Director, Crop Division.
Ministry of Agriculture	2.	K. Von Freyhold, Technical Training Officer, Manpower Development Division.
	3.	Dr. F. K. Kaijage, Nutrition Officer.
	4.	Dr. N. K. Maeda, Director, Livestock Division.
February 5		Drs. Burrill and Meisner conferred with:
Dar es Salaam	1.	Mr. H. M. Kasiga, former Director, Manpower Development Division, Ministry of Agriculture.
	2.	Dr. Robert Maxwell, Chief of Party, WVU-NCATSU Consortium.
February 6		Drs. Burrill and Meisner conferred with:
Ministry of Agriculture	1.	B. Tenesi, Director, Planning Division.
	2.	Dr. S. A. Madallali, Principal Secretary, Ministry of Agriculture.
		Departed for Morogoro:
		Miss H. Mlege, Mr. L. Abel, and Drs. Burrill and Meisner.

February 7, 1978	Team met with Mr. J. S. M. Lupembe, Regional Development Director, Morogoro Region.
Regional Offices, Morogoro	
Faculty of Agriculture and Forestry, Morogoro	Team conferred with: M. L. Kyomo, Dean of the Faculty and Associate Professor in Animal Production; Dr. H. Y. Kayumbo, Associate Professor and Head of Crop Science Department; Professor J. A. Kategile, Senior Lecturer and Acting Head of Animal Science Department; Dr. A. P. Uriyo, Associate Professor and Head of Soil Science Department; and Professor S. Rimstad, Lecturer and Acting Head of the Agricultural Education and Extension Department. Drs. Burrill and Meisner conferred with: Professors Rimstad, Lecturer and Acting Head of the Agricultural Education and Extension Department; P. C. Ndedya, Assistant Lecturer; and Mr. Z. S. K. Mvena, Tutorial Assistant.
MATI, Morogoro	Team participated in general faculty meeting. Drs. Burrill and Meisner interviewed Ranch Management Diploma Students; Crop and Livestock retraining students; and Mr. George Mbusuli, Deputy Principal.
February 8	Dr. Meisner toured facilities. Dr. Burrill interviewed Mr. Dioniz.
MATI, Morogoro	N. Msafiri, USAID-sponsored participant returnee.
District Offices, Morogoro	Team conferred with Mr. Mashauri, District Development Director, and agriculture and planning staff. Drs. Burrill and Meisner interviewed field extension personnel.

February 9, 1978	
MATI, Mpwapwa	Team participated in general faculty meeting.
District Offices, Mpwapwa	Team conferred with:
	Mr. P. K. Katololo, District Livestock Development Officer, and Mr. T. M. Maembe, Assistant District Agricultural Development Officer.
Msetta	Team visited village projects and conferred with:
	Mr. Juma Majaliwa, village chairman; Mr. R. Kijaji, Assistant Field Officer.
	Team visited Seed Multiplication Unit outside Msetta.
February 10	Drs. Burrill and Meisner interviewed USAID-sponsored participant returnees S. Mungubariki and E. Wakuganda.
MATI, Mpwapwa	Team interviewed MATI diploma students.
	Drs. Burrill and Meisner interviewed Mr. J. Ndunguru, Principal, and American technicians Drs. Galvin, Getz, and Pickett.
February 11	Arrived Arusha.
February 13	Team met Mr. W. Shellukindo, Arusha Regional Development Director.
MATI, Tengeru	Team interviewed Mr. D. Kweka, Principal.
	Team participated in general faculty meeting.
	Team interviewed four diploma students and five MATI graduates assigned to MATI Tengeru.
	Drs. Burrill and Meisner interviewed USAID-sponsored participant returnees M. Sigera and S. Mwakipesile.

February 13, 1978 (cont.)	Mr. Abel and Drs. Meisner and Burrill toured facilities
February 14	Arrived Tanga.
February 15	Team interviewed Mr. A. Mosha, Principal.
MATI, Mlingano	Team met with Mr. R. Mwajasho, Muheza District Development Director.
	Team participated in general faculty meeting.
	Team toured facilities.
February 16	Arrived Dar es Salaam.
February 17	Arrived Mwanza.
	Team met Mr. W. Kasera, Mwanza Regional Development Director.
MATI, Ukiriguru	Team toured facilities and participated in general faculty meeting.
February 18	Miss Mlege and Drs. Burrill and Meisner interviewed six pre-service and six in-service diploma students and six MATI graduates assigned to MATI, Ukiriguru.
MATI, Ukiriguru	
	Drs. Burrill and Meisner interviewed American technicians B. Holmes and I. Russell, and J. Mann.
	Drs. Burrill and Meisner interviewed USAID-sponsored participant returnees G. Maigara and A. Senyagwa.
	Drs. Burrill and Meisner interviewed Mr. A. Senyagwa, Principal.
February 19	Drs. Burrill and Meisner met with Dr. R. Maxwell
Ukiriguru	
February 20	Miss Mlege and Drs. Burrill and Meisner interviewed J. Shija, RADO, and M. Chaco, TCA Zonal Cotton Production Manager (parastatal).
Bukumi TCA	

February 20 (cont.)	
MATI, Ukiriguru	Drs. Burrill and Meisner interviewed American technicians M. Kizer and Dr. H. Hermanson.
February 21	Miss Mlege and Drs. Burrill and Meisner interviewed Mr. R. Rwasa, Principal, and toured facilities.
MATI, Nyegezi	Drs. Burrill and Meisner interviewed USAID-sponsored participant returnee Mr. B. Makwaia.
	Arrived Dar es Salaam.
February 22	Arrived Mbeya.
February 23	
Mbeya.	Team met Mr. D. Mapunda, Mbeya Regional Development Director.
MATI, Mbeya-Uyole	Team met with Department Heads. Miss Mlege and Drs. Burrill and Meisner interviewed six pre-service and six in-service diploma students and six MATI graduates assigned to MATI, Mbeya-Uyole.
	Team toured facilities.
	Drs. Burrill and Meisner interviewed Mr. P. Kimiti, Principal.
February 24	Arrived Mikumi.
February 25	Arrived Dar es Salaam.
February 26	
Dar es Salaam	Drs. Burrill and Meisner interviewed Dr. R. Maxwell.
February 27	Drs. Burrill and Meisner interviewed Mr. L. Abel
Dar es Salaam	Team met to review and discuss observations.

February 27, 1978 (cont.)	
Dar es Salaam	Drs. Burrill and Meisner interviewed Miss H. Mlege.
February 28	Drs. Burrill and Meisner met with Dr. J. Mchechu and Division of Manpower Development staff.
Dar es Salaam	

Appendix B

CURRENT STUDENT NUMBERS

MATI System - Tanzania*

	1st Year	2d Year	Total
1. CERTIFICATE LEVEL (Pre-Service)			
Multipurpose Agro-Vet			
Ukiriguru	73	33	106
Mpwapwa	66	65	131
Tengeru	110	81	191
Maruku	52	46	98
Tumbi	62	48	110
Ilonga	47	34	81
Mtwara	71	46	117
Mbeya-Uyole	0	53	53
Land Planning			
Nyegezi	55	31	86
Lab Technician			
CVL-Temeke	10	11	21
Certificate Total	546	448	994
2. DIPLOMA LEVEL (In-Service)			
Tengeru - Horticulture	0	0	0
Mlingano - Farm Management	40	0	40
Agro-Mechanics	0	0	0
Mpwapwa - Animal Health	0	34	34
Morogoro - Ranch Management	33	0	33
Ukiriguru - Crop Production	45	41	86
Mbeya-Uyole - Crop Production	94	32	126
Animal Production	59	30	89
Agric. Home Economics	22	0	22

Appendix B (cont.)

	1st Year	2d Year	Total
Ilonga - Nutrition	13	0	13
CVL-Temeke - Lab Technicians	9	0	9
Nyegezi - Agro-Mechanics	30	0	30
Irrigation	19	0	19
Diploma Total	364	137	501

*As of 1977 intake, all Certificate and Diploma courses of uniform two-year duration.

Source: Agriculture Manpower Project Progress Report, January-December 1977.

Appendix C

INTENDED UTILIZATION OF CERTIFICATE FINALISTS - 1977

POSTING		NUMBERS
Regions		414
	Crops 293	
	Livestock 121	
KILIMO		69
	MATIs 18	
	Research 30	
	(Crops-19)	
	(Livestock-11)	
	Irrigation 11	
	Uyole 10	
Parastatals		106
	LIDA 2	
	NAFCO 3	
	TAT 52	
	TCA 49	
Prisons		24
		613

Appendix C (cont.)

INTENDED UTILIZATION OF DIPLOMA FINALISTS - 1977

Regions			122
	Crops	91	
	Livestock	31	
KILIMO			57
	MATIs	27	
	Research	25	
	(Crops-17)		
	(Livestock-8)		
	Uyole	5	
Parastatals			23
	TCA	16	
	TAT	3	
	LIDA	1	
	TTA	1	
	TFNC	1	
	UFI	1	
Prisons			4
Zanzibar			1
UDSM			3
ELIMU			1
Others			8
			219

Appendix D

TEACHING STAFF (ON-SITE) - M.A.T.I. MPWAPWA, DECEMBER 1977

Date of First Posting	Tutor and Rank	Qualifications	Major Area	Topics Taught	Hours Per Week Th	Prac.	Total	Weeks	Other Assignments
9/76	1. J. Mdungaru LTO I	B.S.C. Makere-Agric. M.A., Redding Univ. Extension	Crops Org. and Mgmt.	-	-	-	-	-	Principal Dist.Dev. Proj. Evaluator
5/76	2. L. Pickett SATO (USAID)	B.S., UOFWTO-Agron. M.S., " -Plant Path. PhD, " -Adult Ed.	Extension	Irrigation	-	9	9	2	Coord. of Studies & Deputy P. Editor, Institute Journal
6/77	3. F. Sunguya LTO II	No certificate No diploma BVM, U. of Nairobi-Vet.	Veterinary	Pathology	6	9	15	5	Head of Dept. Course Tutor-Dip. Village Practs. I/C Field Prac. (B)
9/77	4. M. Shaye	BVM, U. of Nairobi (1972) M.S., Auburn (1977)	Veterinary	-	-	-	-	-	New arrival, went on leave
10/76	5. D. Sharma	Expatriate M.S., Ohio State-An. Physics PhD, Delhi Univ., Physiology	Animal Physics	An. Nut (B) An. Nut	6	9	15	5	Senior Tutor, Animal Nutrition
11/76	6. T. Galvin SATO (USAID)	BVM, Texas, Vet. PhD, Tulane-Parasitology	Veterinary	Micro.	4	9	13	5	Senior Tutor Para. Made field prac. visitations

Appendix D (cont.)

Date of First Posting	Tutor and Rank	Qualifications	Major Area	Topics Taught	Hours Per Week Th	Prac.	Total	Weeks	Other Assignments
11/75	7. W. Getz SATO (USAID)	B.S., Okla.State- An.Sci. & Ag.Ed. M.S., Ohio State- An.Sci. PhD., Ohio State- An.Sci.(Breeding)	Animal Production	An.Prod. D&M	2	9	11	5	Head, Library. Senior Tutor. An. Hus. Herdsman I/C Early AM Pig Practicals.
5/77	8. M. Chomi ATO I	Expatriate B.S.C., Pakistan- Zoology M.S.C., Pakistan- Zoology	Zoology (Para)	Anatomy & Physics	5	9	14	10 & 11	Prepared Anatomy Lab.
1/77	9. M. Mtui ATO III +	B.S.C., Morogoro- Agriculture	General Agric.	Principles of Crop Production	4	9	13	11	Head, Crops Dept. Editor, Quarterly Report. Canteen Mgr. Village Prac.
5/77	10. A. Sulleman LTO III	Certif. - none Diploma - none B.Sc, Addis Ababa Univ., An.Sci.	Animal Science	Animal Nut. (D) Dairy	-	9	9	5	Course Tutor. I/C Co. 76 Field I/C Early Am. Dairy I/C Planning & Dairy. Practicals.
6/77	11. M. Elgindy	Expatriate B.A., Cairo - Pomology	Fruit Prod.	Irrigation Root Crops Horticul.	2 2 4	- - 9	2 2 13	6 6 8&2	Developing an orchard.
6/77	12. A. Kabuogi + ATO III	B.Sc, Addis Ababa Univ., Agric.	Crops	Princ. of Crops Soils	2 6	9 9	11 15	11 5&3	In charge, student farm.

Appendix D (cont.)

Date of First Posting	Tutor and Rank	Qualifications	Major Area	Topics Taught	Hours Per Week Th	Prac.	Total	Weeks	Other Assignments
8/77	13. E. Mukuganda	Certif., Tengeru-Ag.	Crops &	Org.& Mgmt.	3	-	3	5	Head, Land Use Dept.
		Diploma, Morogoro-Ag.	General	Pol. Econ.	1	-	1	11	
		B.Sc, U. of Nebr.(75) -Agronomy		Pastures	2	-	2	11	
				Admin.	2	-	2	5	
1/77	14. J. Chabruma	Certif., Hum Nut-BAR	Pol. Ed.	Pol. Ed.	2	-	2	11	Head of Dept. of
		Short Course, Food Tech.-Australia	Hum. Nut.	Pol. Econ.	1	-	1	5	Political Liaison
		Short Course, Kivukoni-Pol.Ed.		Hum. Nut.	4	9	13	365	
10/76	15. T. Leka LTFA I	Certif., A.H.T.I.-Kenya-Ranch Mgmt.	Range and Range	Range & Past.	2	-	2	4	Library Assistant
		Diploma, Morogoro-Ranch Mgmt.	Mgmt.	Survey I	6	9	15	665	
				JKT	2	-	2	6	
12/76	16. J. Mchomba LTPO III	Diploma, Poultry Prod-Canada	Poultry	Poultry	4	9	13	461	Warden. Manager Poultry Unit I/C Early AM Poultry Practs.
6/77	17. P. Mahana LTA I	Certif., Morogoro-Veterinary	Animal Health	Breeding	4	-	4	4	
		Diploma, Mpwapwa-An. Health (76)		Anat. & Physics	2	-	2	8	
				Clin.St.Path.	1	-	1	7	
				Pathology	2	-	2	1	
8/76	18. J. Shikobe LTFA I	Certif., Morogoro-Veterinary	Animal Health	Pathology	3	9	12	1164	Village Prac.
		Diploma, Mpwapwa-An. Health		Clin.St.	2	9	11	1	Sub. Warden
				JKT	3	2	5	866	I/C of Piggery

Appendix D (cont.)

Date of First Posting	Tutor and Rank	Qualifications	Major Area	Topics Taught	Hours per Week Th	Prac.	Total	Weeks	Other Assignments
2/77	19. O. M. Kell LTTA I	Certif., Morogoro-Vet. Diploma, C.V.L., Temeke-Lab.Sci.	Lab.Tech.	Micro (D) Microbiol.	- 3	9 9	9 12	5 11	I/C Vet. Lab.
12/76	20. A. P. Ilole TPO III	Certif., Japan, Veg. Prod. Diploma, Egerton, Ag. Ed.	Horticul. & Ag. Ed.	Horticul.	4	9	13	11	Course Tutor (77) I/C Horticul. Unit Village Prac.
6/77	21. M. Chilimba + ATTA I	Certif., Ukiriguru-Gen. Ag. Diploma, Ukiriguru-Crop Prod.	Crops	Crop Sci. Hum.Nut.	4 -	9 9	13 9	11 9	Asst. Crop Museum
10/76	22. C. Maleba TPO III	Diploma, Egerton-Ag. Energy	Acro. Mech.	Ox Power Tractor Power	2 2	9 9	11 11	7&11 3&4	Head of Dept. Transport Officer I/C Shop. Village Pract.
6/77	23. M. T. Liwa ATTA I	Certif., Nyegezi-Gen. Ag. Diploma, Mbeya (Byela),Crop Prod.	Agro Mech & Crops	Workshop Tech. Tractor Power Oxenis.	2 - -	- 9 9	2 9 9	4 8 8	Village Prac. Matrons On leave 3 weeks
10/77	24. A. Mahana ATTA I	Certif., Ukiriguru-Genl Ag. Diploma, Mlingano-Agro Mech	AgroMech	Tractor P. Oxenis.	2 -	9 9	11 9	8&7 4	I/C Construction of new hostel

Appendix D (cont.)

Date of First Posting	Tutor and Rank	Qualifications	Major Area	Topics Taught	Hours per Week Th	Prac.	Total	Weeks	Other Assignments
6/77	25. F. Mtakwa ATFA I	Certif., Ukiriguru-Gen. Ag. Diploma, Uyole-Crop Prod.	Land Use	Survey I	-	9	9	4	Head of Dept.
				Survey II	-	9	9	8	Village Pract.
4/76	26. O. Msemulenga LTFO III	Diploma, Egerton-Range	Range & Econ.	Ag. Econ.	4	2	6	11	Head of Dept.(Econ.) Sports Master
4/77	27. L. J. Mzaru TFO III	Diploma, Egerton-Farm Mgmt.	Farm Mgmt.	Farm Ecds & Fm Org.	2	9	11	11	Farm Manager
				O&M	3	-	3	3	
4/77	28. C. Lugoye TFO III	Diploma, Egerton-Ag. Ed.	Ext & Ag. Ag.Ed.	Extension	4	9	13	7&3	Head of Dept.
				Ext.P.Pl.	2	2	4	6&11	I/C JKT Training I/C Village Prac.
12/76	29. G. Ngomara ATFA I	Certif., Ilonga-Food Sci. Diploma, Uyole-App. Nut.	Food Sci.	-	-	-	-	-	Head of Dept. I/C Bakery On maternity leave
6/77	30. J. Chale LTFA II	Certif., Morogoro-Vety	Vet.	Sheep & Goats	-	9	9	1	Herdsman - Dam Herd.
				JKT	7	8	15	2	
10/77	31. D. Kajase	Certif., Morogoro-Vet. 1 yr twd B.Sc at Morogoro	Vet.	Clin.St.	-	9	9	2	I/C of Lab.
				Micro.	-	9	9	11	New Tutor (10/11)

Appendix D (cont.)

Date of First Posting	Tutor and Rank	Qualifications	Major Area	Topics Taught	Hours per Week Th	Prac.	Total	Weeks	Other Assignments
6/77	32. M. Mlambo LTPO III	Certifs. in Vety (Morogoro) & Meat Inspect, Kenya (Athi River)	Meat Inspection	JKT	2	-	2	10	Early AM. Pract. Everyday
6/77	33. A. Makoye LTFA II	Certif., Tengeru-Dairy Husbandry	Dairy	Poultry	-	9	9	1	Asst. Poultry Unit
				JKT	8	7	15	2	Early AM Practicals
3/77	34. S. Shilwalo + TFA II	Certif., Mahiwa (Lindi)	Crops	Princ. of Crop Prod.	-	9	9	11	I/C Crop Museum Asst., Hort. Shamba
				JKT	8	7	15	2	
3/77	35. S. R. Chilwalo TFA II	Certif., Nyegezi-Gen. Ag.	Hort.	Hort.	-	9	9	8	I/C Crops Lab.
				JKT	-	6	6	1	
4/77	36. L. Cambishi (Bwenge) ATFA I	Certif., Nyegezi-Gen. Ag.	Crops	Crops II	-	9	9	5	Returned from study on
				JKT	4	-	4	5	October 16.
6/77	37. L. Kiwya TFA II	Certif., Nyegezi-Gen. Ag.	Gen. Ag.	Crops II JKT	-	9	9	11	I/C of CO.76 Prac. I/C Crops. Ledger Army Worm Data Collector
12/76	38. J. M. Mosi TFA I	Certif., Ukiriguru-Gen. Ag.	Crops	Princ. of Crop Prod.	-	9	0	11	Asst. Student Farm
				JKT	4	1	5	9	
5/76	39. D. Mlibalema ATFA II	Certif., Ukiriguru-Gen. Ag.	Gen. Ag.	Hort.	-	9	9	6	
				JKT	4	-	4	4	

Appendix D (cont.)

Date of First Posting	Tutor and Rank	Qualifications	Major Area	Topics Taught	Th	Hours per Week Prac.	Total	Weeks	Other Assignments
6/77	40. A. Kassy TFA II	Certif., Uyole-Nam Ec.	Hum. Nut.						Asst. Bakery. Returned from NTL service on December 5.
6/75	41. R. Matumbo LTFA II	Certif., Morogoro-Vety	Vet.						On leave

Note: 2 Certificate level tutors are on national service.
5 tutors are on further training (3 in the U.S.) may be reassigned.

- Nearly all Animal Science staff participate in early morning practicals (4 per morning).
- Twelve staff rotate as librarians evenings.

Summary of Work Loads per Tutor - MATI Ukiriguru

Training - Date of First Posting

September - December, 1977

Appendix D

Name	Designation	Subject	Periods per Week: Theory	Practical	Total	Other Duties	Training	First Posting MATI Ukiriguru
A. Senyagwa	ATO	Agricultural Economics	2	9	11	Principal	B.Sc.Makerere - M.S.U/Missouri	6/72 M.Sc. 6/75
F.F. Bolewa	ATO	Organization & Mgmnt.	3	9	12	D/Principal, Coordinator of Studies	M.S.	5/76
H. Hurumanwa Dr.	ATO	Soil Science	3	10	13	Head of Department	PhD.	5/76
J. Mom	ATO	Crop Science	8	5	13	Head of Department	M.S.	6/76
M. Kisur	ATO	Agromech/Irrigation	5	9	14	Supervisor Workshop, Vehicle Maintenance	M.S.	5/76
M.A. Mwanu	ATO III	Animal Science/Crops	4	9	13	Dept Head, Supervisor Livestock Prod.	B.Sc. Alemaya	10/71 B.Sc 11/75
K. Mhambo	ATO III	Crop Science	7	6	13	Assist. Coordinator of Studies	B.Sc. Morogoro	5/76
I. Bonell	ATO	Agricultural Economics	9	9	18	Dept Head, Ag Econ & Extension	M.S.	11/76
E.H. Mgaiza	ATO III	Agromech	3	18	21	Department Head	Diploma Egerton B.Sc. U/Missouri	12/72 M.S.-B.Sc. 6/.
G. Ndalahwa	ATO III	Land Use (Survey)	2	18	20	Course Tutor - 77 Dip, Assist Dept Head	B.Sc. [illegible]	7/73 HQ/FAF/HQ 11/76
J. Msella (Mrs.)	ATO III	Animal Improvement-Piggery	4	4	8	Matron, Co Tutor Co 76 Diploma	B.Sc. Morogoro +	5/76
M. Mellel	ATO III	Soil Science	8	12	20	Patron - Music Club	B.Sc. Makerere +	6/75
E.B. Kipanda	ATO III	Crop Science	8	12	20		B.Sc. Morogoro	5/77
G. Msigara	TMO III	Crop Science	10	12	22	Assist Dept Head, Co Tutor Co 77 Cert	B.S. West Virginia +	6/70 B.S. 8/77
I. Chinilila	TFO III	Extension	4	13	17		Certificate-Agriculture-Tengeru	9/72
S.S. Mbaga	TFO III	Farm Account, Pol.Economy	5	--	5	Farm Manager	Diploma-Egerton	8/76
Lyabuswa (Mrs.)	ATFA II	Extension Practicals	--	20	20	Assist i/c Audio Visual Aids	Certificate Nyegezi-Agriculture	6/75 M.S. 7/76
Lyabuswa Mr.	ATFA II	Crop Science Practicals	--	15	15	Sports Master	Certificate-Ukiriguru-Agriculture	6/75 M.S. 7/76
Kipanda (Mrs.)	ATFA II	Crop Science Practicals	--	15	15		Certificate-Nyegezi-Agriculture	5/77
Kibopi (Mrs.)	ATFA II	Crop Science Practicals	--	15	15		Certificate-Nyegezi-Agriculture	9/77
A.S.L. Sanga	ATFA	Survey	2	13	15		Certificate-Nyegezi-Land Use Planning	5/75 M.S. 7/76
M. Millinga	ATFA II	Soil Science Practicals	--	21	21		Certificate-Nyegezi-Agriculture	5/75 M.S. 7/76
J. Masanga	ATFA II	Survey	4	21	16		Certificate-Nyegezi-Land Use Planning	5/76 M.S. 7/77
T. Kigodya (Miss)	ATMO III	Crop Science/Horticulture	2	11	13		Diploma-Uyole-Crop Production	5/74 Depl 7/77
Dr. Mwanga	LTO II	An.Disease/Anatomy & Physiol.	6	17-1/2	23-1/2	House Tutor	B.V.Sc.-Nairobi- M.Sc.Aberdeen	1/78
C. Mpemba	P.O. I	Political Education	3	--	3		Certificate-Agriculture-[illegible]	1970
W.G. Masanga	TFA I	Crop Science/Soil Sc.	4	19	23	Co.Tutor Co. 76 Certificate	Diploma-Egerton-Agric.Education	5/76
O.M. Mgani	ATHO I	Crop Science/Horticulture	2	9	11	Assist.Farm Mgr, Assist.Warden	Diploma-Tengeru-Horticulture	12/76
D.C. Silayo	LTHO III	Animal Science	5	13	18	Assist.Farm Mgr, Livestock Project	Diploma-Egerton-Animal Science	5/76
M. Tibenderage (Miss)	AHTO III	Food Science	2	15	19		Diploma-Ilonga-Nutrition	6/77
D. Bunyinyiga	ATHO III	Agromech.	4	12	16		Diploma-Agric & Holland-Morogoro	8/77
Mpemba (Mrs.)	ATHO III	Food Science	--	15	15		Diploma-Home Econ-Kenya Polytech	11/76
T.Z. Baiala	LTFA I	Animal Science/Health	8	8	16	Warden, Treatment of Animals	Diploma-Mpwapwa-Animal Health	1/77
S.H. Tembo	LTFA I	Animal Science	3	9	12	Lab.Assist., Assist.Co.Tutor	Diploma-Temeke-Lab Technician	9/77
B.C. Bagatjama (Mrs)	ATFA II	Asst.Practicals in Nutrition	--	--	--	Catering Assistant	Certificate-Ilonga-Nutrition	6/73
S. Ndabidemi	ATFA II	Practicals Agromech.	--	15	15		Certificate-Ukiriguru-Agriculture	6/76 Now in Nat'l S.
D. Nandoroh	LTFA II	Poultry Production	4	6	10	Lab Assist, Assist. Co. Tutor	Diploma-Britain-Poultry Prod	6/77
A. Senyagwa (Mrs.)	AHO II	Extension Practicals	--	20	20	i/c Visual Aids	Certificate-Ukiriguru-Agriculture	9/75
Bangambora (Mrs.)	AHO II	Catering	--	--	--	i/c Catering	Diploma-Kenya Polytech & Uyole	7/77
Shem (Mrs.)	LA II	Library Assistant	--	--	--	i/c Library (Training)	Certificate-Tanzania Library Serv	1'75
Nkonzi	ATMO III	Econ & Org. Mgt. Practicals	--	20	20		Diploma-Ukiriguru-Crop Production	1. .

Appendix E

PARTICIPANT TRAINING PROGRAM - AGRICULTURAL MANPOWER PROJECT[1]

Direct Funding - Long Term

Name	From	Date of Departure	Type of Training and Institution	Date of Return	Where Posted - Utilization
1. V. Mrisho	KILIMO HQ	6/72	Economics, B.A. Williams College	6/74	AO - Agricultural Planning KILIMO HQ
2. E. Ngaiza	MATI Ukiriguru	12/73	Agric. Engineering, B.Sc., U. of Missouri	5/75	ATO-Farm Mechanics & Dept. Chrmn. MATI Ukiriguru
3. A. Senyagwa	MATI Ukiriguru	12/73	Agric. Educ. & Ext., M.Sci., U. of Mo.	5/75	ATO-Rural Economy & Extension & Dept. Chrmn, MATI Ukiriguru
4. A. Mosha	MATI Ukiriguru	12/73	Agronomy, M.Sc.	12/75	ATO-Agronomy & Dept. Chrmn. MATI Ukiriguru 6/76-Principal MATI Mlingano
5. F. Mwijage	KILIMO HQ-MDD	9/74	Animal Science, M.Sc. New Mexico State U.	6/76	ATO-Animal Production, Uyole Agric. Center, MATI Mbeya 12/77, MATI Maruku, Bukoba
6. J. Magoti	KILIMO - Regions	12/74	Irrigation Eng., B.Sc. Prairie View A&M	12/76	AO-Arusha Seed Farm
7. M. Shayo	MATI Mpwapwa	6/74	Veterinary Pathology M.Sc., Nairobi Univ.	12/74	Nairobi University was closed, necessitating his return.
		9/75	Veterinary Pathology Auburn University	9/77	ATO-Animal Health MATI Mpwapwa

[1]Taken from draft of Annual Progress Report Agricultural Manpower Project, January through December 1977.

Contract Funding - Long Term

1.	D. Msafiri	KILIMO - Regions	8/75	Range Mgmt., B.Sc. New Mexico State U.	12/76	ATO-Range Management MATI Morogoro
2.	S. Mwakipesile	MATI Tengeru	8/75	Animal Science, B.Sc. West Virginia U.	1/77	ATO-Animal Production MATI Nyegezi 9/77, MATI Tengeru
3.	T. Itegereize	MATI Nyegezi	8/75	Agric. Economics, B.Sc., NCATSU	5/77	ATO-Agricultural Economics MATI Mlingano
4.	D. Kirumbi	UDSM - FAF	8/75	Animal Science, B.Sc. WVU	5/77	Animal Science Lecturer UDSM
5.	B. Lawa	KILIMO - Regions	8/75	Crop Production, B.Sc. WVU	5/77	RADO Dar es Salaam Region
6.	B. Rweyemera	MATI Nyegezi	8/75	Farm Mgmt/Agric. Econ. B.Sc., WVU	5/77	ATO Agricultural Economics MATI Mlingano
7.	S. Sigera	MATI Tengeru	8/75	Dairy Technology, B.Sc., NCATSU	5/77	ATO-Dairy Technology MATI Tengeru
8.	G. Masigara	MATI Ukiriguru	8/75	Agric. Education, B.Sc., WVU	5/77	ATO Extension & Agric. Educ. MATI Ukiriguru
9.	R. Mbonika	UDSM - FAF	8/75	Soil Science, B.Sc. NCATSU	6/77	Soils Lecturer UDSM
10.	J. Lyakurwa	MATI Nyegezi	12/75	Animal Science, B.Sc. WVU	8/77	ATO Animal Science MATI Mpwapwa 12/77, Principal MATI Mtwara

Appendix E (cont.)

Contract Funding - Long Term (cont.)

11.	U. Mwanganda	MATI Nyegezi	8/75	Pastoral Agronomy, B.Sc., WVU	8/77	ATO Agronomy MATI Mtwara
12.	N. Sembuli	KILIMO - Regions	8/75	Dairy Science, B.Sc. NCATSU	8/77	ATO Animal Science MATI Mpwapwa
13.	N. Musisa	KILIMO - Research	8/75	Soil Science, B.Sc. WVU	9/77	RO - Soils A.R.I. Mlingano
14.	K. Kisaswike	MATI Ukiriguru	8/75	Home Economics, B.Sc. NCATSU		
15.	B. Makwaia	MATI Mlingano	8/75	Agric. Mechanization B.Sc., NCATSU		
16.	L. Mosha	MATI Ukiriguru	8/75	Library Science, B.Sc. WVU		
17.	J. Keregero	UDSM - FAF	6/76	Agric. Extenion, M.Sc. University of Wisconsin		
18.	Amon Mattee	UDSM - FAF	6/76	Agricultural Education, M.Sc. University of Wisconsin		
19.	M. Mziray	KILIMO HQ-MDD	8/76	Agricultural Education B.Sc., WVU		
20.	G. Lulandala	MATI Tengeru	8/76	Agricultural Education B.Sc., WVU		
21.	K. Kalemela	KILIMO-Research	8/76	Agronomy, B.Sc. NCATSU		

Contract Funding - Long Term (cont.)

22.	Marco Noah	KILIMO-Regions	8/76	Agricultural Extension Education B.Sc., NCATSU
23.	Ignace Owau	MATI Maruku	8/76	Agricultural Education, B.Sc. WVU
24.	G. Kasengwa	MATI Mpwapwa	8/76	Agricultural Education, B.Sc. WVU
25.	Silas Bolo	KILIMO-Research Mpwapwa	8/76	Animal Science, B.Sc. WVU
26.	R. Shayo	Uyole Agric. Center-MATI Mbeya	8/76	Agricultural Education, B.Sc. WVU
27.	S. Sarvatt	KILIMO HQ LDD	8/76	Animal Science, B.Sc. NCATSU
28.	B. H. Katani	KILIMO HQ - DAP	1/77	Agricultural Economics, M.Sc. WVU
29.	I. Lupanga	KILIMO HQ - on secondment to KLIMU	1/77	Agricultural Education, M.Sc. WVU
30.	Martha Quentin	UDSM - FAP	1/77	Agronomy, B.Sc. WVU
31.	Francis Shao	KILIMO-Research Ukiriguru	5/77	Plant Pathology/Public Adm. PhD., WVU
32.	Charles Chacha	MATI Mpwapwa	8/77	Animal Science/Agric. Education B.Sc., NCATSU
33.	Michael Ngazi	MATI Mpwapwa	8/77	Animal Science/Agric. Education B.Sc., NCATSU

Appendix E (cont.)

Contract Funding - Long Term (cont.)

34.	Bede Maoffe	MATI Mlingano	8/77	Agric. Mechanics/Agric. Educ. B.Sc., WVU
35.	N. Meghji	MATI Morogoro	8/77	Agronomy/Agric. Educ. B.Sc., WVU
36.	Rachel Tuvana	KILIMO-Regions Mwanza	8/77	Production Agronomy, B.Sc. NCATSU
37.	E. Manyiri	KILIMO-Regions Mwanza	8/77	Agric. Economics/Land Planning B.Sc., NCATSU
38.	Robert Mushi	KILIMO-Research Ukiriguru	8/77	Agronomy, B.Sc. WVU
39.	Juma Katundu	KILIMO-Research Ukiriguru	8/77	Agronomy, B.Sc. NCATSU
40.	J. Machange	KILIMO-Research West Kilimanjaro	8/77	Pasture Agronomy, B.Sc. NCATSU
41.	D. Mauya	KILIMO-Research Mpwapwa	8/77	Animal Science, B.Sc. WVU
42.	Rose Tarimo	KILIMO-Research Tanga	8/77	Entomology, M.Sc. WVU
43.	J. Materu	KILIMO-Regions Musoma	8/77	Plant Sciences/Pub. Admin. M.Sc., WVU
44.	Vincent Hiza	MATI Mtwara	8/77	Animal Sciences/Pub. Admin. M.Sc., WVU

Contract Funding - Long Term (cont.)

45.	G. Madata	KILIMO-Research Mpwapwa	8/77	Animal Nutrition, Ph.D. WVU
46.	J. Semoka	UDSM	9/77	Soil Science, Ph.D. U. of California-Riverside
47.	K. Ibrahim	MATI Tumbi	12/77	Agric. Educ./Pub. Admin. M.Sc., WVU

Direct Funding - Short Term

1.	J. Rwiza	KILIMO HQ-MDP	6/74	Educ. Admin/MGT U. of Connecticut	12/74	Chief Training Officer KILIMO HQ 8/77, Zonal Manager, Sisal Corp.
2.	J. Malacela	KILIMO HQ Minister	7/77	Study Tour - USA	8/77	KILIMO HQ Minister
3.	F. Shempemba	KILIMO HQ SAO	7/77	Study Tour - USA	8/77	SAO - KILIMO HQ

Contract Funding - Short Term and Others

1.	A. Mwakasonda	KILIMO-Regions Arusha	6/76	Heavy Equip. Mechanic N. Carolina Institute	12/76	AFO-Masai Range Project Arusha
2.	S. Mbise	KILIMO-Research Tanga	8/76	Entomology, B.Sc. Oklahoma A&M		

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APPENDIX D

(CONSORTIUM PERSONNEL ARRIVALS/DEPARTURES)

Name	Title	Purpose	Dates (1978)
R. Yeager	Director, OIP/WVU	Working Visit	5/15 - 5/25
W. Reed	Director, OIP/NCATSU	Working Visit	5/15 - 5/26
W. Getz	Animal Prod. Tutor MATI Mpwapwa	End-of-Tour	5/3
H. Hermanson	Soils Tutor MATI Ukiriguru	End-of-Tour	5/7
D. Gray	Animal Prod. Tutor MATI Mpwapwa	Begin Tour	6/4
L. Pickett	Deputy Principal MATI Mpwapwa	End-of-Tour	5/25
F. Holmes	Deputy Principal	End-of-Tour	5/26
R. Maxwell	Chief of Party	R & R	6/2 - 7/14
J. Mann	Agronomy Tutor MATI Ukiriguru	Home Leave & Return	5/19 - 7/10
M. Kizer	Agro-Mechanics Tutor	Home Leave & return	5/26 - 6/30
D. Zinn	Dean, College of Ag/For WVU	Executive Visit	8/2 - 8/12
J. Barton	Vice President WVU	Executive Visit	10/9 - 10/20
T. Galvin	Animal Health Tutor MATI Mpwapwa	End-of-Tour	6/12
I. Russell	Ag. Econ. Tutor MATI Ukiriguru	End-of-Tour	12/15
R. Simmons	Ag. Manpower Consultant	Consultation	3/13 - 3/20 12/9 - 12/20

APPENDIX E

END OF TOUR REPORT

Thomas J. Galvin

Adjunct Professor - WVU

After orientation in West Virginia in early November, 1975 and arrival at Dar es Salaam on 15 November for orientation, I arrived at MATI, Mpwapwa on 20 November to fill the position of Animal Health Specialist. Primary duties were given as tutor for the diploma course on animal health, with some teaching assignments in the certificate course in veterinary science.

The time of arrival was fortuitous as it permitted getting settled and making preliminary plans for teaching prior to the beginning of the 2 year diploma course on 3 January 1977, and enabled me to remain with the class until graduation.

The tour has been very rewarding primarily because of the high quality of a significant number of students and the interest and enthusiasm for learning exhibited by a large majority of diploma students. It is hoped that at least six of these who are interested will be encouraged and given the opportunity to continue their education at the university level. In particular, I think Mollel, Kombe, Mfuko, Kannah, Jalli and Mabeyo of the 1978 class would benefit themselves and Tanzanian agriculture by receiving additional training at the university level.

Specific duties and accomplishments:

I. Diploma Class - courses and hours for theory and practical are presented in tabular form.

	THEORY	PRACTICAL (for each of 3 groups)
Parasitology	119	81
Helminthology	78	63
Entomology	41	18
Microbiology	149	105
Bacteriology	48	72
Immunology	26	9
Virology	16	6
Mycology	8	0
Protozoology	51	18

	THEORY	PRACTICAL (for each of 3 groups)
Public Health - zoonoses portion	8	0
Medicine & Therapeutics - parasitology portion	23	0

II. Certificate Class - 18 hours of theory in infectious diseases were presented.

III. Volunteer work in MATI library.

IV. Supervision of early morning practicals for 1st year certificate students at the piggery unit.

V. Collection of teaching specimens for practical classes.

VI. Preparation of class notes to be left for subsequent tutors in the courses I've taught.

VII. Consultant work at Kitulo Dairy Farm with animal disease problems.

VIII. Identification of helminth specimens submitted by VIC Iringa.

OBSERVATIONS AND COMMENTS ON THE PROGRAM

I. Many opportunities were provided and encouraged by the Chief of Party for travel to collect teaching specimens and to become familiar with animal health problems in East Africa. The main sites visited were the Central Veterinary Laboratory at Temeke; Arusha (Veterinary Investigation Centre, Tropical Pesticides Research Institute, slaughterhouse, and game department); Ngorongoro dairy farm; piggery and poultry units at Endalen; Serengeti Research Institute; Iringa VIC; Kitulo dairy farm; Kongwa Ranch; Mkata Ranch; and Nairobi (Veterinary Faculty, International Laboratory for Research on Animal Disease, East African Veterinary Research Organization). Without these opportunities it would have been impossible to have anything approximating adequate teaching specimens, and knowledge of relative importance of animal diseases would have been grossly inadequate. Collection of teaching specimens is necessarily continuous to increase the scope of the collection and to replace lost or damaged specimens.

II. Library facilities have been greatly improved by moving into new quarters where adequate space is usually available for studying and sufficient shelf space for present holdings. New acquisitions will present a shelving problem. Textbook holdings have tremendously increased since 1976 in the field of animal health and are generally adequate in this area.

III. Equipment and laboratory supplies are more abundant than when

the course first started. Compound microscopes are adequate in number and quality except for the lack of mechanical stages. It is obvious that whoever decided to omit their acquisition has never tried to put a pointer on a bacteria or haemoparasite at a magnification of 1000 for teaching purposes. Stereoscopes with good lights would be very helpful especially in the entomology course. Only one, of poor quality, is available at the present.

IV. Transportation - an embarrassing situation. The two buses are operational so erratically that many theoretically useful field trips are never scheduled. Even scheduling practicals on the MATI farm is hazardous as frequently almost as much time is spent walking as is available for class.

V. Mpwapwa as a site for the diploma course in Animal Health. A devastating error was made in not choosing an optimal site such as Tengeru. Mpwapwa offers the following disadvantages in this respect:

A. Public health and meat inspection course. The local abattoir handles only a few cattle per day, usually less than 6. To have an opportunity to observe reasonable numbers of abnormal conditions, the students need to be near a much more active abattoir.

B. Pathology. Diploma students in animal health should have as one of their basic requirements the ability to do a good post mortem examination and be able to recognize and describe grossly abnormal tissues. To do this competently, a student must be present at numerous necropsy examinations and have access to freshly collected unpreserved specimens. Yet, as far as I know, in the 2 year course at Mpwapwa the students have seen not over 5 such examinations. The Mpwapwa VIC is relatively inactive in this respect because only a very limited number of dead animals in suitable condition for a post mortem examination are received. The high concentration of livestock in the Arusha area, better roads and more active VIC would make Tengeru a much more suitable site in this respect.

C. Parasitology. Students best learn to do field parasitology and recognize parasites and the lesions they cause by observing fresh specimens. About the best that can be done at Mpwapwa is to buy viscera at the sheep and goat market on Saturday, freeze them, and then thaw them for class use in practicals the following week. A site near an active abattoir would be much more suitable for this purpose.

D. Medicine and Therapeutics. One of the main objectives of the diploma course is supposedly to give the students sufficient training to enable recognition of many disease conditions in the living animal and to give experience in patient handling and treatment. This can be best performed in areas of high livestock concentration where people are sufficiently interested in the health and productivity of their animals that they will seek professional assistance when sickness occurs. Competency cannot be developed

without considerable experience in examination handling and treatment of sick animals by the student. The number of diseased animals the student is able to see at Mpwapwa is embarrassingly low, and certainly not even approaching minimal adequacy.

E. Sheep and goat production. Sheep and goats are not allowed at the MATI except with special permission from the livestock research unit. This has led to minimal contact with sheep and goats.

VI. Tutor transfers. Apparently without any regard to continuity in teaching a course, tutors are constantly transferring in and out of MATI, Mpwapwa. New tutors arriving in the middle of a course frequently have little idea of the extent or depth with which the first part of the course has been taught; the students suffer the most from this type of confusion. It appears that to be transferred, a tutor has only to make a request to Pamba House, and movement to the new location frequently occurs in a very few weeks. How great it would be if Pamba House acted with such haste in all decisions.

VII. Tutor effort. Although I am not aware of any incentives for excellence in teaching efforts, several of the Tanzanian tutors appear to do their best. Their only reward seems to be a heavier work load.

VIII. Paper shortages. I (and I think tutors in general) am confused on what is really wanted by the administration regarding student handouts of notes and data. We constantly hear (1) give more handouts so that students will have something for reference after graduation, and (2) use a minimal number of handouts because of the cost of paper and stencils and occasional paper shortage.

IX. Examination and grading methods. Students and staff are constantly bogged down with an excessive number of examinations. Students, by having one or usually two exams every Saturday, are thus encouraged to study only the pertinent subjects for the upcoming tests the following Saturday and apparently frequently fail to adequately keep up with other courses - until the week in which examinations on those courses are given. Apparently, most continuous assessment examinations are not retroactive and thus encourage memorization. Tutors spend an excessive amount of time preparing exams, marking exams, recording grades and standardizing grades. Some tutors ease this load by (1) giving 15-30 minute examinations instead of the regulation 2 hour exams, (2) giving exams during scheduled theory periods instead of on scheduled Saturdays, or (3) completely omitting scheduled examinations.

X. Class contact time. Diploma students are scheduled to have 21 hours of theory and 18 hours of practicals each week. With that amount of practical time (which is satisfactory), the number of theory hours is so excessive that it (1) promotes memorization of theory materials, and (2) greatly reduces the amount of time students have to utilize the library in order to read current scientific journals or to pursue independent study on individual interests in animal health and production.

XI. Syllabus. The syllabus in animal health was poorly prepared and coordinated. Ten days after my arrival at Mpwapwa a meeting was held to finalize the syllabus. Apparently several individuals had been selected to prepare material on different subjects well in advance of this meeting. Yet, (1) some of these individuals came unprepared, (2) in at least one subject a laboratory technician was detailed to prepare the syllabus and (3) it appeared that no one had bothered to try to coordinate possible areas of overlap prior to the meeting.

XII. Water shortages at the MATI. Sometimes none or only muddy water is available for practical classes when large quantities of clean water are needed. Current construction of new buildings for an additional swine unit and current renovation of other buildings for an additional dairy unit will put additional pressures on an already overtaxed water supply.

XIII. Secretarial assistance. In general the available typists do not have the training, experience or knowledge of English to do an acceptable job of typing notes, handouts, or exams. Although my wife has done nearly all of my typing plus assisting other MATI staff, I feel that it is unreasonable to expect the large volume of typing needed for a full set of class notes with no compensation. I think that, in general, expatriate wives would be happier if some means could be found to adequately compensate them for this service.

XIV. Tutor training sessions. In general, interest has been very low in this area. When Dr. Pickett (AID - WVU) was on the staff as Deputy Principal and Coordinator of Studies, he worked diligently on this problem. Nearly all tutors were very late in arriving at these sessions and a majority each time had to be visited individually and almost literally led by the hand to the meeting. Conspicuously, the more inexperienced tutors were the most difficult to get to attend the training sessions. I think the training sessions should be re-initiated in the near future with more pressure placed on tutors to attend and participate.

XV. Visual aids. There is a tremendous need for these in most subjects in both diploma and certificate courses. Some, in the form of kodachromes and overhead transparencies, could best be prepared elsewhere (especially for the certificate course) by staff trained and equipped for this purpose. In general, though, many tutors do not spend their available time to collect even the most basic of teaching specimens and aids.

XVI. Diploma course classes. The present group of diploma students is completing the full 2 year course before a second group is accepted. With a small increase in the number of diploma tutors and an increase in housing space, it would enable and be much more efficient for new groups to be accepted annually.

XVII. Suggestions for additional staff numbers in the WVU - NCA & TSU team at Mpwapwa. If additional financial support could be obtained, it would be helpful to have 3 experienced veterinarians involved in teaching in the animal health diploma course at Mpwapwa, particularly if it is

envisaged that new classes would be accepted annually. Approximately equal in need are a clinician with extensive experience in large animal practice, a pathologist with extensive experience in large animal practice, a pathologist with extensive experience in necropsy examinations, and a parasitologist.

XVIII. Certificate course in "Agro-Vet". In my opinion there is no way to teach adequately in 2 years enough material to enable someone to serve as an expert in animal health, animal production and crop production at the village level. The length of the course would need to be extended for this purpose, or better still, a return to the previous system of certificates in either crop production or animal production.

XIX. Support by Chief of Party. In any team effort productivity is greatly influenced by support by its leader. With respect to the WVU - NCA and TSU - AID team, the Chief of Party has been a major contributing factor for the success of the teams' efforts. I want to acknowledge the effort and time spent on my behalf on both official duties and otherwise by our chief of party. His efforts have enabled requested teaching materials to arrive in a minimum of time, and permitted more of my time to be spent in a teaching effort rather than on quasi-official duties in Dar es Salaam.

XX. Lastly, I want to express my appreciation to the staff at MATI, Mpwapwa, for the assistance and cooperation received during my two-year tour. Special thanks go to Mr. Ndunguru, Dr. Sunguya, Dr. Shayo, Mr. Shikobe, and Mr. Leke for their support.

END OF TOUR REPORT

Will R. Getz

Adjunct Associate Professor - NCATSU

Summary of Events:

It was in October of 1975 that I joined the WVU/NCATSU team as a livestock production specialist. I arrived with my family at post, Ministry of Agriculture Training Institute - Mpwapwa, in November after having been briefed by Dr. Maxwell, the chief of party and only other team member on site at that time.

Our arrival at, and adjustment to the situation at, MATI-Mpwapwa was smoothed by having served in another capacity at that location for the period January 1971 - September 1975.

The situation at Mpwapwa during latter 1975 was (1) two courses being taught (one certificate in "veterinary", one diploma in animal health); (2) only the first year of the two year certificate was actually being taught at Mpwapwa; (3) there was very little attempt at "institution building" at Mpwapwa; (4) teaching staff for the diploma class was scarce in the extreme, relying excessively on visiting teachers and the good graces of resident research institute staff; (5) construction of new MATI physical facilities was way behind schedule, including houses for the three expatriate staff and hostels for students; (6) there seemed to be an attitude among the more senior staff that being posted to a MATI and being a teacher was really a second rate job; (7) teaching supplies and equipment in nearly all subject matter areas were grossly lacking; (8) library facilities were only marginally adequate for training institute needs in terms of books and space; and (9) the diploma course was officially a one-year course but was being occasionally extended so the course outline could be adequately covered.

My first teaching assignments by the respective course tutors were animal genetics and breeding, and beef cattle production in the certificate course, and animal husbandry (general) as well as breeding and beef cattle production in the diploma course.

During these early days, there began a flow of new teaching supplies and equipment into the Institute from both an IDA program and the WVU/NCATSU/USAID program. Further, rumors were being heard about getting both first and second year certificate students together at Mpwapwa (second year had been taught at MATI-Morogoro), but nothing was actually happening. (It should be noted that frequently rumors are the main source of advance notice of staff changes, special events, institute changes because of the not infrequent habit of headquarters to phone or send telegrams or letters stating in effect "do it yesterday" or "be there yesterday".)

In about mid-1976 some major institutional changes began to happen. The second member of the WVU/NCATSU team arrived on the scene and began an uphill effort at curriculum coordination. Further, a meeting of curriculum

coordinators and other resource persons (myself included) was called at Morogoro in order to completely revise the certificate course curriculum - thus creating a single course incorporating "veterinary" subjects and "agriculture" subjects. The effort being made was to develop a basic course aimed at preparing persons to serve as the one-and-only agriculture enabler at the village level.

Thereafter, during the rest of 1976 and throughout 1977, changes in the training program at Mpwapwa came fast and furiously. The certificate course was completely changed, new staff members were added, many staff were changed, second year students were retained at Mpwapwa, new MATI offices, classrooms, laboratories and library were occupied and a new principal arrived.

With the 1977-78 school year, many institutional matters have smoothed out, supplies and equipment have become much more adequate, library facilities are much improved, staffing is better balanced, and the infra-structure for doing a more complete job is being developed.

My Role/Efforts: During this two and one/half years, my overall goal has been to emphasize and preach the need and usefulness of practical animal husbandry, and to show by example the effort required and the results thereof. I believe I was relatively successful in this.

I was less successful in developing fully integrated teaching texts or outlines for classroom work and the associated visuals, handouts and illustrative materials, although some considerable attempt was made.

I was successful in organizing a teaching herd of cattle, for the purposes of (1) having stock conveniently available; (2) illustrating the impact of adequate feeding and better breeding, in addition to health care; (3) allowing students experience in handling such stock and fitting for exhibition; and (4) illustrating types and breeds. This effort was successful because I at times bucked the local system, was resourceful, diligent, occasionally was not completely honest with authorities, and carried a lot of feed and water myself. It is the same kind of effort required for successful livestock enterprises in many parts of this country. In effect I was "self-reliant".

Further, I contributed to the pool of knowledge required to further develop Tanzania animal agriculture, by carrying out some limited experimentation on feeding, breeding and management of cattle.

Finally, during this tour I was intimately involved with library organization and development, as a member and chairman of the library committee. The necessity of moving library holdings to a new physical location provided the opportunity to more adequately organize the holdings, and to expand the number of materials held. Although located within the new MATI complex, the library continues to serve both MATI and the neighboring LPRI. I was able to provide leadership, coordination, and limited know-how to the library scene. Also I enabled Tanzanians to participate in library decisions, assume eventual leadership, and develop a pride in its effectiveness.

In virtually all these accomplishments, the factor of support came into

play, and I should therefore at this point acknowledge the support, hard work on our behalf, and advice and counsel of my chief of party who frequently provided the one or two missing ingredients for a more successful effort. His efforts should especially be noted, and studied, and emulated by MDD and by USAID-Tanzania.

Areas of Needed Continued Effort at Mpwapwa:

1) The teaching herd needs very much to be maintained under at least present levels of management. Not necessarily these very animals, but the same in principle. It is a sad but true fact that there are very few government farms where livestock are really well kept, and that includes Mpwapwa. Students have to see really well kept stock in order to believe what is told them in the classroom.

2) Continue the effort to break down the mental bias toward disease control only, and build up a more balanced animal husbandry approach.

3) Further develop detailed teaching notes and outlines and associated materials.

4) Especially at the certificate level, provide only very basic information and skills, and repeat, repeat, repeat. Prepare them for the village situation.

5) Try to get some changes in the MATI swine unit. It is located too far away for convenient teaching use, pens are very poorly designed/modified in regard to sunlight and air movement. Hence - a very poor model to show students. Further construction should be close to the MATI proper.

Overall Opinions/Observations:

1) MATI final examination procedures are far too involved, too costly and wasteful. They are a bit like taking an estimated weaning weight to five decimal points. This country just cannot afford such elaborate testing procedures, nor are they necessary in the MATI system. Better to spend the time, effort and money on daily instruction.

2) Animal husbandry practical skills can really only be taught at the "confidence level" at MATI Mpwapwa. Too many students and not enough teaching material for otherwise. Much learning will have to come on the job and under supervision there.

3) Quality of the MATI product is generally acceptable for needs in the field. Success or failure at work frequently depends on forces outside of the MATI program, e.g. level of supervision, politics, willingness to work, transportation.

4) At MATI Mpwapwa there appears to be an improved attitude toward teaching as a profession, and hence training in the MATI system.

5) Too much waste and abuse of MATI vehicles and farm equipment. Results in excessive petrol consumption and costs, excessiv breakage, excessive wear, delay in getting important jobs done, and often inefficient use of

limited classroom or practical time.

6) Availability of vehicle for use by expatriates has helped make more efficient use of high cost resource persons.

7) Animal Health diploma course should be just that, and stop trying to be "all things to all people". It probably does not need to be a two-year course.

8) In regard to the USAID/GOT Manpower Project, it is likely not essential for expatriate staff to come with Ph.D.'s in order to be considered qualified. Research scientists are not required. Needed is experience with livestock and a moderate level of formal education, i.e. B.Sc. or M.Sc.

9) MDD headquarters needs to take on a more supportive role rather than dictatorial role in regards to MATI academic affairs. The MATI seems to be nearly overwhelmed by schedule changes, guideline changes, revised forms, revised schedules, etc. rather than being supported in doing their jobs.

10) USAID Tanzania should have taken a much more active role in the supervision of contract employee house construction. Had it not been for Dr. Maxwell, whose job it was not, many irregularities would have occurred in siting, construction quality and construction schedules. Further, it should be made more convenient for USAID personnel to rather frequently visit projects around the country.

11) In light of changes in the curriculum and the posting of several farm tractors and equipment at Mpwapwa, it would have been useful to have had an experienced farm equipment mechanic on the Mpwapwa WVU/NCATSU team.

END OF TOUR REPORT

Frederick P. Holmes

Adjunct Professor - WVU

I arrived in Tanzania on May 17, 1976 and arrived at Ukiriguru May 24, 1976. I assumed my duties as Deputy Principal, Co-ordinator of Studies and tutor in the Course "Organization and Management of Agricultural Planning and Advisory Services". These assignments made were in agreement with the project purpose of the Manpower Development Division of the Ministry of Agriculture. The training at the Ministry of Agriculture Training Institute is involved in training on a two-year certificate and diploma level; to meet the manpower needs in agriculture, in extension and of parastatals in the various regions in Tanzania.

There are approximately 26 staff members of three levels: certificate, diploma and degree holders. The students are: one hundred and six certificate students and eighty-seven diploma students and a retraining course of sixteen vets who are taking a three-month course to become general agriculturalist to work on the village level, which includes extension education concerned with both crops and livestock. There were 133 certificate graduates, 84 diploma graduates and 16 Vet Retrainees as of June 1978. These graduates have been posted to a number of regions in the country: in extension, parastatals, crop research and Ministry of Agriculture Training Institutes. The above figures indicate the results over the last two-year period; as to graduates - both certificate and diploma students.

Teaching Duties

The subject area "Organization and Management of Agricultural Planning and Advisory Services" consists of 154 periods of theory and 86 periods of practical exercises; having a guard total of 240 periods. I have been successful in presenting the basic principles in the above subject. The subject content has been changed to improve its content, which makes it more relevant to the real situation in the country as it relates specifically to management. During this period of two years, I have developed a number of teaching guides (23 handouts) which may be used for future presentations in this subject area. I have developed 5 teaching aids for a flannel board and 5 for flip charts. I have developed 8 preceding from seminars for resource material for the library. This course is now being taught by Mr. Mlozi, a former graduate of MATI, Ukiriguru.

D/Principal Duties

I have assisted the principal in the management responsibilities as follows: planning, controlling, organizing, and evaluating. These responsibilities have been difficult, mostly due to the shortage of available funds to meet the recurrent expenditures as well as for developmental purposes. The implementation of such plans for institution

development were delayed to a great extent because of the major problem identified above. Unless corrected this problem is likely to continue.

Library

The library has now been transfered to another building which does offer better accommodation, as well as better services to the staff and students. I have held four meetings which addressed library improvements and organization. The library has received a number of new volumes during the past two years in the major areas of agriculture. We also have a large number on order. The present library accommodates approximately 80 persons at a time and it offers services for 10 hours a day. The service hours are quite adequate but the reference books have a lot to be desired - more are required. The library also serves the surrounding community.

Disciplinary Committee

There has been progress made in providing basic information to staff and student in relationship to their duties and responsibilities. I have collected and developed a portion of the material and now in the process of organizing a handbook for both staff and students at MATI Ukiriguru. These handbooks will be ready for use at the beginning of the next academic year (July 1978). The student handbook has been completed and a committee has been formed to produce a handbook for tutors. Included in the students' handbook is a report from the institute to the students for each term - (this is a new approach to keeping student's academic records).

Academic Committee

As chairman of the academic committee I have held six meetings once a year. There are several accomplishments which I will mention:

1. Field Practical Program Plan

   a) This program plan was designed to provide the student with the most practical experience that would support the academic program of the institute.

   b) A questionnaire was made out to get basic data and to establish the necessary relationship with those institutions conducting the practical training.

   c) Evaluation forms were designed to get necessary feedback from the various institutions involved in the training of students.

   d) Staff members were assigned to students on field practicals to conduct follow up visits and reports were made to the institute.

   e) Field practical kits were made up for each student on field practicals for collecting data and report writing.

f) Students wrote field practical reports of the field practical experiences for final evaluation.

g) A short seminar was held by the student at the end of the field practical period (4 hours).

h) Plans are being made at present for the next field practical for the 1977 diploma students.

2. Self-Reliance Production Program

a) The students participation in the production of field crops and food crops at the institute farm has been programmed and it is having some effect in the rate of production per unit, but no evaluation has been reported at present.

b) The program is co-ordinated by two staff members.

c) Each student is assigned a given area of land to cultivate and to keep input and production records.

d) Each student is issued all required agronomic inputs and tools-record sheets.

e) A tutor is assigned to six students for supervision and consulting on production problems and assessment of participation.

f) The 1976 diploma students are doing the actual seed bed preparation, planting, etc. for the production farm in addition to this, each of the diploma students (77 and 76 diploma students) have a horticultural plot for food production for the dining hall.

3. Extension Education Program for Villages Assistance

a) The 1976 Certificate students are involved in a village extension program - one student Bwana Shamba one farmer. These students visit th assigned farmers twice each week and the supervision from the MATI visits once every two weeks with the student. These students are 30 in number.

b) The remaining 6 students are assigned to primary school near the MATI and they are teaching agriculture in the primary schools (6) and supervising shamba work twice a week.

The above program is going well and the farmers and the villages are working together quite well.

Farm Planning

The farm planning committee has developed a program to increase acreage in the various crops and to involve the students in the entire farm production program. The new area of the farm is included in the

program for the 1977-78 production year, approximately 80 - 100 acres. There is a strong feeling towards some re-organization of the farm committee. This will include such changes as:

1) The crop production unit of the farm will come under the Crop Department.

2) The livestock production unit of the farm will come under the Animal Science Department; this also includes poultry.

3) Specific pieces of farm equipment and tractors will be assigned for farm production purposes only.

4) The Soil Science Department will be responsible for soil tests, soil and water conservation and the recommendation of chemical fertilizers, etc.

5) The Rural Economy Department will be responsible for reliable record keeping - that may be assisting in evaluating the production area of the farm and for teaching purposes. Farm records at present do not exist.

6) The Agromechanization Department is to be responsible for the following:

   a) Maintenance of equipment
   b) Repairs of equipment
   c) Adjustment of equipment
   d) Securing proper equipment
   e) To have equipment available for specific operations when they are needed
   f) To assure adequate storage of harvested crops

This overall operation will be coordinated by a farm manager, with the heads of each section composing the farm planning committee.

Recommendations

1. That an American be an assistant to the principal instead of Deputy Principal.

2. Than an American be an assistant coordinator of studies instead of Coordinator.

3. That Americans be co-chairmen of departments instead of chairmen or heads of departments.

4. That the new staff for replacement at the two institutes be the vocational agnic type, having had experience as an implementer of programs as well as teaching methodology.

5. That better support for vehicle operational cost be made available as soon as possible.

6. That the principal be relieved of teaching for at least two terms if possible, so that he may at least reach par with his administrative back log.

7. That principals be given a workshop on institution management.

8. That all new participants for training have included in their programs some management courses on both the B.Sc. and the M.Sc. program.

9. That American technicians be given an opportunity to see more agnic problems in Tanzania.

ANNEX I

MINISTRY OF AGRICULTURE TRAINING INSTITUTE UKIRIGURU MWANZA

STUDENT HANDBOOK

UKIRIGURU PROFILE

The Institute started in 1938, eight years after the Research Centre had started.

Location

Ukiriguru is located on Mwanza - Shinyanga Road in Mwanza District, Mwanza Region.

Longitude $33^{o}1''$ E; Latitude $2^{o}42''$ S.

It's nearest Public Transport Services and distance from each are:-

Railway Station Fella: 11 Km. from the Institute
Bus Stop at the Gate: (Ukiriguru)
Bus Station: 42 Km. (Mwanza Town)
Airport 43 Km. (Mwanza Town)
Lake Steaner Port: (Mwanza North): 26 Km.

Altitude: 1,198 m.

Historical Background

Originally training at Ukiriguru was by series of simple classes on Thursday afternoon, and these were only for workers of the Research Centre and its neighbours. In 1938 October the first Students for Agricultural Courses were enrolled. In 1939 the first course of 15 Students began. At that time there was little furniture and students had to construct their own beds.

Water shortage was a problem and this became acute as the population grew. This problem was alleviated in 1960 when the water pump started pumping water into Ukiriguru direct from Lake Victoria for the first time. Other problems were caused by the second World War, thus there was shortage of equipment, food and manpower.

At first the centre allowed students from Lake Region only, but in 1941 the Government changed the system and the centre started to take students from all over the country. In 1942 students from other parts of the country arrived. In 1945 the central Government took over full responsibility for the school from Native Authorities. In June of the same year Ukiriguru was officially registered as a school under Sections of Education Ordinance. By 1948, the number of students had risen to over 100 and the education of those enrolled rose from standard III to VIII.

The existing buildings were filled and new buildings had to

be built. These consisted of three classroom blocks, offices, dining hall and several staff quarters. In 1959, 12 dormitories were opened and could accomodate about 120 students.

In 1958 a fully equipped domestic science room, nursery and accomodation for 24 married couples and 2 teachers for students' wives were opened. Wives could study sewing, cooking, child welfare, gardening, poultry keeping, nutrition, etc.

By 1949, the school was allocated approximately 40 acres of its own land on which the students were to obtain practical experience. This was later increased to 150 acres. Unfortunately the buildings occupy most of the best soils.

The Curriculum

There is an up-to-date 144 bed hostel for the students and the 140 bed hostel for the introduced Diploma Course students. The Institute has about 244 students, but married students are not allowed to come with their wives. The education standard of students recruited is Form IV and VI. The studies include Agronomy, Animal Husbandry, Land Use, Agromechanics, Farm Economics and Extension Practice. The courses take two years. About half of the time is spent on practicals.

Training Facilities

Students are supplied with some facilities like beds, bedding, soaps, textbooks, copybooks, etc. Some necessary facilities like beddings, pens, toilet soaps, lab-coats, sports uniforms, gumboots, etc., students depend on their pockets and since the allowance given is only sixty bob, sometimes students find themselves in great problems. But they hope that the big potato will one day consider it. However the classrooms are very inadequate. There are three small classrooms with the capacity of about 40 students each; thus students make shifts in the lecture hall with a capacity of about 100 students. There is a new multipurpose hall capable of holding the present number of students.

The present laboratory has very limited facilities especially for the present Diploma students. Sometimes students have to go to the Research Centre for certain experiments. Also the workshop is not yet up-to-date especially for the Diploma Course which was introduced here on the 1st of October, 1975.

Staff Present

Principal	
Deputy Principal	
Agricultural Officers	- 12
Field Officers	- 10
Assistant Field Officers	- 13
Expatriates	- 5
Others	- 6

Students Present

First Year Certificate Students	Males	58	Females	6
Second Year Certificate Students	Males	28	Females	5
Second Year Diploma Students	Males	41	Females	4
	TOTAL	-	142 Students	

Achievements

1. There is high production of high quality cotton, maize and sorghum. There is a large and good Horticultural Unit which provides students with all the necessary vegetables.

2. There is an up-to-date Poultry Unit, Dairy Unit, and Piggery Unit.

3. There has been improvement of farming standards. Thus machines are used in ploughing, harrowing, ridging, etc.

4. Expansion of the plot from 60 ha. to 160 ha. has made it possible for the Institute to expand its shambas and the output has also increased.

5. Sports include football, netball, boxing, badminton, volleyball, basketball, etc.

Bottlenecks

1. Ukiriguru is poor in production of corn because of the rainfall irregularities and irrigation is impossible. There are frequent water shortages due to the breakdown of our water pumping machine at Lake Victoria and lack of spare parts.

2. The last, but not least, is that although Ukiriguru is along the main road someone may miss transport just because of the money-minded bus owners. You will find that they may decide to take people who are travelling as far as 80 km. from Mwanza and above, but not less than this.

All that Tanzania has done in social and public service sectors and indeed in all other economic expansion has depended on agriculture. Many of the agriculture techniques in Tanzania are the former students' of Ukiriguru Agriculture Training Institute (MATIU). Money to run the Institute is supplied by the Ministry of Agriculture. The revenue collected from Ukiriguru goes to the treasury.

GENERAL INFORMATION - STUDENTS' ADMINISTRATION

The department of students' administration is headed by the Warden. The department concerns itself primarily with the personal, social and welfare side of a student's life rather than his academic activities. The following services are offered to students through this department:- residence, students' activities, religion activities, general counseling

and personal problems, and catering. The department is also concerned with the student's discipline.

Residence

All students are required to live in the Institute hostels. There are three occupied hostels. Two for males and one for females.

Students' Activities

Most of the students' activities are organized by the students' organization "JUMULA YA VIJANA". It is concerned with students' politics, social activities, games and sports and various forms of entertainment. The JUMULA YA VIJANA is the youth vanguard of C.C.M. and membership is open to all Tanzania youths whatever their status in the society.

Games and Sports

The Institute has soccer pitches, netball, volleyball, basketball, and badminton courts. Others include table tennis, weight lifting, boxing, bao, draughts, snakes and ladders, etc. Most of these will be found in the students' multipurpose hall.

Religion Activities

Students and staff have a complete freedom of worship. At present, the present facilities are offered for the most numerous religious groups i.e. Catholics, Protestants and Moslems. Students' association affiliated to these religions include:-

T.Y.C.S. - Tanzania Young Christian Society
T.S.C.F. - Tanzania Students Christian Fellowship
BAKWATA - Baranza Kuu la Waislamu Tanzania

Student Travel

All preservice students are entitled to third class tickets and all inservice students travel by second class.

Catering

The Institute offers catering services for all meals. The cafeteria is open to students only:

Breakfast - 7:15 - 7:45 a.m.
Lunch - 12:00 Noon - 1:00 p.m.
Supper - 6:30 p.m.

Library

The Institute library supports the teaching activities of the Institute. The Library's resources are open not only to the Institute

community but also the outside community.

Opening hours:	Monday - Friday	8:00 am - 10:00 pm
	Saturday	8:00 am - 12:30 pm

No services on Sunday and public holidays.

Medical Services

There is one full time medical Assistant and a full time nursing staff who attend to the health of the students, academic and non-academic staff. The Institute Dispensary contains about 15 beds. The Hospital facilities for serious medical and surgical cases exist at Bugando Consultant Hospital in Mwanza. Medical services including hospitalization are provided free of charge. Expensive items such as spectacles are not included. Before admission each student is required to furnish the Institute with satisfactory medical reports from the recognized medical practitioner or medical officer of health.

Transport

The Institute has a number of buses that provide transport to students when visiting various places and academic trips and tours.

COURSES OFFERED

- Certificate in Agriculture and Veterinary Science (Agro-Vet)
- Diploma in Crop Production
- Typical Certificate training programmes:-

This syllabus was developed at a syllabus workshop held at Morogoro MATI in June, 1976, which produced a standard syllabus for all the MATIs conducting training in Agro-Vet, in the whole of Tanzania. The certificate in Agro-Vet is approximately two years in duration. A successful candidate is awarded a Certificate in Agro-Vet.

The duration of this course as outlined is 99 weeks, 51 weeks for the first year excluding 4 weeks orientation course. There are 44 weeks for the second year.

First Year Certificate Programme:-

8th July	16th September	10 Academic weeks
17th September	23rd September	1 Week break
24th September	3rd December	10 Academic weeks
4th December	1st January	4 Weeks holiday
2nd January	11th April	14 Academic weeks
12th April	10th May	4 Weeks examination
11th May	15th May	Report to post for field practical 1 - 4 weeks
15th July	-	Report to MATI Ukiriguru

Second Year Certificate Programme:-

8th July	16th September	10 Academic weeks
17th September	17th October	1 Week holiday
24th October	23rd December	13 Academic weeks
2nd January	11th January	2 Weeks study tour
15th January	25th April	11 Academic weeks
26th April	28th May	4 Weeks examination
		Graduation

Total Academic weeks:	First Year	34
	Second Year	34
	TOTAL	68

NB: The number of weeks may change according to the directives from Pamba House D'Salaam.

Typical Diploma Training Programme:-

The syllabus was developed at a syllabus workshop held at MATI Mbeya (Uyole) in 1976 which produced a standard syllabus for all MATIs conducting training in Crop Production in the whole of Tanzania. The Diploma in Crop Production is approximately two years. This syllabus was revised at MATI Morogoro in 1977.

The duration of the course as outlined is 89 weeks. The course is broken in terms. There are 5 terms, all of which constitute 68 academic weeks; break and holiday - 10 weeks; study tour and field practical - 7 weeks and 4 weeks for examinations.

Number of Weeks Per Term:-

1st term	13 weeks
2nd term	13 weeks
3rd term	14 weeks
4th term	14 weeks
5th term	14 weeks

OBJECTIVES FOR DIPLOMA COURSE IN CROP PRODUCTION

The course is aimed at producing a person who has enough knowledge in Crop Production to make him/her able to participate actively in the transformation of Tanzania agricultural sector to a modern agricultural industry.

He/She is expected to work in a supervisory capacity in the Crop Development Advisory Service mainly at the district level, as a Production Manager in Government or Parastatal production units, as an agricultural trainer, as an assistant in agricultural research activities.

A Diploma holder in Crop Production will be able to perform the

following duties:-

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 organize training programmes for village members to become experts in basic agricultural skills.

5. To organize 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 agricultural production units and state farms.

8. To serve as an adviser in parastatal organization for agricultural projects.

9. To assist agricultural research officers at research centres and sub-stations.

10. To teach certificate course students at MATI's.

In order to fulfill the above objectives, the following major subjects which are more detailed in the later part of this syllabus, will be taught:-

1. Crop Science

2. Land Use

REGULATIONS ON THE CONDUCT OF EXAMINATION

1. There should be at least two invigillators in each examination.

2. No candidate is allowed to take with him any printed or hand written material into the examination hall.

3. Candidates should be in the examination hall at least five minutes before the scheduled time of each examination paper.

4. Candidates coming late or more than half an hour shall not be allowed into the examination hall.

5. Candidates shall not be allowed to leave the examination hall before one hour after the commencement of the examination paper.

6. Any candidate who does not observe regulation No. 2 and/or No. 5 above will invalidate all his/her examination papers in that academic year.

7. Under no circumstances should invigillators allow more than five minutes beyond the standard time for any theory examination paper.

8. For practical examination, provision of more time may be allowed at the discretion of the examiners depending on the nature of the examination.

9. Candidates must observe a high level of discipline while in the examination hall.

10. Overcoats, hats, alcohol, illicit drugs, sticks and other weapons should not be brought into the examination hall, and any candidate in possession of such items may be denied entry into the examination hall.

11. Invigillators must report to the Principal in writing on all absent candidates, any abnormal behaviour of the candidates, and any specific problems encountered in the conduct of the examination at the end of each paper.

12. Candidates are not allowed to smoke in the examination hall.

NOTE: Reference is made to Page 68, Section VIII of the minutes of the National Agriculture Training Conference 1973.

PROPOSED EXAMINATION SCHEME FOR THE CERTIFICATE COURSE

A. Papers:

(a) A full paper is defined as the content of about 115 periods (theories and practicals together) of the syllabus.

(b) A period has a length of 50 minutes.

(c) At least 4 tests in theory have to be conducted for a full paper during each academic year.

(d) At least 2 tests in theory have to be conducted for a half paper during each academic year.

(e) The examination time for the theory part of a full paper is 3 hours.

(f) The examination time for the theory part of a half paper is 1½ hours.

B. Agro-vet Exam. Papers:

	Theory	Practical
Crop Science I	1	
Crop Science II	1	
Horticulture	1	
Political Education	1	
Land Use I	1	
Land Use II	1	1
Agromechanisation	1	
Animal Science I	1	
Animal Science II	1	
Animal Science III	1	
Animal Science IV	1	1
Farm Economics Organization	1	
Agricultural Extension	1	
Human Nutrition	1	

Key: Land Use I - Survey
Land Use II - Soil and Water Management, Soil Science
Crops I - Introduction, Cultural Practices
Crops II - Plant Protection, Storage and Handling, Agric. Chemicals and Storage of Inputs
Animal Science I - Anatomy and Physiology + Ecology
Animal Science II - Animal Improvement and Animal Nutrition
Animal Science III - Poultry Husbandry, Dairy, Cattle Husbandry and other Livestock
Animal Science IV - Pig Husbandry, Sheep and Goat and Beef Cattle

C. Diploma Examination Scheme: - Crop Production

	Theory	Practical
Land Use I	1	1
Land Use II	1	1
Crops I	1	1
Crops II	1	1
Crops III	1	1
Crops IV	1	1
Agromechanics I	1	1
Agromechanics II	1	1
Agromechanics III	1	1
Farm Economic Organization I	1	X
Farm Economics Organization II	1	1
Organization and Management	1	1
Political Economy	1	-

Key: Land Use I - Surveying
Land Use II - Soil and Water Management, Soil Science
Crops I - Principles of Agriculture, Weeds, Pathology and Entomology
Crops II - Agronomy of Crops

Crops III - Crop/Animal Relationship and Horticulture
Crops IV - Plant Science, Crop Improvement
Agromechanics I - Farm Power, Ox-training
Agromechanics II - Farm Machinery, Workshop Technology
Agromechanics III - Structures, Water Supply, Irrigation
Farm Econ. Org. I - Agricultural Economics
Farm Econ. Org. II - Farm Records and Accounts

Grading Guidelines:-

Pass - A candidate attaining at least 50% in the aggregate in each of all papers shall have passed the whole examination.
- A candidate attaining less than 50% but above 45% in any two papers shall be allowed to pass those papers and hence the whole examination provided his/her aggregate average of all papers is at least 50%.
- A student having been assessed unsatisfactory in the aggregate for practical skills failed the whole paper.

Credit - A candidate attaining an aggregate average of 65% of all papers and above shall be awarded a Credit provided that:-

i) In no one paper does the candidate attain less than 55%.
ii) The candidate is not repeating a year or resitting any paper.

Distinction - A candidate attaining an aggregate average of 75% and above shall be awarded a Distinction provided that:-

i) In no one paper does the candidate attain less than 65%.
ii) The candidate is not repeating a year or resitting any paper.

Moderation of Grades - The aggregate assessment of Character and Attitude to Work" has a moderating effect on the final grading of the student in the following manner:-

i) A distinction can only be awarded with an aggregate assessment of either "very good" or "good".
ii) A credit can only be awarded with an aggregate assessment of "good".
iii) A credit can be upgraded to distinction if the aggregate assessment is "very good".
iv) No certificate can be awarded to a student who is assessed "unsatisfactory".

Resit - A candidate securing less than 50% in the aggregate in any two papers or whose performance falls under unsatisfactory assessment in the first year examination, shall be allowed to resit the whole paper provided his/her aggregate average of all papers is at least 50%.
- A candidate securing less than 50% in the aggregate in any three papers or whose performance falls under unsatisfactory assessment in the second year examination, shall be allowed to

resit the whole paper provided his/her aggregate average of all papers is at least 50%.

- Students should not be given more than 4 weeks revision time to sit for their resit examination.

Repeat - A candidate securing less than 50% in the aggregate in any four papers in the second year examination shall be deemed to have failed the examination and he/she shall be allowed to repeat the whole second year provided his/her aggregate average of all papers is at least 50%.
- A candidate who fails any resit paper, in the second year examination, shall have to repeat the whole second year.
- A candidate who could not appear in the first or second year examination on medical grounds shall be allowed to appear in the following first or second year resit examinations respectively.

Discontinuance - A candidate attaining less than 50% in the aggregate in each of more than two papers in the first year examination, shall be deemed to have failed the examination and be recommended for discontinuance.

- A candidate attaining less than 50% in the aggregate in each of more than four papers in the second year examination shall be deemed to have failed the examination and be recommended for discontinuance.

- A candidate who fails to pass in any one of the resit papers in the first year examination, shall be deemed to have failed the examination, and be recommended for discontinuance.

The Examination Board Meeting

The Examination Board meeting shall take place not later than on the 2nd last day before the day of the graduation ceremony.

Awards: Awards are provided to best students during the graduation ceremony.

1. Leadership
2. Discipline
3. Overall best student in Academic
4. Overall best student in Practicals
5. Various departments (theory papers)

DISCIPLINE AT THE MINISTRY OF AGRICULTURE TRAINING INSTITUTE

1. All students, whether in-service or pre-service, attending the Institute come under Institute discipline laid down by the Principal and approved by the Director of Training.

2. In cases of misconduct the following procedure will be adopted:

A. Misconduct which is of a less serious nature.

a) The student who commits acts of misconduct which are not in themselves of a serious nature but which might add up to serious inefficiency or indiscipline if repeated must be given every opportunity to mend his ways before disciplinary action is taken. He should be given friendly advice, and the effects of his misconduct on other students and on his own chances of completing the course should be pointed out.

b) If this fails and the student persists in acts of misconduct then the Principal must warn him. The first warning will be verbally and will be entered in the student's record by the Principal. The second and third warnings will be written and must be copied to the Director of Training. The warnings must be stated in a prescribed manner as shown by the specimens in Appendix E III.

c) Should the student fail to mend his ways after these two written warnings, the Principal must at once give him a final warning in the prescribed manner and the student must be given the chance to exculpate himself. The specimen proforma in Appendix E IV shall be the model in such cases.

The Principal shall forward without delay to the Director of Training:

i) A copy of the final warning given to the student (Appendix E IV).
ii) The student's written representations in reply to the final warning.
iii) The Principal's recommendation.

d) The three warnings and the final warning may all be for different offenses. The point to remember is that each offense, whatever its nature, is misconduct. It is about misconduct that the student is warned in each case. It is not, for example, necessary to warn a student three times of drunkenness before giving him a final warning for drunkenness. If his first three offenses are say, absence from duty, debt and insubordination and he has refused to heed the three warnings in these three cases of misconduct, then the next time he is guilty of misconduct (say, drunkenness) he can be given the final warning.

B. <u>Misconduct which is of a serious nature and warrants immediate dismissal but DOES NOT involve Police action or Court Procedure</u>

If this type of misconduct is not of an urgent nature, the student suspected of such misconduct shall at once be notified in writing by the Principal of the grounds on which it is intended to dismiss him, and shall be given every opportunity of exculpating himself. The notification shall be in a prescribed manner as shown in Appendix E II and the charges in the schedule of Appendix E II shall be as shown in one or more of the specimen proformas given in Appendix E III. The Principal must forward to the Director of Training without delay:

i) A copy of the notification (Appendix E II).

ii) The student's written representations in reply to the charges made.
iii) The Principal's recommendation.

C. Misconduct which amounts to a criminal offense

If the Police have been called in to investigate, the Principal will immediately make recommendations to the Director of Training as to whether the student suspected of misconduct shall be suspended or expelled. If the student is later convicted in court, a copy of judgement together with recommendations must at once be forwarded to the Director of Training by the Principal.

D. Extreme cases

In extreme cases which would lead to a strike, the Principal is empowered to suspend a student from the Institute, reporting the matter in full to the Director of Training for final decision.

3. In all cases when a student is suspended, no allowance will be paid from the date of the suspension.

RULES FOR STUDENTS

These rules are as amended by the Disciplinary Committee meeting held at Nyegezi on 9th February, 1972. They supersede any rules issued previously for both Institutes.

PREAMBLE: The acceptance by a student of admission to the Institute is regarded as an undertaking to obey the Institute rules. Satisfactory progress and conduct will be a condition of residence and attendance at the courses.

1. Students must NOT absent themselves from practicals or lectures or any other duties assigned to them without permission; punctuality is required at all times. Students absenting from meals must notify the cateress in advance. Food must not be taken from the dining hall by the students without permission.

2. In order to facilitate study, silence must be observed during lecture hours. Reasonable quiet must be observed at all times in and about the Institute buildings. In this respect the radio/record player must be played at LOW volume.

3. The Library and classrooms are available for private study and silence must be observed at all times. There is a set of Library rules that must be complied with.

4. Students are responsible for the cleanliness in and around their own dormitories and each student is required to make his/her own bed before leaving for duty.

5. Furniture and equipment must not be removed from any room of the

Institute without permission. Any breakage or damage to furniture or equipment must be reported to the duty tutor, or Warden, or Bursar. Any unreported damage in public rooms will be charged to the group of students responsible, or the whole of the student body as seems appropriate. Walls must not be defaced by nails or pins or cellotape, etc.

6. Paraffin lamps/stoves, petrol and spirit stoves or candles are not allowed in the dormitories. No unauthorized electric fittings can be permitted. This is for your own and others' safety.

7. Students must dress in neat and clean clothes for meals, lectures and on social occasions.

8. Smoking is prohibited in classrooms, laboratories, dining hall, and at the Dairy. Smoking in bed is strictly prohibited.

9. Intoxicating liquors must not be brought to the Institute premises except when permission has been given by the Principal. This must be served in the recreation hall. Students must not appear drunk in the Institute.

10. Students are expected to be in their dormitories by 10:00 p.m. every night of the week. Permission to stay outside the dormitories beyond this limit should be sought from the Warden and should be in written form. Exceptions are as in Rules 15, 16 and 17.

11. The following places are out of bounds:-

1) General and Bursar's offices. Permission to enter these must be sought from the Course Tutor.
2) The Kitchen, except for the Kitchen Representative.

12. Illness or accidents must be reported immediately to the tutor on duty, Warden or cateress who may arrange to take food to the sick students.

13. a) Males are not allowed in the female dormitories and females are not allowed in the male dormitories at any time.
b) Guests may be entertained in the recreation hall on the following days:-

Saturdays - 12:00 noon to 6:00 p.m. No guests will be allowed during work days. Any exception to this rule should be cleared with the Course Tutor or Warden.

c) Guests should use the main paths when touring the Compound and being escorted from the Institute.

14. Married students are NOT allowed to bring their wives to the Institute as there is no accomodation available for them.

15. There will be:-

a) One public dance and one public film per month.

b) Two or three Institute arranged dances per month.

c) Students' selection of film should be taken to the Principal for approval.

d) Attendance to Institute functions by outside guests will be by invitation only.

16. All social activities, other than public dances must end by 12:00 midnight.

17. All public dances during the week must end by 12:00 midnight except on Saturdays when Principal's permission or that of the Warden must be sought to extend the dance to not LATER than 2:00 a.m.

18. Male/Female students contact (except at the Library and Hall when there is a social function or dance) must end by 8:00 p.m. everyday.

19. All students must be within the Institute by 6:00 p.m. everyday of the week. Permission to stay outside the campus beyond this time must be obtained from the Course Tutor in writing.

Vehicles (other than Institute vehicles returning students to the Institute or otherwise) are not allowed in the premises after 6:00 p.m.

20. Students will not be allowed to send or receive telephone calls during lecture or practicals hours. The Telephone Operator will receive and convey the messages during these hours.

21. Staff quarters, except those of the Warden for male students and Matron for female students, which are available when necessary, are out of bounds for all students at all times.

NOTES: 1. These rules are subject to amendment by the disciplinary committee at any time when necessary without prior notices. Such amendments will supersede the previous rule/or parts of.

2. Any infringement of these rules, or any other behaviour amounting to indiscipline or misconduct will be dealt with by the procedures laid down in Appendix I - IV of the minutes of the 1964 Training Division Conference. These comprise a system of written warnings which lead to suspension and/or dismissal.

3. These rules cover also trainees from other Ministries as long as they are undertaking training in these Institutes.

4. All trainees are requested to inform their friends and relatives of these rules and other restrictions.

PROGRESS REPORT

Michael A. Kizer

Adjunct Assistant Professor - NCATSU

During the previous calendar year, the first tour of duty was completed, home leave was taken, and second tour began in July. During the year the following events have occurred:

1. Diploma Course 1976 completed their studies and took final exams. There were no distinctions or failures. There were six credits in Agro-mechanics.

2. Interviews were conducted for the new uptake for Diploma Course 1978. Classes began mid-July with the first term ending mid-October. The second term has begun and it is less than one quarter complete at this time. During this period the subject of workshop technology has been completed and farm structures is nearly completed, for both theory and practical studies.

3. Part of the Diploma 1978 practical periods in Agro-mechanics have been devoted to the construction of the crop science laboratory as a self-help project. It was decided to enlarge the structure by twenty feet in length, so new footings were dug and poured. One mason has been employed by the institute for laying bricks on the project. He has supervised the students during the bricklaying process. The walls are now complete, the door and window casings have been placed, and the floor leveled for the placement of stones prior to pouring the floor.

4. During the past year, I served on the field practical committee for Diploma Course 1977, helping to arrange for their placement in the field. The organization of the program did not improve at all over last year's program; the main problem being financial, again. Nonetheless, the students spent five weeks in the field. I was not involved in checking on their work, as I had not been involved in their instruction.

5. Nearly all of the project commodities and equipment have been received, and most are now being used in the workshop. I have been involved in the check-in process and in assisting the storekeeper in storing extra equipment for use in the future. We now have a fairly effective check-out procedure in the workshop tool store, which has reduced tool loss considerably. On occasion, however, I have found it impossible to work, because of the lack of tools due to the storekeeper's absence. No alternative arrangement seems to be effective.

6. I have acted as workshop manager during the last year. This aspect of my work has continued, as in past years, to be the most troublesome task. With my current teaching load, I find

it difficult to devote the time required to the workshop. As a result, the management and condition of equipment is still not satisfactory. Daily and preventative maintenance schedules are not working effectively. Some of the problem lies with the staff, who lack proper training and motivation but much of the fault lies with me and my inability to delegate authority effectively. When I am present in the workshop, work progresses at an acceptable rate and people are willing to work. However, if I am absent, work will stand until someone comes along to assign it and supervise.

There is still the problem of getting drivers to watch their equipment in the field and to tighten nuts and bolts as needed. All too often, simple problems which could have been rectified with a few minutes work, are allowed to develop into major repairs costing hours of down time and much money.

Problems with the procurement of spares has improved some due to the willingness of the bursar to release cash for the purchase of items that are available only in private stores. For items acquired through government stores, there appears to be no remedy to the requisitioning process, which can take weeks.

7. I have continued as a member of the farm planning committee, which has carried on in its attempt to increase the productivity of the school farm. I have attempted to assist Mr. Mann, who has been the prime mover in the project, but we have met with many setbacks. Major problems are finances for labor and maintenance of field equipment, and unfortunately, the apparent lack of enthusiasm of some fellow committee members to see the farm as we envision it.

8. The Agro-mechanics Club has not been extremely active in the past year. There has been no major outside activities, and only a few local projects on vehicle maintenance. Mr. Lema, the assistant patron, did arrange some activities for the first year students during my absence for home leave. The second annual graduation barbecue was held, and despite inclement weather, was successful.

PROGRESS REPORT

John Mann

Adjunct Assistant Professor - WVU

Teaching

As in the past, I have been teaching between 5 and 12 hours of theory per week, on the average about 8 hours. The sections of the syllabus I have covered have been Plant Science (Botany, Anatomy, Physiology, Biochemistry, Genetics), Plant Pathology, Plant Breeding, and Field Experimentation.

Although I have not reduced the number of hours devoted to theory teaching, I have shifted more emphasis to the teaching of practical skills during the last year. I have not accomplished much in terms of preparing a lab manual, but I have been discovering how best to teach certain skills using the limited resources available.

Projects

The screenhouse/laboratory project finally got off the ground this past year, and some of my time has been spent helping Mr. Kizer on that. I have found my conceptions of exactly what I want have changed since the building started up, and he has been good about building in the desired changes.

The "project" which has received most of my attention is the development of the farm into a real production unit. With student help, we cleared about 15 ha. of land, and now have about 25 ha. of the new farm cleared and plowed, and some of it planted. Progress has been slowed by problems in the ordering and purchasing of needed equipment from the States, and by a drastic cut in the local budget. We have overcome the conceptual problems about the possibilities of the new farm, and have a good general commitment from staff and students to further develop the farm's production capabilities.

Although I have spent more hours working this year than in the past, progress is harder to define, as much of my time has been spent doing things outside the job description: fixing tractors, making bricks, repairing equipment, hauling gravel, etc.

In general terms, I have not made the kind of progress I had anticipated in this last year. The cuts in the MATI budget and the difficulty of getting supplies from the U.S. have compounded our problems here. Unless we find ways of overcoming these problems, progress will be even slower in the coming year.

END OF TOUR REPORT

Lloyd C. Pickett

Adjunct Professor - WVU

I. Overview of the Situation and Results

I have served as Coordinator of Studies and Deputy Principal at the Ministry of Agriculture's Training Institute at Mpwapwa for the period of this tour. The situation at my leaving is so far removed from that at my arriving as to seem unbelievable, due mostly to sweeping changes initiated by the Ministry of Agriculture. In May 1976, the MATI taught only 1st year Certificate students following a veterinary curriculum. The MATI was housed in 4 to 5 old rooms in the Research Institute. The staff of about 12, nearly all Animal Science majors, had few modern reference books and lacked many items of equipment needed in their instruction.

By May 1978, the MATI had nearly tripled its number of students, had taken charge administratively of the Animal Health Diploma course (as well as the 2-year certificate course), had a staff of about 45 (not all physically present), was housed in substantial new facilities, and was enjoying an abundance of equipment, supplies, and books. By May 1978, staff and students were following a rigorous schedule of weekly tests, were using a newly developed poultry unit and new student training shambas to enhance practical work, and had access to a very well-equipped library. The students were generally receiving an education of commendable quality, probably a substantial step ahead of prior years.

II. The Early Months

In June 1976, one month after I arrived, I participated in a workshop which developed a multi-purpose certificate curriculum (Agro-Vet). This curriculum was immediately implemented. As two-thirds of the course material lay outside of the previous veterinary sphere, we were strapped for appropriate tutors, teaching materials, and facilities.

At the same time an order was given by KILIMO headquarters to have the 2nd-year students, previously training at Morogoro, moved to Mpwapwa. The principal was soon tranferred as well. Thus, during my first six months, working around the clock, our handful of staff struggled just to survive. This was made more difficult by student hostility to the new syllabus.

By Christmas 1976, the staff had 2 new hurdles to surmount, that of moving from the Research Institute to all new facilities (buildings) at the present site, and that of gearing up for the first MATI-administrated Diploma Course staring in January 1977.

In 1977, a total of 34 new staff finally joined or rejoined the MATI and an abundance of IDA and USAID loan equipment arrived. Thus we began to bring some order out of the earlier chaos and the quality of instruction gradually improved.

I leave MATI Mpwapwa with a considerable sense of satisfaction in having been one of the key participants in the growth and development of what now must be one of the strongest MATI's in the country. The present principal has provided the firm leadership lacking in the early months, and the MATI boasts a number of dedicated staff. Further, some KILIMO policies have added substantially to the quality of education in the MATI--for example, the continuous assessment of theory and practical skills requirement is very good. The KILIMO pressures to develop assessment schemes, schemes of work, etc. are needed as people in general tend to be as lazy as allowed to be.

For specific information on my roles, objectives, and accomplishments, the reader is referred to my annual plans of work and annual reports. MATI progress is further detailed in the MATI quarterly and annual reports.

III. Observations and Suggestions

This section will deal with some few areas that I feel could be improved in spite of my general feeling that KILIMO is making remarkable overall progress in upgrading its Agricultural Training Institutes. This progress is worthy of congratulations.

A. No doubt stemming from an American bias, it strikes me that the final examination procedures are overly difficult and expensive. If one can assume that MATI staff are now well enough trained to teach adequately, then it seems odd to assume that they cannot set exams and mark papers competently. Moderation and Examination Boards do help by keeping pressure on a staff and by turning up a few errors, but could this not be done more simply if the Director of Manpower Development sent a single competent representative to each MATI to spot check exam questions and their marking? Such an "inspector" could be demanding and effective. Senior staff from MATI's could be recruited to serve temporarily as inspectors for Diploma courses.

B. The Agro-Vet syllabus is not necessarily bad. If one views the Bwana Shamba's work the way I do, then the present general purpose certificate syllabus <u>can</u> produce a well-trained Bwana Shamba. But, if we expect the course to produce mini-veterinarians and mini-agronomists, I agree with the syllabus's critics---it is too broad.

I believe a Bwana Shamba, in conjunction with his superiors and his villagers should develop a few outreaching programs around high priority needs and spend all of his energies promoting these programs to successful conclusions. Such programs might include dipping of cattle, planting sorghum rather than maize, and improving range. What the Bwana Shamba needs is dedication, skill in working with people, ability to follow proven Extension techniques or methods, and knowledge of and confidence in the simple practices he is promoting. Our present curriculum can develop these skills and abilities. What we probably do though is develop techniciana who can tell a farmer what the insect is which is eating his crop but who are unable to launch comprehensive educational programs on a mass scale to protect the villages from such insects.

When we create (educate) experts, we invite the application of poor Extension technique. The Bwana Shamba who relishes being a veterinarian (expert) will tend to spend his days diagnosing and treating sick animals. There is no efficiency and little development potential in such effort. Cows are not a limiting resource---grass is. The Bwana Shamba must be able to change people, their beliefs, and habits, and finally their agricultural practices on a mass scale according to the programs mutually selected.

For a further treatment of this topic, see: The No. 4 issue, 1977, of Progressive Stockman, "Five Ways to Improve Your Extension Work", by L. Pickett. Also see my papers delivered at the 1977 and 1978 training conferences. One of these suggests we need to teach a few things well (those which may become Extension programs) rather than many things poorly. Our curriculum can do this but first we must visualize Extension as action---organizing and educating people toward some village-wide goal---rather than as reaction wherein technical problems are brought to the Bwana Shamba who reacts to them. The latter takes a good deal of knowledge. As a general approach to Extension it will not be successful. Diploma-trained staff at higher headquarters can better serve as the "doctors" of agriculture. Let the Bwana Shamba be a "fundi" in the main, a dedicated, simple man of the village. Neither students nor tutors will like this advice, but it may be in keeping with the intent of the policy makers who elected to switch to a general purpose syllabus. I believe its implementation will make Extension more productive. This is because a single shot of scientific advice seldom changes anyone's practices. Change comes about as a result of continuous reminders and proofs of the superiority of a new practice---the kind of repetition automatically built into a comprehensive, outreaching Extension education program. We must train change agents, not simple givers of advice as "experts" tend to be.

C. As developed at length in my paper to the 1977 training conference at Tengeru, we need to: (1) redefine the role of the Bwana Shamba (2) revise our present syllabus and (3) develop tutor guides. The national examinations make these tasks urgent. At Mpwapwa, for example, we taught our assigned hours on training aids (in Extension), teaching about 3 selected aids well, yet, on the National Exam a question called for the identification of a wide array of aids, some of questionable use in the country. An expanded syllabus or tutor guides to topics would define more precisely what a tutor is expected to teach and avoid such problems. The suggestions in my paper were accepted by the 1977 training conference. So far, no action is noted.

D. If a foreigner is again assigned as a Coordinator of Studies, I recommend he not also be Deputy Principal. It is impossible for an outsider to handle ceremonial, financial, and certain other matters as well as a Tanzanian.

SUGGESTIONS FOR THE CONTRACTOR

The West Virginia-N. Carolina A&T University Consortium staff was in all cases competent except at the time of recruitment when the Directors were changing. Dr. Maxwell, Chief of Party, has been exceptionally quick and able in responding to minor crises at the MATI. He was leaned on time

after time to send parts needed, paper needed, etc., when other channels were too slow to meet the crisis.

Most important to the success of field workers is their careful selection. I believe technical competence is less important than tolerance for ways different than our own, ability to get along well with others, teaching ability, an active interest in the host people and their culture, a willingness to give of oneself, and an overall dedication to make the host institution a better one.

Bachelors should generally be avoided in remote posts.

An Ag Engineer could be well used at all MATI's including Mpwapwa.

A brief newsletter from the Director of International Programs could keep field staff in better touch with the home office which we almost forget.

USAID is rather remote from our day-to-day activities and I have no comments here.

THANKS

I would like to thank the Principal, J.B. Ndunguru, for allowing me the opportunity to function actively. I thank all those staff members who cooperated so well, often under pressures, and whose efforts finally led to substantial improvements in our instruction over the 2-year period.

I appreciate the hard work and friendship of Dr. Getz and Dr. Galvin, and the help of Dr. Maxwell, already mentioned. The Director of International Program's trips to the country have proved his concern in keeping updated. Lastly, I thank my wife and family whose presence made my presence possible.

It is inevitable that I have offended some Tanzanian people. I only ask their tolerance as I have strived to be tolerant of them when their values, beliefs, and habits differed from mine. I am embarrassed that I haven't learned Kiswahili better. Besides having little interest in languages in general, I was so worn out from my heavy work load that I neglected to work on the language as I should have. At times my work load was so heavy that there was not a spare minute in an entire day.

My co-workers can rest assured that I will speak well of them and their country, and they can be assured of my continued concern and friendship. I hope to be able to work with them again.