

UNITED STATES GOVERNMENT

Memorandum

Proj. No. 6210119 (4)

PD-AAB-598-A1

TO : Executive Project Review Committee for
Tanzania Agricultural Manpower PROP
THRU : Edward Hogan, AFR/DP
FROM : Jerry Knoll, AFR/ESA *JK*

(9/1/73)
DATE: Sept. 27, 1973

121-11-190-119

SUBJECT: Brief Description of the Tanzania Agricultural Manpower
Development Project (PROP Attached)

The Government of Tanzania has requested AID to participate, with other donors, in a technical assistance program designed to assist in meeting over all goals of increasing food and livestock production. This specific project will focus on a major constraint to accomplishment of this goal, trained manpower at all levels of the government service and in the agriculturally related parastatal organizations which, in Tanzania, have program operation responsibility.

The project will accomplish its purposes by (1) assisting the Tanzania Government to improve its management of trained manpower and its manpower training programs; (2) working with the Ministry of Agriculture and the University of Dar es Salaam's Faculty of Agriculture in a review of degree-level manpower training; (3) providing, through participant training, management and technical skills for selected positions within the Ministry of Agriculture and the agricultural parastatals and (4) providing participant training, in-service training and OPEX manpower to two(2) diploma and certificate training institutes, one in food crops and one in livestock.

The design of this project, as shown in the PROP, closely follows the recommendations of an AID provided study team who, in August of 1972, published a report titled Agricultural Manpower Development (by Yeaman, Schwenke, AID Employees and Wamunza, Tanzania Ministry of Agriculture)

The attached PROP has been rigorously reviewed by an African Bureau project committee. An earlier version was rejected by an Executive Project Review Committee session and as a result has been re-written to incorporate the changes and comments made by the EPRC at that time.

At this time the Project Committee has no issues to raise with regard to the attached PROP and recommends the EPRC approve the project for action by the AA/AFR.

Life of Project	6 years
Total Project Funding	\$3,340,000
FY-74 Funding	\$ 418,000



I. PROJECT IDENTIFICATION

1. PROJECT TITLE <p style="text-align: center; font-size: 1.2em;">Agricultural Manpower Development</p>		APPENDIX ATTACHED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO 2. PROJECT NO. (M.O. 1095.2) <p style="text-align: center;">620-11-190-119</p>
3. RECIPIENT (specify) <input checked="" type="checkbox"/> COUNTRY <u>Tanzania</u> <input type="checkbox"/> REGIONAL <input type="checkbox"/> INTERREGIONAL	4. LIFE OF PROJECT BEGINS FY <u>74</u> ENDS FY <u>80</u>	5. SUBMISSION <input checked="" type="checkbox"/> ORIGINAL _____ DATE <input type="checkbox"/> REV. NO. _____ DATE CONTR./PASA NO. _____

II. FUNDING (\$000) AND MAN MONTHS (MM) REQUIREMENTS

A. FUNDING BY FISCAL YEAR	B. TOTAL \$	C. PERSONNEL		D. PARTICIPANTS		E. COMMODITIES \$	F. OTHER COSTS \$	G. PASA/CONTR.		H. LOCAL EXCHANGE RATE: 6.8655 CURRENCY RATE: \$ US (U.S. OWNED) T. Shilling			
		(1) \$	(2) MM	(1) \$	(2) MM			(1) \$ 2/	(2) MM	(1) U.S. GRANT LOAN	(2) CCOOP COUNTRY		
											(A) JOINT	(B) BUDGET	
1. PRIOR THRU ACTUAL FY	-	-	-	-	-	-	-	-	-	390	(\$000) 1/	(\$000) 3/	
2. OPRN FY 74	418	260	54	120	144	23	15	320	-	-	5	840	
3. BUDGET FY 75	616	264	62	340	408	2	10	389	-	-	5	953	
4. BUDGET +1 FY 76	699	472	108	200	240	22	5	677	-	-	5	991	
5. BUDGET +2 FY 77	688	482	108	200	240	1	5	687	-	-	5	976	
6. BUDGET +3 FY 78	532	485	108	40	48	2	5	530	-	-	5	953	
7. ALL SUBQ. 79	387	387	84	-	-	-	-	387	-	-	5	947	
8. GRAND TOTAL	3340	2350	524	900	1080	50	40	2990	-	390	30	5660	

9. OTHER DONOR CONTRIBUTIONS

(A) NAME OF DONOR	(B) KIND OF GOODS/SERVICES	(C) AMOUNT
1. International Development Assn.	1. Loan for Construction & Tech. Services	\$3,300,000
2. NORDIC AID	2. Grant for Construction & Tech. Services	\$8,300,000

III. ORIGINATING OFFICE CLEARANCE

1. DRAFTER RBierman, Dar es Salaam MWinter, REDSO/EA WJohnson, AFR/D5	TITLE AGR/USAID Project Designer	DATE
2. CLEARANCE OFFICER OHess, F&A, Dar es Salaam RHuesmann, Program/Dar es Salaam WGreen, Dar es Salaam	TITLE AGR/USAID/Dar es Salaam Prog/USAID/Dar es Salaam DIR/USAID/Dar es Salaam	DATE

IV. PROJECT AUTHORIZATION

1. CONDITIONS OF APPROVAL

- 1/ Funds made available from USAID Trust Fund - non-add
- 2/ Includes commodities, MATI Participant - local costs other than Vehicle/Spares
- 3/ Minimum Expected TanGov Contribution

2. CLEARANCES

BUR/OFF.	SIGNATURE	DATE	BUR/OFF.	SIGNATURE	DATE

3. APPROVAL AAs OR OFFICE DIRECTORS

SIGNATURE	DATE
TITLE	

4. APPROVAL A/AID (See M.O. 1025.1 VI C)

SIGNATURE	DATE
ADMINISTRATOR, AGENCY FOR INTERNATIONAL DEVELOPMENT	

NON CAPITAL PROJECT PAPER

(PROP)

AGRICULTURAL MANPOWER DEVELOPMENT

(TANZANIA)

SEPTEMBER 1973

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ANNEXES

- I. Summary and Recommendations from the Study Agricultural Manpower Development by Yeaman, Schwencke and Wamunza, August 1972.
- II. Copy of Letter from Mr. A Mushi, Principal Secretary, Ministry of Agriculture, the United Republic of Tanzania, to Mr. William D. Green, Director, USAID, Dar es Salaam, Subject: Manpower Development--USAID, 30 March 1973.
- III. Copy of Annex IX of Capital Assistance Paper, AID-DIC/P-2005, Tanzania - Agricultural Support Loan II, Titled: Preliminary Agricultural Manpower List (Commodities).
- IV. Map of Tanzania Showing Locations of MATI's and Project Operations.
- V. Guidelines for Selection of Participants for General Support Training and Types of Training Proposed.
- VI. Proposed Organization of the Ministry of Agriculture Showing Position Filled by AID Provided OPEX Personnel.
- VII. Job Description/Qualifications for AID Provided Staff.
- VIII. An Analysis of the MATI System and Justification for AID Concentration at Ukiriguru and Mpwapwa.

SUMMARY AND BRIEF PROJECT DESCRIPTION

INTRODUCTION

Previous and current studies have identified several constraints to the transformation of Tanzanian traditional agriculture into a modern, highly productive segment of the economy.^{1/} A universal theme of such studies has been the critical shortage of properly trained and skilled manpower at all levels. Assistance to the Government of Tanzania (TanGov) by this project focuses on removing or reducing such constraints in the food crop and livestock subsectors. Precisely, this project will assist the TanGov in providing the trained manpower at sub-professional and professional levels^{2/} essential to achieve its goals of increased self-sufficiency in the food crops and livestock agricultural subsectors. The project will become a key-stone in the joint TanGov-USAID efforts which are building toward integrated and inter-coordinated agricultural production programs.

BACKGROUND

The efforts of the TanGov to provide the services necessary to stimulate and enable the development of Tanzanian agriculture are seriously handicapped by insufficient trained manpower, particularly in the agricultural field services, and by the inadequate training before assignment and performance of many of the field personnel on duty.

In an attempt to remedy this situation the TanGov has increased the number of Ministry of Agriculture Training Institutes (MATI's) from two to ten in the 1967-72 period with two more under construction. While this rapid expansion of the training institute system is required if the TanGov is to meet its goal of self-sufficiency in agricultural manpower by 1980, it has resulted in training programs and facilities that at present are poorly staffed, only partially equipped, and unable to provide highly qualified graduates (2 year certificate holders and 3 year diplomates).

-
- ^{1/} Yeaman, Schwencke and Wamunza, Agricultural Manpower Development, August 1972.
Advance Copy of Section Titled: Strategies for Increasing Production of Food Crops in Tanzania by D. Ensminger, University of Missouri, of the current Food Crops Subsector Analysis, received July 1973.
Appraisal of the 3rd Education Project in Tanzania, Report No. PE-18A, January 1972. IBRD/IDA.
- ^{2/} Professional defined as a degree holder; sub-professional defined as certificate or diploma holders.

To improve the training institute system the TanGov has obtained an IDA credit covering the construction and partial equipping of several MATI's as well as some specific technical assistance at the national level. The TanGov is also receiving aid from the NORDIC countries for a new institute at Mbeya and West German aid for the Ifakara Institute (see Section on Donor Inputs, page 18). As indicated below, the assistance requested from the United States is supplemental and highly complementary to such efforts.

THE PROJECT

Proposed United States assistance will focus on (a) the identified needs to improve the MinAg manpower development and staff training programs, (b) the quality of instruction and administration of the MATI system, (c) the planning for the Faculty of Agriculture of the University of Dar es Salaam (UDSM/FA), and (d) in partially meeting critical MATI staff needs and general urgent manpower training needs of the MinAg and parastatals while qualified Tanzanians are being trained and while the undergraduate stream (B.Sc.) of the UDSM/FA is building. Particular emphasis will be placed on the development of two institutes concerned with food crops and livestock--Ukiriguru and Mpwapwa.

<u>U.S. Provided DG Assistance is Programmed as Follows:</u>	<u>(US\$000)</u>
1. A Direct-Hire Project Manager (Technical Support Funded).	
2. A nine-man contract team ^{1/} to improve the quality of training institute instruction administration, curricula and operations.	\$2,314.0
3. Participant training in the United States for thirty training institute staff and for an initial tranche of up to 15 other essential agricultural personnel.	900.0
4. A commodity input (six vehicles and miscellaneous teaching supplies).	90.0
5. A two-man TDY team to study the Faculty of Agriculture of the University of Dar es Salaam.	36.0
6. A local cost input (USAID Trust Fund) to assist in supporting training operations at the schools involved (T.She.206,000 equivalent to U.S. \$30,000)	30.0
<u>TOTAL DG COST</u>	<u>\$3,370.0</u>

1/ Contract personnel will receive appointments as TanGov officers but all salary and allowances are paid by AID. TanGov pays Tanzanian Shs. 21,600 per year. (US\$3,150.00) into USAID Trust Fund and also provides housing, local travel and other support.

U.S. Provided Loan Assistance (AID-NLC/P-2005) is Programmed as Follows:

(US\$000)

\$390,000 is provided for equipment and construction for the Ukiriguru and Mpwapwa institutes to supplement the equipment and construction provided by the IDA credit. AID-financed equipment categories include: (a) text and reference books; (b) general farm equipment for instructional purposes; (c) laboratory; office and workshop equipment; (d) general teaching materials; including audio-visual aid equipment; and (e) senior staff housing (9 units).

\$ 390.0

TECHNICAL INPUTS AND PROJECT PHASING

In the Ministry of Agriculture, Dar es Salaam, one Special Assistant (Planning and Development) to the Director, Manpower Development Division will assist in the planning and development of MinAg training and staff development programs. At Ukiriguru Training Institute five experts will assist in such training fields as agronomy, agricultural engineering, land use, production economics, and agricultural extension. One of the experts will work about half-time as Special Assistant (Planning and Development) to the Ukiriguru Principal. At Mpwapwa Training Institute three experts will assist in the livestock training field including animal production, animal health, and range management. One of the experts will work about half-time as Special Assistant (Planning and Development) to the Mpwapwa Principal. At the University of Dar es Salaam, Faculty of Agriculture (UDSM/FA) a two-man short-term contract team will determine present capabilities and recommend courses of action to enable the UDSM/FA to meet necessary manpower requirements.

Project implementation is designed on a three step basis as follows:
NOTE: Some overlap will occur between steps.

Step I - Planning for Operations (FY 1974-75)

The three Special Assistants will arrive (programmed for January 1974) and initiate the planning for project operations, including development of detailed annual work plans and a life of project PERT chart (to be updated as required) and, where appropriate, teaching duties. Duties during this period will be focused on:

1. Identification of initial participant training needs in the MATI's MinAg and agriculturally related parastatals and selection of candidates;
2. Appraisals of curricula, teaching aids, facilities, etc. and planning improved training systems;
3. Assistance to the MATI's is establishment of qualifications for and assignments of the teaching staffs;

4. Developing regular schedules of in-service training for the MATI technical staff in appropriate area as well as training for administrative staff in budgeting, programming, planning, personnel administration, operations management and evaluation;
5. Identification of equipment to be provided through loan funding, developing specifications, and establishing a records systems for essential follow-through on commodities.

A further major task during this period will be to assist the TanGov and MinAg, as required, in the establishment of improved administrative procedures and operations of the Manpower Development Division (including personnel policies and regulations for a career institute administrative and teaching staff).

During the latter stage of this phase the terms of reference for the evaluation of the USDM Faculty of Agriculture will be developed by senior project staff in consultation with appropriate TanGov officials. The actual study will be conducted early in Step II.

Step II - Project Operation and Evaluation (FY 1975-77)^{1/}

During FY 1975-77, project provided teaching staff (4 at Ukiriguru, 2 at Mpwapwa) will arrive (programmed for January 1975) and initiate their duties of (1) regular teaching of diploma and certificate students (75 diplomates and 235 certificates per year); (2) administrative duties, as assigned, while regular MinAg staff are being trained; (3) working with other United States provided and Tanzanian specialists in curricula development, developing teaching aids, developing practical, field training systems, etc., and (4) working with their institutes and other MinAg and regional field staff in developing short courses and in-service training for both MATI staff and for other extension or research personnel.

After approximately two years of such experience, or by FY 1976-77, a major AID/TanGov evaluation will be scheduled to suggest if new project directions or actions will be appropriate. This evaluation will be in addition to annual USAID/TanGov evaluations which are a regular component of this project.

^{1/} Step II of this project will not be initiated until the MinAg Senior Agricultural Manpower Development Officer has prepared the appropriate amendments to the existing scheme of service for establishing a career teaching and administrative service for the agricultural training system, as agreed with the USAID Project Manager, and submitted them to the MinAg Establishments Section of the Principal Secretary's office for action. The amendments will be designed to improve quality of teaching and administrative staff by reducing or eliminating frequent transfers of personnel in and out of the training system and providing channels of promotion within the training system itself.

Step III - Consolidation of Project Inputs (FY 1977-80)

While premature to discuss in detail the specifics of Step III at this time, and assuming the evaluations noted above have resulted in only minor changes in emphasis, it is expected that project operations will continue largely as in Step II, with modifications as MATI participants return and begin their teaching duties. At this stage the AID supported staff will provide on-the-job assistance and training to the newly returned participants. This is also the period when in-service training for MATI staff (systemwide) and for regional or national agriculture field staff will be stressed by the AID provided technicians.

The nine-man contract team will phasedown and out during FY 1979 and the project will be completed in FY 1980.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK (GOAL)

Project Title & Number: Agricultural Manpower Development, 621-11-190-119

Narrative Summary

Program or Sector Goal: The broader objective to which this project contributes:

To assist the Government of Tanzania (TanGov) achieve its objectives of increased self-sufficiency in the food crops and livestock agricultural subsectors.

(NOTE: This project will address a main constraint to this goal, trained managerial and technical manpower for the agricultural sector.)

Objectively Verifiable Indicators

Measures of goal achievement.

1. Imports of food crops and livestock products are reduced.
2. Production of food crops, livestock and livestock products are increased.
3. Domestically produced food crops and livestock meat products are available in sufficient supply and properly marketed and distributed to meet national demand.

Means of Verification

1. TanGov agricultural statistics.
2. TanGov and international foreign trade statistics.
3. TanGov statistics of sales of major food and livestock products by concerned parastatals.
4. TanGov statistics on purchases of major food crops, livestock, and livestock products by concerned parastatals.

Important Assumptions

Assumptions for achieving goal targets.

The TanGov continues to emphasize support to the food crop/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.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK (PURPOSE)

Project Title & Number: Agricultural Manpower Development, 621-11-190-119

<u>Project Purpose</u>	<u>Conditions That Will Indicate Purpose Has Been Achieved (End of Project Status)</u>	<u>Means of Verification</u>	<u>Important Assumptions</u>
<p>1. To assist the TanGov in the overall development of its entire sub-professional and professional agricultural training programs/activities.</p>	<p>1(a) The TanGov has established a professional career system for the administrative and technical staffs of the MATI systems.</p> <p>(b) Regular in-service training program underway.</p> <p>(c) The TanGov will have favorably responded to the recommendations of the AID funded Requirements Analysis on University level training for training of agricultural teachers.</p>	<p>1(a-b) Records of the MATI's MinAg records.</p> <p>Professional evaluations of:</p> <p>(1) Teaching/training;</p> <p>(2) Performance of MATI graduates;</p> <p>(3) MinAg food crops/live-stock production programs.</p> <p>(c) The University has developed improved training for students graduating as agricultural teachers as professionally evaluated.</p>	<p>Budget support for capital and recurrent costs will be provided per PROP Section, <u>TanGov Contributions</u>. TanGov production programs/projects will utilize project trained manpower. The TanGov will effectively coordinate inputs.</p>
<p>2. To assist the MinAg strengthen two existing (Ukiriguru and Mwapwa) 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 live-stock production programs/projects and operations.</p>	<p>2. The two existing institutes will have:</p> <p>(a) New and improved curricula in use.</p> <p>(b) Approximately 2/3's of the teaching positions filled with B.S. degree holding (or higher) personnel.</p> <p>(c) Adequate laboratory and field space provided for student needs.</p> <p>(d) Proper balance achieved between classroom, laboratory and field teaching.</p> <p>(e) In-service technical and administrative training courses being used to provide MinAg staff with specific skills.</p> <p>(f) Annual budgets adequate to support/maintain facilities.</p>	<p>2(a-f) See above.</p>	

PROJECT DESIGN SUMMARY - LOGICAL FRAMEWORK (PURPOSE) - continued

<u>Project Purpose</u>	<u>Conditions That Will Indicate Purpose Has Been Achieved (End of Project Status)</u>	<u>Means of Verification</u>	<u>Important Assumptions</u>
3. To provide participant training assistance to the TanGov in selected areas of agricultural manpower training to meet needs of the MinAg and parastatals for management and technical skills in positions closely related to and involved in food crop or livestock production.	3(a) Key MinAg and parastatal agencies have better qualified administrative, management and technical staff. Fewer senior positions are vacant or filled by expatriates. Planning, management and operations of crop production and livestock projects are improved.	3(a) MinAg and parastatal records. Professional evaluations of crop/livestock production programs/projects.	

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK (OUTPUTS)

-8-

Project Title & Number: Agricultural Manpower Development, 621-11-190-119

<u>Narrative Summary</u>	<u>Objectively Verifiable Indicators</u>	<u>Means of Verification</u>	<u>Important Assumptions</u>																											
<u>Outputs:</u>	<u>Magnitudes of Outputs:</u>																													
1. <u>Manpower</u>																														
(a) Trained Students (annual output)	<table border="1"> <thead> <tr> <th></th> <th style="text-align: center;"><u>Present Status</u></th> <th style="text-align: center;"><u>End of Project Status</u></th> </tr> </thead> <tbody> <tr> <td>1(a) <u>Ukiriguru</u></td> <td></td> <td></td> </tr> <tr> <td> <u>MATI</u></td> <td></td> <td></td> </tr> <tr> <td> Certificate</td> <td style="text-align: center;">100</td> <td style="text-align: center;">125</td> </tr> <tr> <td> Diploma</td> <td style="text-align: center;">0</td> <td style="text-align: center;">40</td> </tr> <tr> <td> <u>Mpwapwa</u></td> <td></td> <td></td> </tr> <tr> <td> <u>MATI</u></td> <td></td> <td></td> </tr> <tr> <td> Certificate</td> <td style="text-align: center;">110</td> <td style="text-align: center;">(No</td> </tr> <tr> <td> Diploma</td> <td style="text-align: center;">36</td> <td style="text-align: center;">change)</td> </tr> </tbody> </table>		<u>Present Status</u>	<u>End of Project Status</u>	1(a) <u>Ukiriguru</u>			<u>MATI</u>			Certificate	100	125	Diploma	0	40	<u>Mpwapwa</u>			<u>MATI</u>			Certificate	110	(No	Diploma	36	change)	1(a-b-c) MATI/MinAg records. TanGov records. Professional evaluation.	The TanGov and all donors will continue to coordinate their efforts, support and inputs. Required capital and recurrent budget support will be provided by the TanGov. The TanGov will provide suitable staff for training at the proper time to accomplish the phased training schedule.
	<u>Present Status</u>	<u>End of Project Status</u>																												
1(a) <u>Ukiriguru</u>																														
<u>MATI</u>																														
Certificate	100	125																												
Diploma	0	40																												
<u>Mpwapwa</u>																														
<u>MATI</u>																														
Certificate	110	(No																												
Diploma	36	change)																												
(b) Teaching Staff	(b) Degree holding staff at Ukiriguru raised from 5 in 1972 to 13 in 1980. Degree holding staff at Mpwapwa raised from 6 in 1972 to 14 in 1980. Degree holding staff in entire MATI system raised from 30 in 1972 to over 60 in 1980.																													
(c) Trained TanGov and parastatal staff	(c) 15 individuals in key food crops/livestock positions with U.S. training.																													
2. <u>Facilities</u>	See Annex III, <u>Preliminary Agricultural Manpower List (Commodities)</u> for detail.	2. See above. USAID records.																												

PROJECT DESIGN SUMMARY - LOGICAL FRAMEWORK (OUTPUTS) - continued

-8a-

<u>Narrative Summary</u>	<u>Objectively Verifiable Indicators</u>	<u>Means of Verification</u>	<u>Important Assumptions</u>
3. <u>Quality of Training at Two MATI's</u> (a) Revised curricula, lesson plans, training materials (b) In-service training courses (c) Requirements analysis of establishing AgEd program at Faculty of Agriculture, University of Dar es Salaam	3(a-b) Baseline data to be collected by contractor and used to establish targets. Changes should be in areas of increased hours of instruction, additional laboratory/field instruction, additional teaching/training materials, regular in-service training courses, etc. (c) Study completed.	3(a-b-c) MATI/MinAg records. Professional evaluation.	
4. <u>Other</u> (a) Permanent career service for teaching and administrative staff of MATI's (b) Manpower development and training programs for MinAg staff (c) Classroom instruction	4(a) In force. (b) Number and types of courses to be determined by contract staff. (c) Courses and hours to be determined by Senior Contract Staff. Expect 6 contract members to carry full teaching loads for a period of 4 years. Two others to carry at least 1/2 time teaching load for 5 years.	4(a-b) MinAg records. (c) MATI records. Contract staff records and reports.	

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK (INPUTS)

Project Title & Number: Agricultural Manpower Development, 621-11-190-119

<u>Narrative Summary</u>		<u>Objectively Verifiable Indicators</u>	<u>Means of Verification</u>	<u>Important Assumptions</u>
<u>Inputs:</u>	<u>(\$000)</u>	<u>Implementation Target (Type and Quantity)</u>		
1. <u>U.S. Technical Assistance Personnel</u>	\$2,350.0	Implementation targets, time frame and discussions are included in PROP section on U.S. inputs.	AID Project Agreements and PIO/T's. Project Implementation Plans. Project Evaluations. TanGov and other donor records.	Adequate TanGov recurrent budget resources.
(a) D.H.Project Manager (1) 6 years				
(b) Contract Chief of Party (1) 6 years Special Asst. (1) Mpwapwa 6 years Special Asst. (1) Ukiriguru 6 years Instructor/Trainers (2) Mpwapwa Instructor/Trainers (4) Ukiriguru				
(c) Requirements Analysis Team 2 men, 4 months each				
2. <u>Commodities</u>	\$ 50.0			
6 vehicles, and parts				

PROJECT DESIGN SUMMARY - LOGICAL FRAMEWORK (INPUTS) - continued

-9a-

<u>Narrative Summary</u>	<u>Objectively Verifiable Indicators</u>	<u>Means of Verification</u>	<u>Important Assumptions</u>
<u>Inputs:</u>	<u>(\$000)</u>		
3. <u>Local Costs</u>	\$ 70.0		
Project support and in-service training costs. (Including Tssh equivalent to \$US30 from Trust Fund)			
4. <u>Participant Training</u>	\$ 900.0		
<u>Total all DG</u>	\$3,370.0		
5. <u>Agricultural Project Support Loan II</u>			
Equipment -	\$255,000		
Construction -	<u>135,000</u>		
Total -	\$390,000		
6. (a) Tan'ov personnel, financial and logistic support; 5,660			
(b) IBRD, NORDIC and DANAID assistance, 11,600 ^{1/}			

^{1/} Includes support for MATI system, Agricultural Research and Farms Training Centers.

PROJECT JUSTIFICATION/RATIONALE

AGRICULTURAL MANPOWER TRAINING IN TANZANIA

MinAg Manpower Development Division

Annex VI (Proposed Organization of the Ministry of Agriculture) shows the scope of interests and responsibilities of the MinAg Manpower Development Division. Responsibilities include developing the substance of training programs, operation of training institutes and selection and placement of trainees. The Division also has responsibilities at all training levels from farmer training to undergraduate and graduate level training for positions in the MinAg, regional agricultural positions and positions in agriculturally related parastatals.

The Manpower Development Division is also concerned with a wide range of issues and policy including such diverse areas as administration and management of manpower training programs (at several levels); selection, processing and interviewing proposed trainees; coordination with the Ministry of Education and the University of Dar es Salaam on agricultural training at university level; specific management of the MATI system; and helping establish priorities in placement of trained manpower, manpower motivation, leadership training and others.

University of Dar es Salaam, Faculty of Agriculture

The University output of B.S. qualified agriculturalists is now building to a target output level of about 90 per year by 1977-78. All students receive a general agricultural degree at present. As the needs for more specially trained manpower grow, the options appear to be to provide external (or internal) advanced degree specialization, option streams at undergraduate level (including possibly a longer course, 4 years rather than 3) or some other adaption of inter or intra university faculty or MinAg/parastatal-University cooperation in developing summer school topping up specialized training.

These needs will occur across a wide range of types of positions in the MinAg, the parastatals and in the general school system of the TanGov where the need for agricultural teaching/training is of increasing concern and interest. The TanGov and the MinAg now recognize this problem and have accepted the recommendations of the Yeaman, et al, report to request a study of the agricultural training program of the University.

The MATI Training System

The Yeaman, et al, report also strongly focuses on the urgent, short range need to improve and upgrade the quality of the MATI system. These institutes provide the large amount of field manpower needed both at operations and field

supervisory level, and the quality of the MATI product, the student, is critical to the success of the MinAg/parastatals operational programs. Not only is technical skill critical but intermediate skills in motivation techniques, "extension methods" and leadership are also important to these MinAg or regionally employed officers.

The number of MATI's has expanded from two institutes in 1967 to ten in 1972. Two new institutes--Mbeya and Mtwara--are expected to be in operation by 1975.

The rapid expansion of the MATI's has raised serious problems for the Ministry of Agriculture in terms of administration, personnel and funds. All of these problems are interrelated. Improvements are needed in general administrative practices such as management and operation of institutions, budget preparation, personnel management and assignments, curricula standarization to maximize the quality of the preservice training; establishment of a permanent career/promotion system for the MATI's and the Ministry's training and administrative staff; and establishment of a system of in-service training for MATI staff and agricultural and veterinary field personnel.

The major personnel problem is an insufficient number of qualified teachers necessitating the use of teachers who are not fully qualified. About one third of the MATI teachers have a B.S. degree but very few have had any training in agricultural education, and no such training is offered in Tanzania. The personnel problem is complicated by frequent transfers of personnel from the MATI's to non-teaching field service positions and vice versa. These frequent personnel transfers and utilization of seconded and/or part-time teaching staff precludes the development of a competent career cadre for the institutes.

A shortage of funds for both operating and capital budgets has resulted in most MATI's having inadequate physical facilities, laboratory, shop and instructional equipment and material, student textbooks, reference materials, and library facilities. The end result is that the quality, performance, and effectiveness of agricultural and veterinary field personnel have been subject to much adverse criticism. MATI administrators have done a good job with the limited local resources and the external assistance, obtained from a number of donors, available to them. However, additional technical and financial assistance is required if minimum appropriate standards and objectives are to be achieved.

Building the capability of the MATI system, both in the physical sense of facilities, recurrent budget support, equipment, etc., and also providing for (1) short term needs of qualified teachers; (2) external training of staff to fill positions with qualified staff, and (3) building TanGov capability to train MATI staff are all important tasks.

HOW THIS PROJECT ADDRESSES THE TANGOV AGRICULTURAL MANPOWER PROBLEMS

General Manpower Development

This project will provide a Special Assistant (Planning and Development) to the

Director, Manpower Development Division, to assist him in those duties he wishes to assign. In this position it is expected he will be requested to work largely in the administrative/management area. His specific duties, as agreed to by USAID and the TanGov appear in Annex VII of this PROP. Also provided by this project is a general participant program of 15 positions, expected to be used for long term training of key MinAg/parastatal personnel who are in positions closely related to the joint TanGov/AID goal of increasing production of food crops or livestock. NOTE: This total (15) may be increased if recommended by the joint AID/TanGov project evaluation in FY 1976.

University Training

This project will provide, in about February of 1975, a study team to recommend to the University of Dar es Salaam and the MinAg appropriate actions to address Agricultural Manpower Development issues. The specific Terms of Reference for this study will be jointly developed by the MinAg Manpower Development Division, the University and the USAID during the first six to nine months of project operations.

The MATI System

This project will support the MATI system through the provision of assistance to the Ukiriguru (Food Crops) and Mpwapwa (Livestock) MATI's. Assistance will include: (1) provision of special assistants to the school principals at Ukiriguru and Mpwapwa; (2) four years of selective assistance at department head or instructor level for Ukiriguru and Mpwapwa (six U.S. provided training officers at the two locations); and (3) 30 participant training positions with priority given to Ukiriguru and Mpwapwa staff (expected to be long term undergraduate level).

Development loan assistance (\$390,000) to construct and equip the Ukiriguru and Mpwapwa institutes, supplementing the equipment and construction provided by an IDA credit, is also provided.

AID STUDY RECOMMENDATIONS

Agricultural Manpower Development Study, 1972

Annex No. I of this PROP is the complete summary and recommendation section of the above report. Briefly it recommends: (1) establish at the University of Dar es Salaam an agricultural teacher training capability; (2) establish a new Division of Agricultural Education in the MinAg and establish a permanent career administrative and teaching cadre system; (3) consolidate diploma teaching at two school sites, accelerate training of teachers, separate teaching facilities from research and production; (4) improvements in certificate courses; and (5) establish and initiate extensive in-service training for both the MATI staff and MinAg field staff.

Annex No. II of this PROP is a copy of a letter received from the Administrative Division of the MinAg in which all significant points made in the report

recommendations are accepted as valid and desirable by the TanGov.

Food Crops Subsector Analysis

A preliminary report prepared by Dr. Douglas Ensminger, Consultant on the University of Missouri Team studying the Food Crops Subsector, lists among ten constraints to transforming traditional Tanzanian agriculture toward modernism, the following:

2. Given the limited agriculturally trained, experienced and competent staff and the complexity of training and developing competence -- the time required to train and adequately supervise the required staff must be accepted as a major constraint in educating, motivating and assisting farm people in increasing production of food crops.
3. The time required to gain experience and develop administrative competence in organizing and managing new and complex agricultural technology will be a significant restraining influence in the government's program to motivate and assist farmers so they have successful experience and adopting new technology.

The report also cites the shortages of trained and qualified manpower in the areas of rural credit and in rural institutions as being serious impediments to TanGov rapid rural modernization and includes in its comments on both short and long term strategy proposals the priority need to maximize utilization of present and planned new training institutions and to utilize foreign agencies in training specialists abroad.

The already referenced IBRD/IDA report also notes that "a main constraint to agricultural development is the lack of qualified manpower at all levels."

ESTIMATES OF MANPOWER NEEDS FOR ALL PURPOSES

Yeaman, et al, estimate agricultural manpower training needs at two levels. The first is an optimum ratio level of 1:2:20:10000 for agricultural staff and of 1:2:10:50000 for veterinary staff. The agricultural optimum ratio means that for every 10,000 farm families one Agricultural Officer (graduate), two Field Officers (diplomates), and 20 Assistant Field Officers (certificate holders) are necessary. The veterinary optimum ration means that for every 50,000 units of livestock one Veterinary Officer, two Field Officers (Veterinary), and 10 Assistant Field Officers (Veterinary) are needed. The second level of estimate refers to a TanGov financial constraint which presently limits increases in personal emolument expenditures of MinAg to 9 percent per year.

Manpower Needs (Based on One Assistant Field Officer
for Each 500 Farm Families)
(Includes Agriculture and Veterinary (Livestock) Staff) 1/

<u>Category</u> ^{3/}	<u>On Board</u> (1972)		<u>Needed</u> (1980)	<u>Lost During</u> <u>Period</u> (Expatriates & Attrition)	<u>Numbers to be</u> <u>Trained</u> ^{2/}
	<u>Total</u>	<u>Expatriate</u>			
Graduate	320	87	1,080	152	911
Diplomate	753	14	2,008	127	1,382
Certificate	3,126	-	11,216	157	8,247

Manpower Needs (Based on 9% Financial Constraint)

<u>Category</u> ^{3/}	<u>On Board</u> (1972)		<u>Needed</u> (1980)	<u>Lost During</u> <u>Period</u> (Expatriates & Attrition)	<u>Numbers to be</u> <u>Trained</u> ^{2/}
	<u>Total</u>	<u>Expatriate</u>			
Graduate	320	87	546	152	378
Diplomate	753	14	1,299	127	673
Certificate	3,126	-	5,402	157	2,433

1/ Includes parastatals and Ministry of Education.

2/ Includes attrition at 5% for certificate level; 15% for diplomate level; 20% for graduate level.

3/ The following education requirements for officer rank are Tanzanian Government personnel regulations:

1. Agricultural Officer or Veterinary Officer - Graduate (B.S. Degree).
2. Field Officer (Agriculture or Veterinary) - Diplomate.
3. Assistant Field Officer (Agriculture or Veterinary) certificate holder.

Source: Yeaman, et al, Agricultural Manpower Development in Tanzania, Page 40 and 41.

Certificate holders and diplomates are trained at the Ministry of Agriculture Research and Training Institutes (MATI's). The number of training facilities have expanded from two institutes in 1967 to ten in 1972. All ten institutes offer certificate training and four offer diploma training. Two new institutes-- Mbeya and Mtwara-- are expected to be in operation by 1975.

If this expansion schedule can be met during the 1973-80 period, the output of trained agricultural manpower will be 754 B.S. graduates, 1881 diplomates, and 4991 certificate holders. These figures include an estimated 151 graduates and 141 diplomates, primarily in veterinary and other specialized areas, trained abroad. If the expansion schedule is met and the above manpower trained Tanzania should be self-sufficient in essential trained agricultural manpower by 1980, on and aggregate basis, for B.S. level agricultural officers and for diploma level agricultural field officers. There will still be a deficit, based on the previous optimum ration level, of 188 graduate veterinary officers, 102 veterinary field officers (diplomates), 1535 assistant veterinary field officers (certificate), and 1621 assistant agricultural field officers (certificate).^{1/}

SELECTION OF SPECIFIC FOOD CROPS/LIVESTOCK MATI'S FOR AID CONCENTRATION

To be consistent with USAID/Tanzania's areas of sector concentration AID assistance to the MATI's is guided by two main considerations: (a) assistance should be focused on the food crops and livestock subsectors; and (b) assistance should be collaborative with and supplementary or complementary to rather than conflict with or duplicate the assistance provided by other donors.

Annex VIII of this PROP provides a discussion and review of the entire MinAg MATI system, including an analysis of the relevance of each institute to the goal of this project, and the justification for selection of the Ukiriguru MATI for AID concentration in Food Crops Training and the Mpwapwa MATI for concentration in Livestock Training.

THE TANGOV CAPABILITY TO TRAIN UNDERGRADUATE LEVEL MANPOWER IN AGRICULTURE

The key to self-sufficiency in manpower requirements in the food crops and livestock subsectors at the B.S. level is the Faculty of Agriculture of the University of Dar es Salaam. At present all B.S. graduates of the Faculty of Agriculture receive the same basic general agriculture course and Tanzania is dependent on foreign training to meet the need for specialized B.S. graduates. A study is desirable to determine precisely what the Faculty's present capabilities are in relation to the need for undergraduate manpower and what steps are required to permit it to meet this need and enable self-sufficiency in the food crops and livestock subsectors to be realized.

^{1/} Yeaman, et al, Agricultural Manpower Development in Tanzania, Page 43.

The TanGov has requested AID assistance for such a study and it is scheduled for February 1975. It will be the responsibility of the USAID Project Manager working with the MinAg Manpower Development Division to prepare terms of reference for a U.S. contract team to undertake a study relevant to the needs described above. This evaluation will also include recommendations on coordination between the MinAg and the University as well as internal coordination within the University's Faculties of Education and Agriculture.

THE SHORT TERM TANGOV AND PARASTATAL REQUIREMENTS FOR
PROFESSIONAL AGRICULTURAL MANPOWER

The trained manpower requirements in the food crops/livestock sub-sectors extend beyond the MATI training system. Of particular concern are key administrative positions in TanGov and parastatal organizations with responsibilities directly related to production programs. It is under and for these individuals that many MATI graduates and a large number of agriculture staff upgraded through in-service training will work. Consequently, the performance of MATI graduates depends partially on the supervision they receive and on the programs they must implement. Bad or improper supervision or poor program planning can obviously make it difficult for the best trained individual(s) to perform at their potential. To improve production program planning and the administrative efficiency of production-oriented organizations, and also facilitating the more effective utilization of MATI graduates and agricultural personnel in general, long term academic training for key individuals is appropriate and needed. The provision of training at this level rounds out and completes this project's attack on trained manpower constraints in the food crops/livestock subsectors. It also complements and reinforces the other project inputs and increases the probability of overall MinAg/parastatal program success.

POSSIBLE CONSTRAINTS TO SUCCESS OF THE AGRICULTURAL
MANPOWER PROJECT AND TANGOV-AID RELEVANT ACTIONS

Possible constraints to success of this project are grouped in five (5) categories as follows:

A. Financial Constraints

1. Direct Student Training Costs

Estimated recurrent budget costs are at a level of T.Sh.10,000 per student per year. On this basis, and with the expected student levels as shown, costs would be as follows:

<u>School</u>	<u>Levels (Number of Students)</u>		<u>Cost (T.Shilling)</u>
	<u>CY 1974-1980</u>		
Ukiriguru	252 (1974		2,520,000
	300 (1975-79)		15,000,000
	Sub Total		17,520,000

Mpwapwa

300 (1974-79)

All Student Costs

18,000,000

35,520,000

2. Support for AID Simulated OPEX Personnel

Total costs of T.Sh.56,000 per man year to cover basic salary, housing, medical and other supporting services (43.7 man years): 2,445,000

3. Costs Associated with Participant Training

45 participants at an estimated cost of T.Sh.20,000 each for round trip, Dar es Salaam-London, plus other training costs: 900,000

TOTAL ALL DIRECT COSTS T.Sh.

38,865,000

(US\$5,660,000)

It is reasonably certain that the TanGov anticipates and will budget these costs. There are other allied costs implicit within this project which will require additional budget support such as:

- a. The establishment and funding for in-service training courses at the Ukiriguru and Mpwapwa MATI's for both training officers and for expanding training for other Ministry of Agriculture personnel.
 - b. Costs associated with the maintenance and repair of training school equipment and capital costs associated with such improvement.
 - c. Possible higher per student costs allied with changes probable in curricula which involve more laboratory, field and practical training.
- B. Constraints Due to Availability, By End of Project, of Adequate Numbers and Required Quality of Teaching Staff

It is quite clear that the TanGov intends to provide participants for training. Earlier informal conversations have indicated that up to sixty trainees might be available if funding were provided. The time phasing of participants, the proper determination of sequences of discipline areas for training and the availability of on-the-job, and advisory assistance from contract staff upon participants return from training are key elements to eliminate this constraint and the contract team is charged with such responsibilities. Annual plans of work and an updated PERT (implementation schedule) approved by the TanGov and USAID, will help assure that actions are taken in a timely fashion.

In addition, some UDSM Faculty of Agriculture graduates are expected to join the MATI system to fill staff needs. The combination of U.S. participant training and new UDSM graduates should ensure that by the end of the project the AID-assisted institutes will be adequately supplied with qualified staff, and some assistance will have been given other MATI's in filling essential or critical positions.

elements are precisely the areas in which this AID project will provide the strongest inputs and thus are entirely complementary to the IDA loan.

The following chart shows the current (July 1973) donor inputs to the MATI system of the TanGov. Based on this analysis, the United States contribution represent the following percentages:

<u>Category</u>	<u>Total (all donors</u>	<u>Total AID</u>	<u>%AID of Total</u>
Construction, equipment & supplies (US\$000)	\$3,123	\$537	17%
Technical Services (Man Years)	124	44	39%
Participant Training (Man Years)	167	40	24%

A complete summary of all donor contribution is as follows:

<u>Category</u>	<u>IDA</u>		<u>NORDIC AID ^{1/}</u>		<u>AID</u>		<u>TOTALS</u>	
	<u>(1) For Entire MATI System</u>	<u>(2) For Mpwapwa, Ukiri- guru MATI's</u>	<u>(1) For Entire MATI System</u>	<u>(2) For Mpwapwa, Ukiri- guru MATI's</u>	<u>(1) For Entire MATI System</u>	<u>(2) For Mpwapwa, Ukiri- guru MATI's</u>	<u>(1) For Entire MATI System</u>	<u>(2) For Mpwapwa, Ukiri- guru MATI's</u>
Construction, Equipment and Supplies (US \$000)	\$1,839	\$839	\$2,586 (5,171) ^{2/}		\$537 ^{3/}	\$537	\$3,123	\$537
Technical Services (Man Years)	14	0	60	0	50	44	124	44
Participant Training (Man Years)	7	0	100	0	60	40	167	40

^{1/} To be used to construct a completely new Research Training Institute in crops/livestock training at Mbeya, estimated total cost, facilities, equipment, technical services and training of \$8,300,000.

^{2/} Total for Research and Training, estimate 50% for training.

^{3/} Includes United States \$390,000 in Agr. Support Loan II.

C. Availability of Appropriate Facilities for Training

The agricultural manpower study by Yeaman, et al, notes a problem of intermixing of agricultural research and training facilities. From the viewpoint of the Ministry of Agriculture joint use of these facilities is a logical and desirable action. The problem created is due to the interference between research requirements for use of land (and other facilities) with a schedule which will (it is expected) involve increasing requirements for field activities by students (also on a time phased basis).

The complete resolution of this conflict of priorities may be impossible during the life of the project due to budget restrictions. However, the AID provided OPEX assistant to the training school principals can greatly assist in mitigating undesirable efforts of this conflict if he assists by developing schedules of training which, with expected cooperation of research staff, will permit effective student field training.

D. Restraints Due to Social or Cultural Problems

Neither the USAID or the TanGov believes that there are any constraints to the project due to these conditions. On the contrary, young men and women appear eager to become involved in such "service to rural citizen" activities.

E. Availability of Qualified Students to Enter the Training Institutes

Again, as above, the projections as to number of students to be trained are apt to be less rather than in excess of requests by qualified young men or women for training.

DONOR INPUTS

The following charts in this section show inputs from the IDA, from NORDIC (combined Norway, Sweden, Denmark and Finland) AID, from DAMAID (Danish), from AID and a small program from West Germany.

Of these inputs, the AID component is most sharply focused on intermediate and upper manpower training. The NORDIC program will build, staff and train a completely new technical institute (Research and Training) at Mbeya. DANAID is limited to the Faculty of Agriculture of the University of Dar es Salaam and will focus on BSC training. The West German program is directed to an Irrigation Research station at Ifakara and has only a small training component.

The IDA loan of US\$3,300,000 is most closely allied with this AID project. The loan components affecting Ukiriguru and Mpwapwa MATI's, as described in the Section, Project Justification/Rationale, page 10 of this PROP, provide only some of physical plant and facilities required and does not meet the urgent need for "on-the-ground" administrative and teaching support nor does it provide the essential components of participant training and in-service training. These

NOTES: In addition to the NORDIC AID shown, DANAID is providing assistance to the UDSM Faculty of Agriculture, which is and will continue to be important to meeting manpower needs of the food crops and livestock subsector. Under the DANAID project, six faculty members are provided and the project costs, which were \$157,000 in FY 1973, will rise to \$250,000 in FY 1974.

The Government of West Germany is providing a small amount of technical assistance to an institute at Ifakara. The TanGov considers this an Irrigation Research Center and there is very limited training involved.

AID INPUTS

TECHNICAL SERVICES

Project Management

The Agricultural Manpower Development Project Manager will have responsibility for the managerial functions of planning, organizing, and coordinating USAID's assistance with the efforts of the Ministry and of other donors to accomplish the objectives of the Manpower Development Project. He will be particularly involved in coordination with the IBRD agricultural training projects. Within USAID his responsibility will be coordinating the Agricultural Manpower Development Project with the Mission projects in their two subsectors of concentration, food crops and livestock.

Contract Assistance in MinAg/MATI Manpower Development

1. <u>Assistance to the MinAg, Manpower Development Division</u> (66 man months)	(\$000's) 381.0
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Assistance will be given in the planning and development of agricultural training by supplying to the Ministry of Agriculture a Special Assistant (Planning and Development) to the Director, Manpower Development Division to serve in a staff (non-administrative) capacity. In collaboration with Ministry of Agriculture training officers and with the principals and staffs of the MATI's and under the general supervision and direction of the Director, Manpower Development Division, who will be available for advice and consultation and who will make policy determinations, the Special Assistant (Planning and Development), as directed and assigned by the Director, Manpower Development Division, will assist in the planning and development of the MATI system.

For coordination purposes, he will serve as Chief of the Contract Party which will implement this project as supported by AID. He will also serve as the liaison officer responsible for contact with USAID/Dar es Salaam. Any reports to USAID will be made through the MinAg Director of the Manpower Development Division. In his position he will also assist in coordination with MinAg and USAID on the selection processing and backstopping of the participants trained by the project, both the MATI group and the fifteen (15) general food crops/livestock related trainees from the MinAg or parastatals.

2. <u>Assistance to the Ukiriguru MATI</u> (282 man months)	(\$000's) 1,204.0
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AID technical assistance programmed for the Ukiriguru MATI includes five instructors in agronomy and related fields. It is expected that initial assignments by special fields may be as follows:

(a) Agronomy Instructor and Head of Crop Science and Production Department. Present incumbent is a diplomate who will be sent to the United States for a B.S. degree.

(b) Agricultural Engineering Instructor and Head of Agricultural Engineering Department. This position is now (August 1973) vacant.

(c) Instructor in Rural Economy and Extension and Head of Rural Economy and Extension Department. Present incumbent is a diplomate who will be sent to the United States for a B. S. degree.

(d) Land Use Instructor and Head of Land Use Department. Present incumbent is a diplomate who will be sent to the United States for a B.S. degree.

(e) Production Economics and Farm Management Instructor. Present incumbent is a diplomate who will be sent to the United States for a B.S. degree.

It is considered essential by the MinAg and reinforced by the Yeaman et al, that the above five positions be filled by B.S. or higher degree holders and that this project send the incumbents to the United States for training. One of these instructors will be assigned approximately one-half time as Special Assistant (Planning and Development) to the Principal of Ukiriguru. Some changes in assignments and in the qualifications of AID-supplied personnel may be made as Tanzanian instructors return from training in the United States.

The Special Assistant (Planning and Development) to the Principal will serve in a staff (non-administrative) capacity. In collaboration with other Ukiriguru MATI staff members and appropriate officers of the Ministry of Agriculture and under the general supervision and direction of the Principal, who will be available for advice and consultation and who will make policy determinations, the Special Assistant (Planning and Development), as directed and assigned by the Principal, will assist in the planning and development of Ukiriguru MATI.

The Special Assistant (Planning and Development) is scheduled to arrive in January 1974 and the other instructors are scheduled for January 1975 arrival after the IDA-financed construction has been completed. An immediate job for the Special Assistant upon arrival will be revision of the certificate curriculum and preparation of the diploma curriculum. He may also assist the Principal in determining the qualifications and assignments of the other four instructors to be supplied by AID and in preparation of Job Descriptions for MinAg/USAID approvals.

The AID assistance provided will increase the number of qualified instructors at Ukiriguru, improve the quality of training, and provide assistance with the planning and development of the institution and its curriculum. By June 1979 sufficient Tanzanian personnel should have been trained in Tanzania and in the United States to staff and operate the institution. Technical assistance for Ukiriguru will end in June 1979.

Funds are provided in the Second AID Agricultural Projects Support Loan to supplement the IDA credit for construction of facilities and provision of equipment at Ukiriguru. The loan will be utilized primarily for non-recurrent costs of equipping the Ukiriguru MATI with requirements not provided for under the IDA loan following completion of the IDA financed construction.

3. <u>Assistance to the Mpwapwa MATI</u>	<u>(\$000's)</u>
(168 man months)	729.0

AID technical assistance programmed for the Mpwapwa MATI includes three instructors in the general fields of animal production and animal health. It is expected that initial assignments by special fields may be one instructor in animal production, one instructor in animal health, and one instructor in range management. One of these instructors will be assigned approximately one-half time as Special Assistant (Planning and Development) to the Principal of Mpwapwa.

The Special Assistant (Planning and Development) to the Principal, will serve in a staff (non-administrative) capacity. In collaboration with other Mpwapwa staff members and appropriate officers of the Ministry of Agriculture and under the general supervision and direction of the Principal, who will be available for advice and consultation and who will make policy determinations, the Special Assistant (Planning and Development), as directed and assigned by the Principal, will assist in the planning and development of the Mpwapwa MATI. He will also assist the Principal in preparation of job descriptions/qualifications for the other two staff members for approval by MinAg and USAID.

The Special Assistant (Planning and Development) may be called upon to assist the Principal in almost any phase of the Mpwapwa MATI operations. Consequently, in addition to technical qualifications in the field in which he is to give instruction, he must be competent in the general operation of agricultural education institutions including, particularly, curriculum development and preparation of financial estimates and budgets. The Special Assistant (Planning and Development) is scheduled to arrive in January 1974, with the other staff (2 instructors) following in January 1975.

The AID-supplied technical assistance will provide an immediate improvement in the rather tight teaching staff situation at Mpwapwa while Tanzanian replacements are being trained, and help in the continuous job of curricula improvement. Technical assistance at Mpwapwa is scheduled to end in June 1979 by which time sufficient Tanzanian personnel should have been trained in the United States and in Tanzania to staff and operate the institution.

Funds are provided in the Second AID Agricultural Projects Support Loan to supplement the IDA credit for construction of facilities and provision of equipment at Mpwapwa. The loan will be utilized primarily for non-recurrent costs of equipping the Mpwapwa MATI with requirements not provided for under the IDA loan following completion of the IDA financed construction.

<u>Contract Assistance in a Study of the University of Dar es Salaam, Faculty of Agriculture</u> (8 man months)	<u>(\$000's)</u> 36.0
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Assistance will be provided in the form of a two-man TDY team (contract) to conduct a study of the Faculty, jointly with two officers provided by the Tanzanian Government, to determine the needs and recommend courses of action. No follow-on investment or assistance for the Faculty is projected in this PROP because of the uncertainty of the requirements and whether or to what extent the Tanzanian Government would desire United States assistance for the Faculty of Agriculture.

SUMMARY OF TECHNICAL SERVICE (COST IN \$000)

<u>Category</u>	<u>Man Months</u>	<u>Projected Total Cost</u>
Contract Services:		
(a) MinAg (Assistant to Manpower Development)	66	381.0
(b) Ukiriguru MATI (Food Crop)	282	1,204.0
(c) Mpwapwa MATI (Livestock)	168	729.0
(d) Study of UDSM Faculty of Agriculture	8	36.0
	<hr/>	<hr/>
All Technical Services MM	524	2,350.0

PARTICIPANT TRAINING
(1,080 man months)

(\$000's)
900.0

The participant training programmed in this PROP is divided into two general categories: (1) 30 participants to be assigned to the MATI system upon completion of training, 1/ and, (2) 15 participants 2/ to be trained for essential positions in the livestock and food crops subsectors, or for essential positions supportive of these subsectors, and whose training is not programmed under other specific projects.

There is no shortage of available staff for training since the Ukiriguru MATI has a need in the long run for some 14 teaching staff members to be upgraded to the B.S. level. Their training is expected to include specialization in agricultural education and in agronomy or a related field and this specialized training is not offered in Tanzania. Similarly at Mpwapwa a long run need exists about 12 instructors to be upgraded to the B.S. level with specialized training in agricultural education, animal husbandry, and veterinary.

However, in the short run (5-7 years) it is realistic to expect that between one half to two thirds of present non-degree holding staff will be upgraded through participant training to the B.S. level. Any larger schedule of training would reduce the teaching staff at the two institutes below the levels required to maintain school operations even though this project will provide six full time and two part time instructors. To supplement the above additional graduates of the Faculty of Agriculture, University of Dar es Salaam, may be employed in the MATI system although the lack of specialized training would make it difficult for them to be fully effective.

The programming of 15 participants for essential positions in the food crops and livestock subsectors, or for essential positions supportive of these subsectors, will give the TanGov/USAID a limited response capability to provide essential training not available in Tanzania and not programmed under other specific projects. The total of 15 participants represents five participants a year for the first three years and will assist Tanzania in meeting its essential manpower requirements in the food crops and livestock subsectors. This group of participants will come from the Ministry of Agriculture, agricultural parastatals, and possibly some from regional offices or other TanGov agencies directly relating to food crops and livestock production.

The chart following on Page 26 summarizes the training schedule:

- 1/ Priority will be given to participants from Ukiriguru and Mpwapwa with additional priority to train replacements in disciplines represented by the AID provided instructors.
- 2/ These 15 will be selected in accordance with the criteria referenced in Annex No. V attached. The number (15) may be increased providing a major external evaluation, scheduled for FY 76, indicates it is desirable to do so.

ESTIMATED PARTICIPANT TRAINING SCHEDULE

<u>Category</u>	<u>FY 74</u>	<u>75</u>	<u>76</u>	<u>77</u>	<u>78</u>	<u>79</u>	<u>(\$000)</u> <u>Grand Total</u>
1) 30 participants from the MATI system with priority given to Ukiriguru and Mpwapwa <u>1/</u>	3xxxxxxxxxxxxxxxxxxxx]	5xxxxxxxxxxxxxxxxxxxx]	10xxxxxxxxxxxxxxxxxxxx]	10xxxxxxxxxxxxxxxxxxxx]	2xxxxxxxxxxxxxxxxxxxx]		
Total Out of Tanzania	3	8	18	20	12	2	
Cost (\$000)	15	80	165	200	120	20	\$600
2) 15 participants to fill key posts in parastatals or MinAg positions closely related to Food Crop/Livestock Production <u>2/</u>	5xxxxxxxxxxxxxxxxxxxx]	5xxxxxxxxxxxxxxxxxxxx]	5xxxxxxxxxxxxxxxxxxxx]				
Total Out of Tanzania	5	10	15	5	-	-	
Cost (\$000)	25	100	125	50	-	-	300
Summary: Total Out of Tanzania All Projects	8	18	33	25	12	2	
<u>TOTAL COST</u>	40	180	290	250	120	20	\$900

1/ Participants to be trained will include TanGov staff in disciplines held by AID provided OPEX teaching staff.

2/ This training element is contemplated to be continued beyond FY 76 based on successful FY 76 evaluation.

COMMODITY COSTS

(\$000's)
50.0

A small component of U. S. provided commodities is included in this project to provide the contractor with a limited response capability for teaching supplies, equipment, teaching aids, funds for local costs, especially labor which may be required for special preparation of work plans or assistance in construction of training aids, or for assistance in providing for administrative services to the contract. Annual work plans prepared by the MinAg Special Assistant (Planning and Development) will schedule these costs which will be used to supplement funds provided by the Tanzanian Government which has primary responsibility for recurrent expenditures. Included in this category will be the provision (and replacement of) three (3) vehicles for the project. The vehicles will be 4-wheel drive type, two seat minimum and will be ordered with appropriate sets of spare parts.

NOTE: Proprietary procurement is requested for Jeep vehicles since parts and service are available (in Nairobi) only for this U. S. manufactured product and to continue AID's efforts to standardize vehicle inputs to Tanzania.

SUMMARY OF COMMODITY COSTS (\$000)

<u>Category</u>	<u>FY</u>	<u>74</u>	<u>75</u>	<u>76</u>	<u>77</u>	<u>78</u>	<u>79</u>	<u>Total</u>
Vehicle and Spare Parts (AID Procured)		22	1	2	22	1	2	\$50.00

OTHER COSTS

(\$000's)
70.0

For purposes of expediting project implementation, a small amount of local currency, Tanzanian shillings, will be made available to the project from the USAID Trust Fund, as available to supplement funds provided by the Tanzanian Government which has primary responsibility for recurrent expenditures. The contractor will also be provided with a small amount of U. S. \$ funds with which he can purchase essential supplies or equipment needed for prompt project implementation. Annual up-dated plans of work prepared by the MinAg Special Assistant (Planning and Development) will describe and detail proposed expenditures. Illustrative examples of items apt to be required from this source are as follows:

1. Special local reference books
2. Commercial secretarial help

3. Photographic supplies
4. Commodities for construction of teaching aids
5. Emergency office supplies
6. Others as needed

SUMMARY OF OTHER COSTS
(\$000)

	<u>FY 74</u>	<u>75</u>	<u>76</u>	<u>77</u>	<u>78</u>	<u>79</u>	<u>Total</u>
Local Currency Equivalent (USAID Trust Fund)	5	5	5	5	5	5	30
Other Supplies, Services and Commodities (U. S. \$ provided to contract)	<u>15</u>	<u>10</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>-</u>	<u>40</u>
Total	20	15	10	10	10	5	70

LOAN ASSISTANCE (Agricultural Support Loan II)

In order to assist in the development of the Ukiriguru and Mpwapwa MATI's \$390,000 1/ will be included for these institutes in the Second AID Agricultural Projects Support Loan for purchase of non-recurrent items and for construction. These funds will be used to supplement funds from the IDA credit available under the IBRD Third Education Project in Tanzania. Items to be purchased include farm machinery and equipment, teaching equipment, buses, laboratory equipment, office equipment, workshop equipment and library text and reference books. Also included in this loan are funds for the construction of nine staff houses at the two institutes to provide for staff needs. (See Annex No. III for list.)

1/ Not including contingency.

SUMMARY OF AID PROJECT EXPENDITURES
(\$000)

<u>Category</u>	<u>FY 74</u>	<u>75</u>	<u>76</u>	<u>77</u>	<u>78</u>	<u>79</u>	<u>80</u>	<u>Total</u>
Technical Services Contracts ^{1/}	\$101.0	\$341.0	\$476.0	\$484.0	\$492.0	\$496.0	-	\$2,390.0
Participant Training	40.0	180.0	290.0	250.0	120.0	20.0	-	900.0
Commodities	22.0	1.0	2.0	22.0	1.0	2.0	-	50.0
<u>TOTAL AID</u>	163.0	522.0	768.0	756.0	613.0	518.0	-	<u>3,340.0</u>
Trust Fund (Estimate U.S.\$ equivalent) ^{2/}	5.0	5.0	5.0	5.0	5.0	5.0	-	30.0
TOTAL PROJECT EXPENDITURES	168.0	527.0	773.0	761.0	618.0	523.0	-	3,370.0 ^{3/}

^{1/} Includes commodities other than vehicles/spares.

^{2/} Includes Trust Fund.

^{3/} Agricultural Support Loan II provides an additional \$390,000 for overall Grand Total of U.S. Related Funds to this Project of \$3,760,000.

TANGOV CONTRIBUTIONS

MANPOWER

MinAg manpower will be allied with AID provided inputs in all phases of the project.

At MinAg, Manpower Development Division, the Special Assistant (Planning and Development) will be in close professional contact with and supported by the regular MinAg technical and administrative services.

At the Ukiriguru and Mpwapwa MATI's the special assistants (Planning and Development) will also be in close professional contact with and supported by the regular MATI technical and administrative services.

The TanGov, MinAg, parastatals and the MATI's will provide qualified manpower for participant training.

The TanGov, MinAg, parastatals and Regional MinAg offices will provide both MATI staff and Agricultural field staff for participation in in-service training in both administration/management and in technical disciplines related to food crop/livestock production.

Provision of two officers to participate jointly with the two USAID-sponsored UN personnel in the conduct of the projected study of the agricultural education and extension training capabilities of the Faculty of Agriculture of the University of Dar es Salaam. One officer should be from the Ministry of Agriculture and the other from the Faculty of Agriculture.

TanGov, MinAg assists in a review, evaluation and in formulating recommendations on improvement of terms of service for Manpower Development staff (possible career service).

PHYSICAL SUPPORT

Regular operational support for housing, medical, in-country travel, etc.

Provision of office space and facilities (furniture, supplies, secretarial service, reproduction, etc.).

Provision of normal means of communication for official business (telephone, telegraph).

Provision of operating costs and maintenance for AID provided commodities (vehicles and other equipment).

ESTIMATE OF FINANCIAL SUPPORT

In the PROP Section, Project Justification/Rationale, an analysis of direct financial contributions is summarized as follows:

Direct Financial Contribution

<u>Category</u>	<u>Level</u>	<u>Funding</u>	
		<u>T.Shs.</u> <u>(000)</u>	<u>US \$</u> <u>(000)</u>
Student support at MATI's (Ukiriguru and Mpwapwa)	About 300 per year at each school (FY 1974-80)	35,520.0	5,174.0
Support for AID provided simulated OPEX	44 man years @ 34,000/MY	2,445.0	356.0
Participant Support (45 2-years)	Fare and other	<u>900.0</u>	<u>130.0</u>
	Direct Cost		
	Total	38,865.0	5,660.0

Other Costs (to be quantified and budgeted as project develops)

Costs of in-service training, both MATI staff and field agricultural staff.

Recurrent operational costs and maintenance/repair of new facilities and equipment.

Possible higher per student training costs as more field/laboratory work may be introduced.

PROJECT IMPLEMENTATION

IMPLEMENTATION MEANS

It is planned to employ a United States University as a contractor to provide the technical services allied with this project (516 man months). The project will be implemented in a three step phase as follows: Step I: Planning for Operations (FY 1974-75); Step II: Project Operation and Evaluation (FY 1975-77); and Step III: Consolidation of Project Inputs (FY 1977-80).

All staff involved (except a Direct Hire Project Manager) will be OPEX with AID providing salaries and the TanGov contributing T.Shs. 21,600 per man per year to a USAID Trust Fund to be used at least in part to support project operations.

Annex VII contains job descriptions and qualifications requested for the senior staff Special Assistants (Planning and Development) to the Director of the Manpower Development Division, MinAg and the Principals of Ukiriguru and Mpwapwa MATI's.

Suggested job descriptions and qualifications for the other staff members (six instructors/training officers) are in Annex VII and will be refined by the MinAg and agreed to with the USAID project manager.

ANNUAL WORK PLANS

To assist in implementation scheduling, the AID project manager, in cooperation with the Manpower Development Division of the MinAg, will prepare a PERT analysis (detailed implementation schedule) of the project which will be kept up-to-date.

The Chief of Party for the contractor will be expected to prepare annual detailed plans of work for the AID provided staff for approval by the MinAg Manpower Development Division and the USAID. Such annual work plans will be in sufficient detail to show such items as follows:

1. Identification of Participant Training requirements and priorities
2. Identification of the curricula studies, evaluation and modifications to be worked on
3. Types of teaching lesson plans and students handouts to be developed
4. Development/installation plans for laboratory and field study aids

5. Numbers and types of teaching aids to be developed
6. Detailed schedules of in-service training for both MATI staff and MinAg Regional Field Staff
7. Budget for current year and forward estimate for subsequent year
8. Travel requirements for staff
9. Others as requested by MinAg/USAID agreement

PROJECT MANAGEMENT AND COORDINATION

The following comments and guidelines reference (1) the problems of identifying TanGov-Contractor-USAID responsibilities in project operations, and (2) the identification of responsibilities of USAID and the contractor in the area of administrative support services. While these latter details will be negotiated at time of contracting, the following are guidelines for consideration in the areas noted above.

Project Administration and TanGov, Contractor, USAID Coordination

This PROP emphasizes that the AID provided technical skills and assistance to the TanGov by this project and the actual project operations, administration and management of the project are MinAg, Manpower Development Division responsibilities. Reports to the USAID, joint evaluations with the contractor and USAID and other official contacts with the contractor or USAID by the project staff should be handled within regular TanGov systems. For purposes of a contact point between AID and USAID and this contract, the senior officer of the contract, the Special Assistant (Planning and Development) to the Director of the MinAg Manpower Development Division, will be designated by the TanGov, the Contractor and USAID as Chief of the Contract Party. A USAID manager will represent the USAID in official contacts with the Contract Chief of Party, and with MinAg officials, in required discussions, evaluations or other official contacts relative to the project, its progress or its performance.

Administration Within the Contract

The Chief of the Contract Party may be expected to have some administrative responsibilities with regard to such items as leave records, performance evaluations and other personnel actions for the home institution with regard to contract staff. It is expected such internal requirements will be kept to a minimum so as not to interfere with TanGov project operations.

Contract Administrative Support Coordination

While administrative support levels for this project will not extend to areas such as housing, equipment, furniture or vehicle support, there will remain a substantial amount of general administrative support which will be required by the contract. These requirements are complicated due to the problem caused by nearly all of the staff being located some distance from headquarters. Examples of administrative actions and services apt to be required include: Official time and leave records, eligibility for leave determinations, procurement of project commodities, port clearances of commodities and personal effects of staff, securing visas and work permits, completion of AID forms for education allowances and others.

It is expected that the Contract Chief of Party will be responsible for such actions with the USAID project manager available to answer AID related questions or provide guidance only if required. In addition, funds are provided in the contract for commodity or local costs. If acceptable to the contractor, the MinAg and USAID, part time (or full time) local services could be provided from this source in support of such needs.

It is expected that such requirements on the time of the Chief of Party of the Contract will be kept to a minimum so as not to interfere with TanGov project operations.

PROJECT EVALUATION

The project manager, Chief of the Contract Party (Special Assistant to the Director of the Manpower Development Division) and other appropriate TanGov officials will develop an evaluation system for the project which will serve to identify project progress, suggest appropriate modifications or actions and assure the TanGov and AID that all needed and agreed to steps have been and are followed by the contractor. Such evaluations are proposed on an annual basis.

To provide baseline data for such evaluations, it is required that the AID project manager, in cooperation with the MinAg Manpower Development Division and the AID provided Special Assistants, during the first year of operation, assemble and secure a data base and develop an evaluation system useful for the purposes described above. Only in an illustrative way, and based on AID previous experience in similar or related projects, the following suggestions are offered in both qualitative and quantitative areas:

Some Suggested Baseline Data Useful
for Evaluation and Evaluation Procedures

<u>Data</u>	<u>Evaluation Procedures</u>
1. Actual number of trained instructors level of training, and measure of performance/skill.	MinAg Records. Professional Evaluation.
2. Reports of capability of graduating certificate/diplomates.	Interviews/poll of Regional, MinAg or parastatal agencies supervising new trainees.
3. Reports of performance of trained staff by farmers.	Poll of farmers.
4. An evaluation of the practical skill of trainees (applied skills).	Professional evaluation.
5. Numbers of trainees placed in integrated agricultural production oriented programs/projects.	MinAg records.
6. Length of service, amount of in-service training and other improvements made by staff in last 12 months.	MinAg records.
7. An evaluation of administrative/management capability of the MATI's--how quickly they process paperwork, how up-to-date inventories are, etc.	Professional evaluation.
8. Others as determined by the MinAg and the USAID project Manager.	

The MinAg and USAID will hold an annual evaluation meeting to review the project at a date and time acceptable to both parties (suggested for each June).

Major Evaluation

During FY 1976 or 1977 (dependent on project progress) a major evaluation will be held. AID will nominate for MinAg approval several (not more than three) highly qualified United States Agricultural Education Specialists to provide a fresh view to the MinAg and USAID of the progress, status, and general condition of the project and to make such recommendations on implementation, funding or coordination as may seem desirable. AID will provide the funds for the United States component of this evaluation. The MinAg will be requested to provide several (not to exceed three) senior staff to become full members of the evaluation team.

DETAILED IMPLEMENTATION SCHEDULE

The following schedule of implementation is illustrative and a PERT analysis will be made by the USAID project manager as well as annual up-dated detailed work plans by the Chief of the Contract Party, the Special Assistant to the Chief of the Manpower Development Division (Planning and Development) MinAg. The following schedule is in detail for Step I and less complete in Steps II and III of implementation. It is naturally increasingly less specific in the latter years of project operations.

Step I - Planning for Operations (FY 1974-75)

<u>Action</u>	<u>Time Frame</u>	<u>Responsible Agencies</u>
PROP prepared	Aug 1973	AID/USAID/TanGov
PROP approved	Sep 1973	AID
Project Agreement signed	Oct 1973	USAID/TanGov
PIO/T providing 3 special Assistants prepared/ issued	Oct 1973	USAID/AID
PIO/C's vor vehicles issued	Oct 1973	USAID/AID
Selection of first participants and preparation and issuance of PIO/P (both MATI's and general participants)	Oct 1973	USAID/MinAg

Step I - Planning for Operations (FY 1974-75) - continued

<u>Action</u>	<u>Time Frame</u>	<u>Responsible Agencies</u>
Contract for services agreed to/issued	Nov 1973	AID
PERT prepared	Oct-Dec 1973	USAID, MinAg
Assignment of quarters to 3 Special Assistants	Nov 1973	TanGov
Arrival of 3 Special Assistants	Jan 1974	USAID/AID/MinAg
Development of preliminary plan of work (at Ukiriguru and Mpwapwa and for MinAg Special Assistant)	Jan-Mar 1974	Contract or MinAg/USAID
USAID makes local currency (T.Shs.) available to project	Jan-Mar 1974	USAID
Preliminary evaluation of records for equipment/commodities and manpower at MATI's--priority at Ukiriguru and Mpwapwa	Mar 1974	Contract/MinAg/USAID
Selection of additional participants and preparation and issuance of PIO/P (both MATI's and general participants)	Mar 1974	Contract/MinAg/USAID
Preparation and issuance of PIO/C for commodities	Apr 1974	Contract/MinAg/USAID
Preparation of specific plan of work for first year	Jan-Apr 1974	Contract/MinAg/USAID
Negotiate and clear plans for authorization of professional career	Apr-Jun 1974	Contract/MinAg/USAID

Step I - Planning for Operations (FY 1974-75) - continued

<u>Actions</u>	<u>Time Frame</u>		<u>Responsible Agencies</u>
service for Manpower Development Administration and technical staff			
Development of job descriptions/duties and responsibilities for six (6) technicians	May	1974	Contract/MinAg/USAID
Contract amendment agreed to for six staff	Jul	1974	Contract/MinAg/USAID
Initiate evaluations of curricula, review of facilities, analysis of laboratory and field facilities at Ukiriguru and Mpwapwa	Jul	1974	Contract/MinAg/USAID
Identify, specify and follow up orders, letters of credit, etc. on Loan II provided commodities (assuming career service requirement is satisfied)	Aug	1974	Contract/MinAg/USAID
Identify needs for in-service training of teaching staff and initiate plans/schedule for such training	Aug-Oct	1974	Contract/MinAg
Identify similar needs for in-service training MATI administrative/operation staff and initiate plans/schedules for such training (consider regular MinAg staff as also possible participants)	Aug-Oct	1974	Contract/MinAg

Step I - Planning for Operations (FY 1974-75) - continued

<u>Actions</u>	<u>Time Frame</u>		<u>Responsible Agencies</u>
Identify needs and opportunities for in-service training of MinAg and/or regional agricultural field staff. Define priorities for such training and develop operational plans/proposals for such training	Aug	1974	Contract/MinAg
Develop scope of service and terms of reference for university study team and prepare/issue PIO/T	Nov	1974	Contract/MinAg/USAID
Housing is provided by MinAg (TanGov) for six technicians	Nov	1974	TanGov/MinAg
Six technicians arrive (4 for Ukiriguru, 2 for Mpwapwa)	Jan	1975	Contract/MinAg/USAID

Step II - Project Operation and Evaluation (FY 1975-77)

During this period, contract staff working within the MinAg Manpower and Training Division and at the respective MATI's will: (1) continue to refine and develop curricula, lesson plans, teaching aids, etc., identify participants; (2) perform their expected instruction services; (3) continue to evaluate, plan and implement in-service training for MATI staff and TanGov Ag field staff, and (4) assist in overall administration and planning as is appropriate and requested by their MinAg superiors. Of particular concern will be the need to keep the participant training component in the schedule shown in the PROP. Several specifications follow:

Step II - Project Operation and Evaluation (FY 1975-77) - continued

<u>Actions</u>	<u>Time Frame</u>		<u>Responsible Agencies</u>
Preparation of annual plan of work for CY 1975	Jan	1975	Contract/MinAg/USAID

Step II - Project Operation and Evaluation (FY 1975-77) - continued

<u>Actions</u>	<u>Time Frame</u>		<u>Responsible Agencies</u>
Arrival of university study team	Feb	1975	Contract/MinAg/USAID
Completion of report, report issued and accepted by the TanGov	Jun	1975	Contract/MinAg/USAID
Annual internal project evaluation	Jun	1975	Contract/MinAg/USAID
Preparation of annual plan of work for CY 1976	Jan	1976	
Preparation of scope of service/terms of reference for external evaluation team	Mar	1976	Contract/MinAg/TanGov/ USAID/AID
Major project evaluation by external team/TanGov	May	1976	Contract/MinAg/TanGov/ USAID/AID
Report made and submitted to AID/USAID/TanGov	Jun	1976	Evaluation Team

Step III - Consolidation of Project Inputs (FY 1977-80)

Following these agreed to recommended results of evaluations, the project will continue on the schedules shown in the AID input section of this PROP.

Increasingly, as participants return from training to the MinAg Manpower Development Division and to the MATI's at Ukiriguru and Mwapwa, the AID provided technical staff will be increasingly involved in in-service (both formal and non-formal) training. Working in close relationship with the newly returned trainees the AID provided officers can complete the training and by phase out, FY 1979, will be able to leave a permanent career service with an initial tranche of trained and experienced training officers. Specific actions which will occur during this period include:

<u>Actions</u>	<u>Time Frame</u>		<u>Responsible Agencies</u>
Preparation of annual plans of work	Jan	1977	Contract/MinAg/USAID
	Jan	1978	
	Jan	1979	
Internal evaluations of the project	Jun	1977	Contract/MinAg/USAID
	Jun	1978	
	Jun	1979	
Final Project evaluation	Jun	1980	Contract/MinAg/USAID/AID
Project completion	Jun	1980	

SUMMARY AND RECOMMENDATIONS

The Second Five year Development Plan (1969-1974) places the highest priority on agriculture with special emphasis on agricultural training. Training is given this emphasis as the Agricultural Sector targets were not met in the first five year plan 1964-1969 partially due to the lack of trained agricultural manpower.

The Government plans to achieve full self-sufficiency at all skill levels by 1980. At present the high and middle level manpower force of the Ministry of Agriculture, as well as other government agencies, is still somewhat dependent on non-Tanzanians.

In order to reach the goal of having one teacher-in-the-fields (technical agricultural, or veterinary officer) to every 500 families by 1980, as stated in the second Five Year Plan, it will be necessary to provide between 1973-80 an additional 760 graduates (the 1972 stock is 320 of whom 87 are expatriates), 1,255 diplomates (the 1972 stock is 753 of whom 14 are expatriates), 8,090 certificate holders (the 1972 stock is 3126).

However, if the expanding training programs are geared to the 9% yearly increase in personal emoluments allowed the Ministry of Agriculture, it will be necessary to provide training in the 1973-80 period for an additional 226 graduates, 346 diplomates, and 2,276 certificate holders. These figures include agricultural trained manpower for other ministries and parastatal organizations. Their requirements represent ten to fifteen percent of the total projected needs in the diploma and certificate categories, and are trained for these organizations by the Ministry of Agriculture through its training institutes.

The Ministry of Agriculture with assistance from an IDA Development Credit Agreement, the NORDIC countries (Denmark, Norway, Sweden, Finland) and the Federal Republic of Germany is expanding training at the Diploma and Certificate level. Training has expanded from two institutes in 1967 to ten in 1972 and twelve will be in operation in 1976. If this expansion schedule can be met it is expected that in the 1973-80 period approximately 754 graduates, 1861 diplomates, and 4991 certificate holders will have received training.

From Yeaman, Schwencke, and Wamunza, Agricultural Manpower Development in Tanzania, August 1972. Dar es Salaam.

The expansion from two to ten training institutes in the period 1967-72 has resulted in training programs that are very poorly staffed, only partially equipped, and unable to provide highly qualified graduates. Also in 1969 a Faculty of Agriculture was established. The Faculty of Agriculture provides higher education courses in Crop Science and Production, Animal Science and Production, Soil Science and Agricultural Chemistry, Agricultural Engineering, and Rural Economy and Extension. This institution has fine facilities, but is very short on adequate numbers of trained staff to provide high quality instruction for its students.

Teachers for the training institutes and for the Faculty of Agriculture will for some time continue to be a problem both in quantity and qualifications. In order to staff these schools it will be necessary to provide by 1980 an additional 59 graduate teachers (the 1972 stock is 71), 24 diploma level teachers (the 1972 stock is 47), and approximately 42 certificate level teachers (the 1972 stock is 51). All of these new teachers should have special training in the subject matter they will teach and training in teaching methods. The present staff should receive intensive inservice training in teaching methods and subject matter to upgrade them to the new teacher standards. It is suggested that the Ministry of Agriculture seek donor assistance for a Manpower and Training Specialist to assist in program administration. This specialist along with the technical experts provided for in the World Bank - Tanzania Education Project, should be able to provide guidance for development of a sound agricultural manpower development program.

The study team after visiting all Ministry of Agriculture Training Institutes and the Faculty of Agriculture and discussing agricultural education with Tanzanian and donor officials provides for consideration by the Tanzania Government the following recommendations:

- (1) Higher Education in Agriculture. It is recommended that the Faculty of Agriculture:
 - (a) Establish as soon as possible a new Department of Agricultural Education and Extension for the purpose of better preparing teachers for all agricultural training both within the Ministry of Agriculture and other Ministries.
 - (b) Seek donor assistance for education grants to accelerate training of Faculty of Agriculture teachers and also seek expatriate teachers to fill vacancies until Tanzanians are available to fill teaching positions.

- (c) When adequate teaching personnel become available provide at the bachelor's level, in addition to the general degree in agriculture degrees having a major in one of the six departments: (1) Crop Science and Production; (2) Animal Science and Production; (3) Soil Science and Agricultural Engineering; (5) Rural Economy; and (6) Agricultural Education and Extension. Thus higher quality education can be provided in both teaching methods and course content for future teachers in the diploma, certificate, secondary, and rural training programs throughout the country.
- (2) Ministry of Agriculture Diploma and Certificate Training Programs. With the development of such a large agricultural education program within the Ministry of Agriculture more consideration for planning and administration will be required, thus, it is recommended that the Ministry of Agriculture:
- (a) Establish a new division for agricultural education responsible for all preservice and inservice training as soon as possible to include an administrative staff in Dar es Salaam and the administrative and teaching staff in Ministry of Agriculture Training Institutes.
- (b) Staff through the establishment of a permanent career administrative and teaching cadre the new division for agricultural education mentioned in (a) above.
- (3) Agricultural Diploma Education. In order to make the most economical use of funds, teaching staff, and facilities and to provide the highest quality agricultural diploma level of training, it is recommended that the Ministry of Agriculture:
- (a) Consolidate diploma level training programs at only two school sites as soon as adequate facilities can be made usable. One for Animal Health-Veterinary training should be at Mpwapwa and the second for all other agricultural diploma training should be at Lyamungu or Tengeru.
- (b) Improve teaching staff quality by posting as new teachers only those trained in agricultural education and sponsor inservice teacher training programs to provide present teachers with training in teaching methods and in the subject matter courses that they are expected to teach.
- (c) As qualified teachers become available, use only graduates as teachers.

- (d) Seek donor assistance to: (1) accelerate training of teachers both locally and out of the country, and (2) fill the teaching vacancies with expatriates until Tanzanians are trained.
 - (e) Standardize the training period to one year (1920 hours of instruction) for all students who have graduated from the suggested expanded (up to 3040 hours of instruction) certificate training courses.
 - (f) Provide separate training lands, equipment, and workshops especially designed for teaching at all school sites. (At present research, production and training all share the same facilities).
 - (g) Discontinue out-of-country diploma education in 1973 for all subjects except very special or unusual training because the in-country diploma training program will provide all manpower requirements at this level if training progresses as planned.
- (4) Agricultural Certificate Education. Again to make the most efficient and effective use of agricultural education resources, it is recommended that the Ministry of Agriculture:
- (a) Improve teaching staff quality by posting as new teachers only those trained in agricultural education and sponsor in-service teacher training short courses to provide present teachers with training in teaching methods and in the subject matter courses that they are expected to teach.
 - (b) Seek donor assistance to (i) accelerate training of teachers both locally and out of country and (ii) fill the teaching vacancies with expatriates until Tanzanians are trained.
 - (c) As qualified teachers become available use only graduates as teachers.
 - (d) Standardize and expand the basic curriculum to a full two-year period (3040 hours) for all certificate training institutes.
 - (e) Provide separate training lands, equipment, and workshops especially designed for teaching at all school sites. (At present research, production and training all use the same facilities).
 - (f) Discontinue Maruku and Tumbi as certificate training institutes as they will be expensive to develop into 200-student

schools and will not be needed to train certificate personnel for the project manpower requirements. The facilities at these schools now will handle around fifty people and it is recommended that they be utilized to provide "topping-off" of certificate holders in tea, coffee, banana and tobacco growing. Topping off can be an important method of getting the degree of specialization considered necessary for various disciplines after the general agriculture certificate education. Training can be accommodated at available Ministry of Agriculture stations (such as Maruku or Tumbi) and at parastatal training sites. Also, short courses could be provided for teachers, extension personnel, and farmers at these sites.

- (5) In-service Training. In order to improve the effectiveness of the existing educational organization (see Annex D), it is recommended that the Ministry of Agriculture:
- (a) Initiate intensive in-service training for all administrative, management, and supervisory extension and training staff in the areas of extension administration, program planning, plans of work, supervision, evaluation, and extension methods.
 - (b) Initiate intensive in-service training program for field level extension and training cadre (Field Officers, Assistant Field Officers, and Field Assistants) to improve technical competence, extension methodology and motivation.
 - (c) Continue in-services training for all extension and training staff at least annually to maintain and improve standards reached through the intensive training programs mentioned under items (a) and (b).

COPY OF LETTER

MINISTRY OF AGRICULTURE
ADMINISTRATIVE DIVISION
P. O. BOX 9192
DAR ES SALAAM

30th March, 1973

Ref. No. ANC/26/118

Dr. William D. Green, Director
United States Agency for
International Development
P. O. Box 9130
Dar es Salaam

Dear Dr. Green

MANPOWER DEVELOPMENT - USAID

The purpose of this letter is to outline the position of this Ministry with regard to agricultural manpower development for Tanzania by USAID assistance. A joint USAID Kilimo team has made a study of the subject and a report (Agricultural Manpower Development in Tanzania by Donald R. Yeaman, Frank P. Schwencke, and Adam Wamunza) was published in August 1972.

2. The report made a number of recommendations, and I wish to comment on these for your information and as a guide to planning USAID assistance in this field. The recommendations are summarized and our comments given below:

(1) RECOMMENDATION I: Establish a new Department of Agricultural Education and Extension at the Faculty of Agriculture to better prepare Agricultural teachers.

COMMENTS: The recommendation is accepted in principle and subject to specific recommendations by the two-man AID study team (schedule to arrive in 1974) to analyse the agricultural education/extension capabilities of the University of Dar es Salaam, Faculty of Agriculture, discussion on the implementation of the recommendations will be initiated with the Ministries of National Education, Development and Economic Planning and

Treasury and the University of Dar es Salaam.

(2) RECOMMENDATION II: Establish a new division for agricultural education in the Ministry of Agriculture responsible for all pre-service and in-service training as soon as possible to include an administrative staff in Dar es Salaam and the administrative and teaching staff in the Ministry of Agriculture Training Institutes.

The recommendation is acceptable; the Ministry has already recommended to Government on the creation of a manpower development division out of the present Research and Training Division.

(3) RECOMMENDATION III: Staff through the establishment of a permanent career administrative and teaching cadre the new division for agricultural education

COMMENTS: This recommendation appears designed to improve the quality of teaching and administrative staff by reducing or eliminating frequent transfers of administrative and teaching personnel in and out of training institutes and to provide channels for promotion within the training system itself. The recommendation is accepted. It will be facilitated by the creation of the Manpower Development Division.

(4) RECOMMENDATION IV: Consolidate diploma level training programmes at only two school sites as soon as adequate facilities can be made useable.

COMMENTS: We appreciate the purpose of this recommendation which is to economise on and utilise efficiently personnel, facilities, and finances. Consolidation of diploma training is accepted in principle but at present we still doubt that only two sites will be sufficient for all our needs for this type of personnel.

(5) RECOMMENDATION V: As qualified teachers become available use only graduates as teachers for certificate and diploma institutes.

COMMENTS: The recommendation is accepted. Because of the limited supply of graduates from the Faculty of Agriculture and the demand for them, we shall continue to

require training abroad of B.Sc. graduates to help staff the training institutes. Training abroad at this time also permits future training institute teachers to have training in agricultural education and to major or specialise in certain fields, such as agronomy, horticulture, livestock or veterinary, which they will later teach. Such agricultural education training and majoring in various subject matter fields is not presently available at our Faculty of Agriculture.

(6) RECOMMENDATION VI: Improve teaching staff quality by posting as new teachers only those trained in agricultural education and provide in-service training for present teachers.

COMMENTS: The recommendation is accepted and will be implemented as qualified teachers become available.

(7) RECOMMENDATION VII: Discontinue out-of-country diploma training in 1973 for all subjects except very special or unusual training as the in-country diploma training will provide for requirements at this level.

COMMENTS: The recommendation is accepted in principle but its adoption will very much depend on how soon we establish adequate facilities in the country.

(8) RECOMMENDATION VIII: Revise and standardize curricula at certificate and diploma training institutes with the diploma training period of standardised at one year (1920 hours of instruction and the certificate training period standardised at two years (3040 hours) of instruction.

COMMENTS: The recommendation is accepted. Implementation of this recommendation will require rather extensive reform of existing curricula and consultation with the present institute principals and we think that there will be a need for AID technical assistance for this.

(9) RECOMMENDATION IX: For both certificate and diploma institutes seek donor assistance to (1) accelerate training of teachers both locally and out-of-country, and (2) fill the teaching vacancies with expatriates until Tanzanians are trained.

COMMENTS: The recommendation is accepted.

(10) RECOMMENDATION X: Sponsor in-service teacher training short courses to provide present teachers with training in teaching methods and in the subject matter courses they are accepted to teach.

COMMENTS: The recommendation is accepted and plans for implementation will proceed as funds and in-service instructors are available.

(11) RECOMMENDATION XI: Provide separate training lands, equipment and workshops especially designed for teaching at all training institute sites.

COMMENTS: The recommendation is accepted in principle, but I expect that implementation may be slow because of insufficient funds to provide quickly separate lands, equipment, and workshops for training.

(12) RECOMMENDATION XII: Discontinue Maruku and Tumbi as certificate training institutes and utilise them to provide "topping off" of certificate holders in tea, coffee, banana and tobacco growing.

COMMENTS: The recommendation is accepted.

(13) RECOMMENDATION XIII: Provide intensive in-service training for all administrative, management and supervisory extension and training staff in the areas of extension administration, programme planning, plans of work, supervision, evaluation and extension methods.

COMMENTS: The recommendation is accepted. Implementation will proceed as funds and instructors for the in-service training are available.

(14) RECOMMENDATION XIV: Provide intensive in-service training for field level extension and training cadre (Field Officers, Assistant Field Officers and Field Assistants) to improve technical competence, extension methodology and motivation.

COMMENTS: The recommendation is accepted. Implementation will proceed as funds and instructors for the in-service training are available.

Turning to the matter of USAID assistance in the field of agricultural manpower development we propose that USAID assistance at this time be directed primarily at upgrading the capabilities of certificate and diploma training institutes, particularly those involved in food crops and livestock training. Our needs fall into three general categories:

- (a) provision of scholarships in the United States to train teaching, administrative and planning personnel;
- (b) provision of teaching and agricultural education planning personnel; and
- (c) funds to improve facilities and purchase books, teaching materials and equipment, laboratory equipment and farm equipment to improve equipment and facilities at the training institutes.

I comment on each of these categories in turn:

(a) United States Scholarships:

Pending establishment of a Department of Agricultural Education and Extension at the Faculty of Agriculture and revision of the curriculum to permit majors or specialisation in various subjects, we are largely dependent on foreign scholarships for training graduate instructors for our certificate and training institutes.

We need graduate instructors who have had training in agricultural education and extension and who have had specialised training or majors in the particular fields in which they are to teach. We expect that most of this training abroad will be at the B.Sc. level, but we may be able to provide a few people for M.Sc. training. We expect that a total of 60-70 scholarships will be needed to provide minimum upgrading of training institute staff and will try to provide 5-10 Tanzanian citizens each year to begin scholarship training. We regard these scholarships as a temporary means of meeting our personnel requirements pending establishment of an in-country agricultural teacher training capability.

(b) Teaching and Planning Personnel:

We hope that USAID will consider provision of an expert in agricultural education planning and development to assist in implementing the recommendations made in the study.

The special Assistant to the Chief Training Officer, under the direction of the Chief Training Officer, will assist in the planning and development of all Ministry of Agriculture certificate and diploma institutes. He should have particular competence in curricula development, personnel development and financial planning.

For the training institutes themselves we hope that USAID will provide teaching and planning personnel for the two institutes, viz: Mpwapwa and Ukiriguru. For each one assisted we propose, in general, that USAID provide a special Assistant to the Principal to teach half time and to assist the principal with curriculum and staff development and financial planning and eight graduate (B.Sc. level or higher) lecturers qualified in agricultural education and in the special subjects they are to teach.

(c) Funds to improve facilities and purchase teaching materials and books:

The recently completed study adequately documented the generally poor and inadequate facilities and the generally inadequate and insufficient equipment. This condition has been known to my Ministry for sometime, but an acute shortage of funds has prevented us from making needed improvements. The current IDA Credit will provide some construction funds at Ukiriguru and Mpwapwa, but the amount provided for teaching, laboratory and workshop equipment is quite small and really inadequate. The Mbeya institute is assisted by NORDIC aid, but we have no other assistance in sight for the two training institutes.

We propose, therefore, that USAID provide loan assistance to enable us to upgrade the facilities and equipment of our certificate and training institutes to enable USAID supplied teaching personnel and their Tanzanian colleagues to function effectively. These funds we propose to use to procure such things as text books, reference books, visual aid equipment, laboratory equipment, office and classroom equipment, workshop equipment, and other non-recurrent items needed to do an effective teaching job. The exact amount of funds needed will be worked out later, but I suggest we think in terms of an initial loan of \$ 300,000. This loan will be partly utilised in filling up the gaps in our staff housing requirements at the MATIs.

COPY OF LETTER

ANNEX II

page 7

It is my hope that a project proposal along the above lines may be prepared soon for forwarding to your Washington Headquarters and that we may have early approval.

Sincerely yours,

(A. Mushi)
PRINCIPAL SECRETARY,
KILIMO

AM/GMN.

PRELIMINARY AGRICULTURAL MANPOWER LIST

NOTE: The following list of equipment and facilities, to be provided by this loan, will be reviewed by USAID/Tanzania and approved by REDSO/EA prior to procurement. Detailed specifications will be prepared by the responsible GOT agency assisted by project staff and by TDY services from REDSO/EA and/or AID/W as required.

<u>Description</u>	<u>Qty</u>	<u>Unit Cost</u>	<u>Total Cost</u>	<u>IDA</u>	<u>AID</u>
<u>Library</u>					
Titles	2000	\$ 12.00	\$ 24,000	\$ 3,600	\$ 20,400
<u>Ox Tools</u>					
	various	Lot	2,280	2,280	-
<u>Motor Vehicles</u>					
10-seater vehicles	4	4,700.00	18,800	18,800	-
50-seater bus	4	12,000.00	48,000	48,000	-
4-wheel drive vehicle	4	4,300.00	17,200	17,200	-
			Sub-Total	\$ 84,000	
<u>Offi. Equipment</u>					
18" Manual typewriter	4	540.00	21,600	2,160	-
Duplicator	4	280.00	1,120	1,120	-
Adding Machine	2	115.00	230	230	-
Calculator	2	120.00	240	240	-
Bicycle	4	45.00	180	180	-
Stencil Maker	2	1,320.00	2,640	2,640	-
Filing Cabinet	6	160.00	960	960	-
			Sub-Total	\$ 7,530	
<u>Teaching Equipment</u>					
16 mm Movie Projector	4	500.00	2,000	-	2,000
35 mm Filmstrip Slide Projector	6	120.00	720	-	720
Over-head Projector	6	300.00	1,800	-	1,800
Micro Projector	4	150.00	600	-	600
8 mm Loop Cartridge Projector	4	200.00	800	-	800
Misc. Visual Aid materials	Lot	800.00	800	-	800
Blackboard Projector	12	5.00	60	-	60
Blackboard Set Squares, 45°	12	5.00	60	-	60
Blackboard Set Squares, 60°	12	5.00	60	-	60
Blackboard Compass Chalk	12	5.00	60	-	60
Movie Projector Screens	4	200.00	800	-	800
Overhead Projection Transparents	Lot	100.00	100	-	100
35 mm Film Strips	Lot	300.00	300	-	300
8 mm Loop Cartridges	Lot	300.00	300	-	300
Varied prints of wall charts	Lot	300.00	300	-	300
Survey Equipment	Lot	6,000.00	6,000	-	6,000
			Sub-Total		\$14,760

Farm Equipment

65 HP Farm Tractor	4	\$ 9,500	\$38,000	-	\$ 38,000
6 Ton Tipping Trailor	4	2,100	8,400	-	8,400
3 Ton Tipping Trailor	4	1,200	4,800	-	4,800
4-Row Planters	4	3,200	12,800	-	12,800
66" Rotary Cutter	4	1,030	4,120	-	4,120
Multipurpose blade terracer	4	520	2,080	-	2,080
Cordwood Saw	2	440	880	-	880
Spinner Broadcaster	2	520	1,040	-	1,040
Post-hole Digger	2	520	1,040	-	1,040
3 disc plough	4	1,380	5,520	-	5,520
Disc Harrow	4	680	2,720	-	2,720
Maize Sheller	2	360	720	-	720
Hand Tools	60 sets	90	5,400	-	5,400
Scales of Balance	L.S.	840	840	-	840
			Sub-Total		\$ 88,360

* Work Shop Equipment

9,650

Anvils, carpenter's vises, mechanic's vises, carpenter's tools, blacksmith tools, mechanic's tools for tractor and repair, welding equipment, and similar equipment for farm shop work.

* Veterinary Equipment

12,300

Instrument sterilizer, operation table and lamp, vaginasopes, haemoeytometer, anaesthetic apparatus, syringes and needles, tuberculin syringe, caponizing outfit, worm egg counting chamber, galvano cautery outfit, endotracheal tubes, surgical silk, catgut, gauze bandages, adhesive plaster, suture outfit uterus dilator, etc. No drugs, medications, or vaccines included. Veterinary equipment for Mpwapwa only.

* Laboratory Equipment

75,000

Electric hot plate, Markham semi-micro distillation unit, colorimeter, muffle furnace, PH meter, bacteriological incubator, rubber stoppers, cover glasses, microscope slides, filter papers, rubber tubing, mortar and pestles, watch glasses, wire gauzes, clinical thermometers, test tubes, quickfit laboratory set, micro Kjeldahl digestion unit electrothermal, students microscopes, microscope outfits, (Mpawwa only--microscope outfit, Beck 47B (52) and similar items

* Films \$12,000

* Livestock Equipment

Portable livestock scales, animal clippers, hoof,
foot rot shears, shoulder length gloves, veterinary
stethoscopes, trocar and canulas, Budizzo castrators,
Sunbeam steward clipmaster animal clipper, milking
and teat tubes, mouth speculums, dehorner, etc. 10,350

GRAND TOTAL	\$242,820
Spare Parts, 5%	<u>12,140</u>
	\$254,960

ROUND TO \$255,000

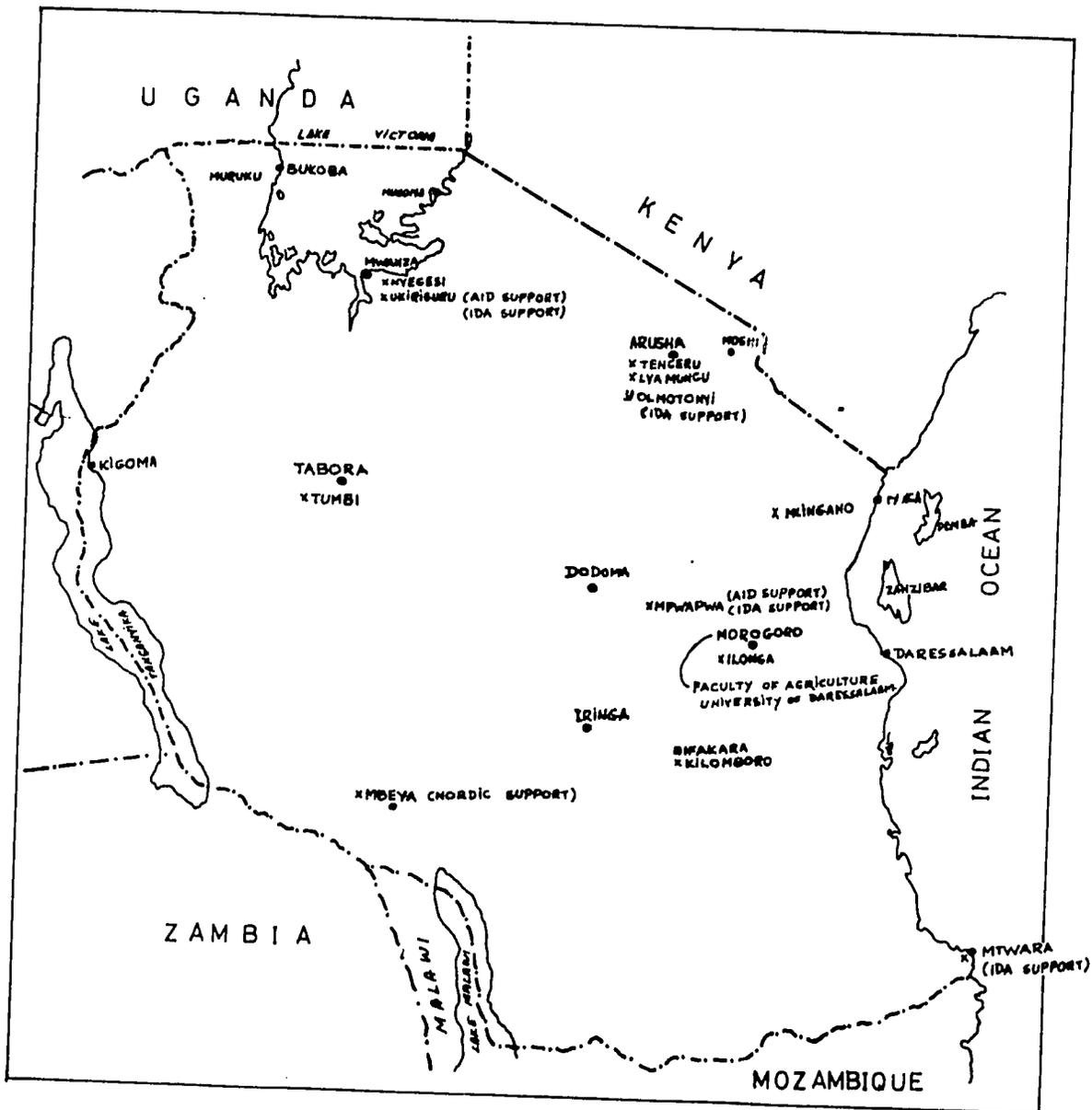
9 Technicians Houses @ \$15,000		<u>135,000</u>
	U.S. Total	<u>\$390,000</u>

IDA INPUT

GRAND TOTAL		\$ 97,410
10% Cont		<u>9,740</u>
		\$ <u>107,150</u>
ROUNDED TO		\$ 108,000

* Detailed lists of items to be procured within each category will be prepared by GOT assisted by Project staff, reviewed by USAID/Tanzania and approved by REDSO/EA.

MAP OF TANZANIA SHOWING LOCATIONS
OF MINISTRY OF AGRICULTURE TRAINING INSTITUTES
(For Certificate /or Diploma Training)



- X AGRICULTURE TRAINING INSTITUTIONS (MATI)
- PRINCIPAL TOWNS
- ∩ FORESTRY TRAINING CENTER (Administered by Ministry of National Resources and Tourism)

GUIDELINES FOR SELECTION OF PARTICIPANTS FOR GENERAL
SUPPORT TRAINING AND TYPES OF TRAINING PROPOSED

General Selection Guidelines

1. Regular employee of TanGov or parastatal organization.
2. Must hold a position directly related to a production oriented program in either food crops or livestock.
3. Must be in or expected to occupy upon completion of training a supervisory position.
4. Preference will be given to administrative rather than technical agricultural training.

Types of Training Proposed

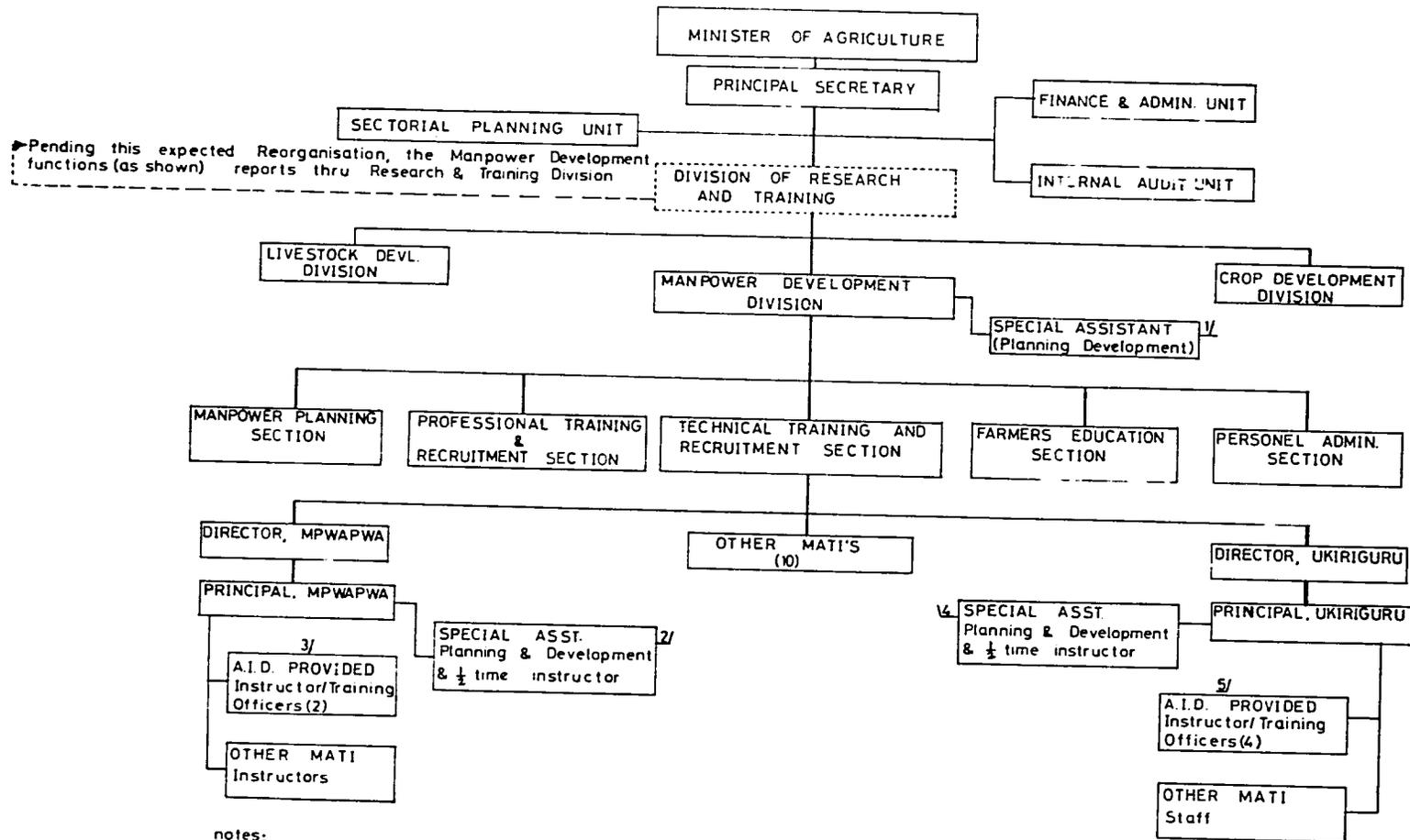
1. It is expected that all training will be long term degree training.
2. Administrative/management training will be included in any technical training program.

Illustrative Positions Expected to be Filled by Returned Participants

1. Senior Administrative/Technical Staff of MinAg and parastatals.
2. Senior Regional Agricultural/Livestock Officers.
3. TanGov Estate or Farm Managers.
4. National or Regional Planning and Program Development Officers for Food Crops/Livestock (MinAg or other TanGov organizations).

PROPOSED ORGANIZATION OF THE MINISTRY OF AGRICULTURE GOVERNMENT OF TANZANIA

(DETAILS SHOWN OF MANPOWER DEVELOPMENT, MATI SYSTEM)



notes:

1/ A I D Provided Senior Positions. Will act as Chief of Party for Contract in regular TANGOV OPEX positions.

2/ & 3/ A total of three (3) A I D provided positions Technical skills projected to be covered by the A.I.D input, are:
1) Veterinary 2) Range Management and 3) Animal Husbandry.

4/ & 5/ A total of five (5) A I D provided positions Technical skills projected to be covered by the A I D inputs are:
1) Production Economics and Management 2) Rural Economics and Extension 3) Agronomy
4) Agricultural Engineering 5) Land utilization.

PRELIMINARY JOB DESCRIPTIONS FOR SENIOR STAFFI. Special Assistant (Planning and Development) to Chief Training Officer, Ministry of Agriculture (MinAg)A. Supervision and Duties:

and

Assistance will be given in the planning/development of agricultural training by supplying to the Ministry of Agriculture a Special Assistant (Planning and Development) to the Chief Training Officer to serve in a staff (non-administrative) capacity. In collaboration with Ministry of Agriculture training officers and with the principals and staffs of the MATIs and under the general supervision and direction of the Chief Training Officer, who will be available for advice and consultation and who will make policy determinations, the Special Assistant (Planning and Development), as directed and assigned by the Chief Training Officer, will assist in the planning and development of the MATI system.

As assigned and directed by the Chief Training Officer, duties of the Special Assistant (Planning and Development) will include:

1. Planning curricula and courses of study for MATIs.
2. Planning in-service training programs for MATI instructors and for other Ministry of Agriculture veterinary and agriculture field staff.
3. Preparation of budgets and financial estimates.
4. Preparation of personnel policies and regulations for recommendation to appropriate authority, including those for a permanent career MATI administrative and teaching staff.
5. Review and preparation of regular, in-service and special training programs including foreign training for personnel of the MinAg and agricultural parastatals.
6. Preparation of briefs for the Ministry's requests to foreign donors and lenders.
7. Coordination of training programs with agricultural production and marketing programs.
8. Preparation of agricultural manpower estimates and requirements.

9. Preparation of plans as required for consolidation, revision, and expansion of MATIs or for additions to MATIs.
10. Preparation of specifications for training equipment and supplies and for textbooks and teaching materials.
11. Preparation of teacher training programs.
12. Related duties and assigned.

All work of the Special Assistant (Planning and Development) will be reviewed by the Chief Training Officer for compliance with policy. All formal reports to the USAID made by the Special Assistant (Planning and Development) will be made through the Chief Training Officer, MinAg.

B. Qualifications:

An MS or PHD in agriculture is required. A degree in Agricultural Education is required.

A minimum of fifteen (15) years relevant experience in agricultural education is required of which not less than five (5) shall have been in classroom teaching.

Experience in management/administration of agricultural education programs is required at University or Junior College level.

Experience in curricula evaluation, lesson planning, in planning laboratory and field work and in development of teaching aids is required.

Experience in budget preparation, personnel administration, program/project planning is required.

It is desirable to have had senior staff responsibility and experience in developing countries, preferably in Africa.

It is necessary to have ability and willingness to engage in frequent field travel.

C. Duty Station:

Dar es Salaam.

II. Special Assistants (Planning and Development) for Ukiriguru and Mpwapa

A. Supervision and Duties:

The Special Assistant (Planning and Development) to the Principal of the Ukiriguru (Mpwapwa) MATI will serve in a staff (non-administrative) capacity. In collaboration with other Ukiriguru (Mpwapwa) MATI staff members and appropriate officers of the Ministry of Agriculture and under the general supervision and direction of the Principal, who will be available for advice and consultation and who will make policy determinations, the Special Assistant (Planning and Development), as directed and assigned by the Principal of Ukiriguru (Mpwapwa) MATI will assist in the planning and development of the Ukiriguru (Mpwapwa) MATI.

As assigned and directed by the Principal of Ukiriguru (Mpwapwa) MATI, duties of the Special Assistant (Planning and Development) will include:

1. Planning curricula and courses of study for Ukiriguru (Mpwapwa) MATI.
2. Planning of in-service training programs for Ukiriguru (Mpwapwa) staff and for Ministry of Agriculture staff assigned to Ukiriguru (Mpwapwa) for training.
3. Preparation of budgets and financial estimates for Ukiriguru (Mpwapwa) MATI
4. Preparation of Ukiriguru (Mpwapwa) MATI personnel policies and regulations for recommendation to appropriate authority.
5. Review of regular, in-service and special training programs at Ukiriguru (Mpwapwa) MATI.
6. Preparation of specifications for training equipment and supplies and for textbooks and teaching materials for Ukiriguru (Mpwapwa) MATI.
7. Related duties as assigned.

All work of the Special Assistant (Planning and Development) to the Principal will be reviewed by the Principal for compliance with policy. All reports to USAID will be made through the Principal of Ukiriguru (Mpwapwa) MATI.

The Special Assistant (Planning and Development) may be called upon to assist the Principal in almost any phase of the Ukiriguru (Mpwapwa) MATI operations. Consequently, in addition to technical

qualifications in the field in which he is to give instruction, he must be competent in the general operation of agricultural education institutions including, particularly, curriculum development and preparation of financial estimates and budgets.

B. Qualifications:

An MS degree in agriculture is required. A degree in Agricultural Education is desirable.

A minimum of ten (10) years experience in agricultural education is required of which not less than five shall have been in classroom teaching.

Experience in administration and supervision of Agricultural Education programs is required. Experience at Junior College or University level is preferred.

Experience in curricula evaluation, lesson planning, in planning laboratory and field work and in the development of teaching aids is required.

Experience in budget preparation, personnel administration program/project planning and in operation is required.

It is desirable to have had overseas experience, preferably in Africa. It will be necessary to have ability and willingness to engage in frequent field travel.

C. Duty Station:

- (1) Ukiriguru MATI,
- (1) Mpwapa MATI

III. Instructors/Training Officers at MATI's

A. Supervision and Duties:

The instructors/training officers will be under the general supervision of the Principal of the MATI to which they are assigned. Their duties will be in the general areas of classroom instruction, development of teaching materials, and in-service training with the specifics to be worked out as a first step in project implementation.

B. Qualifications:

1. Education

An M.S. degree in agriculture in the specialized field to which the officer is being assigned is required for staff assigned to Department Head positions. An M.S. degree in the relevant specialized field is preferred for other instructors but a B.S. degree in the specialized field may be acceptable. All officers should have had graduate or undergraduate training (taken course work) in agricultural education.

2. Experience

Two years of full time teaching experience in which applicants have successfully demonstrated (a) technical knowledge in a specialized field, and (b) teaching ability as measured by skills in lecture, laboratory and field work and relating the use of such expertise in demonstrations to farmers.

3. Examples of Qualifying Experience

(a) A university instructor or professor who has been in responsible charge of teaching lecture, laboratory and field work for undergraduate students.

(b) A high school vocational agriculture instructor, and with classroom, laboratory and field teaching experience.

(c) An instructor in an agricultural junior college or institute who has been in responsible charge of teaching lecture, laboratory and field work for students.

NOTE: In each example, allied contacts or experience with agricultural extension programs would be highly desirable. Previous overseas experience is desirable. It will be necessary to have ability and be willing to engage in frequent field travel.

C. Duty Station

(4) Ukiriguru MATI

(2) Mwapwa MATI

AN ANALYSIS OF THE MATI SYSTEM AND JUSTIFICATION FOR
AID CONCENTRATION AT UKIRIGURU AND MPWAPWA

Assistance for Food Crops Training

Selecting the institute for AID assistance in food crops training is somewhat more complex than for livestock training because a number of MATIs offer some training in food crops production and utilization. The institutions giving training in food crops include:

- (a) The Ukiriguru MATI at Mwanza offers certificate training in general agriculture. Diploma training is to be added after expansion of the facilities by use of the IDA credit. A branch institute at Tumbi offers certificate training with emphasis on tobacco. Ukiriguru is considered the research center for north-western Tanzania and conducts research on cotton, maize and edible legumes.
- (b) The Lyamungu MATI at West Kilimanjaro offers diploma training in horticulture. Research is also conducted on coffee, horticulture and wheat.
- (c) The Mlingano MATI at Tanga offers diploma training in farm management. Research is also conducted on sisal, maize, edible legumes and horticulture.
- (d) The Mbeya MATI offers diploma training in animal health, animal husbandry and crop husbandry and certificate training in veterinary science, agriculture and home economics. This is a NORDIC assisted project scheduled to start in 1975. (See discussion above under "Assistance in Livestock Training")
- (e) The Mtwara MATI will offer certificate and diploma training in general agriculture. The training facilities are being built with an IDA credit and training is expected to begin in 1975. Mtwara is also the research center for southern Tanzania. Research is conducted on cashew, maize groundnuts and soybeans.
- (f) The Ilonga MATI offers certificate training in food science and nutrition and conducts research on maize, edible legumes, food science and entomology.
- (g) The Nyegezi MATI at Mwanza offers certificate training in general agriculture. No research is done at this institute. A branch at Maruku offers certificate training with emphasis on tea and conducts research on coffee, tea and bananas.

Selection of which institute to assist in the food crops subsector involved two main considerations: (1) the need to focus and concentrate AID assistance for maximum effectiveness in the food crops subsector, (2) and the desire to realize maximum collaboration with other donor assistance. The Mbeya Training Institute was eliminated from AID assistance at the outset. It is being competently assisted by the NORDIC group precluding the need for AID assistance.

Mlingano (farm management) and Ilonga (food science and nutrition) were also eliminated from AID assistance because the training at these institutes is less production oriented than at other institutes.

The specialized diploma training in horticulture offered at Lyamungu fills a need for training in this field, but AID assistance at this time is being directed to the more basic food crops, cereal grains and edible legumes, and general agriculture training for farming systems in which cereal grains and edible legumes play a major role.

Nyegezi, Ukiriguru, and a new institute at Mtwara are the remaining institutions offering training in general agriculture most applicable to food crops. Nyegezi and Ukiriguru are each sited near Mwanza and offer the same general type of training. However, Ukiriguru has research facilities and is included in the IDA project. Mtwara would offer AID a rather unique opportunity to assist in establishing a new training facility, sited at a research center intended to serve southern Tanzania. Training facilities are to be constructed at Mtwara with an IDA credit. However, because of its remote location and poor communications AID assistance is not recommended at this time.

The Ministry and USAID have selected the Ukiriguru MATI to be assisted by AID. Factors in this decision include the presence of research facilities at Ukiriguru and IDA assistance to Ukiriguru.

The Ukiriguru MATI at present offers a certificate course in general agriculture. Present enrollment is 184 and the expected output in 1973 is 102 certificate holders. After completion of the additional new IDA-financed facilities annual enrollment is planned for 260 certificate students and 40 diploma students, with an annual output of 125 certificate holders and 40 diplomates. The present teaching staff numbers 25 of whom four are graduates. The proposed teaching staff after expansion of the physical plant and reorganization of the curricula is estimated at 18, a reduction of seven. This will require 14 more staff members be trained to the B.S. level.

The first year of the present certificate course for Assistant Field Officers includes: Agriculture--agricultural science, farm practices, horticulture, fruit crops, spices and essential oils, and agro-mechanics; Animal Husbandry--dairy, beef, sheep, goat, pig, and poultry; Soil Science

and Land Use; Forestry, Bee Technology, Fisheries and Game. The second year curriculum includes Food Science and Nutrition; General Animal Husbandry; Pasture Crop Agronomy; Land Use, Soil Science, Water Management, Extension and Economics.

The certificate curriculum is to be revised. Recommendations by Yeaman, Schwencke and Wamunza include increasing the total weeks of instruction from 48 to 76.

The diploma curriculum has not been formulated and assistance is required for this.

The physical plant at Ukiriguru is more adequate relative to enrollment than at most other institutes. The IDA-financed construction will provide the additional space needed. The IDA construction includes four staff hours and 15,700 square feet of new physical plant construction. This is considered sufficient to permit increasing the total enrollment to 300 compared with 184 in 1972-1973. It is expected that the new construction will be completed in the July-December 1974 period.

Assistance for Livestock Training

Two MATIs, Mwapwa and Tengeru, now offer training in livestock and a new MATI at Mbeya, being developed with NORDIC assistance, will offer general livestock training beginning in 1975.

The Tengeru MATI provides training in dairying and upon completion grants a certificate in dairy husbandry. At present it is one of the small institutes with a training staff of six to seven, and enrollment of 55-60, and a projected annual output of about 28. The full course consists of 66 weeks of instruction. The syllabus is concentrated on dairy production and husbandry with supplemental basic agricultural courses.

The MATI being established at Mbeya with NORDIC assistance has the general overall purpose of establishing a research and training complex to serve the highlands area of south-western Tanzania. Mbeya, when in full operation, will have a teaching staff of twenty and offer three diploma courses. The animal health diploma course will provide training in animal health, animal husbandry, food industry, and veterinary extension. The animal husbandry diploma course will provide training in animal nutrition, fodder crops, animal breeding, livestock economics, food processing, and agricultural extension. The diploma course in crop husbandry will provide training in soils, food, cash and fodder crops production, farm economics, agro-mechanics, food processing, and agricultural extension. The total annual output from these three one-year diploma courses, beginning in 1975, will be eighty diplomates.

The Mbeya MATI will also provide three, two-year certificate courses beginning in 1975. Total output of certificate holders is expected to be 184 in 1976 and 193 annually thereafter. The certificate course in veterinary science includes training in biology, agronomy, draft animals, animal production, animal health, food industry, farm management and agricultural extension. The agriculture certificate course includes biology, land use, agronomy, horticulture, natural resources, agro-mechanics, animal production, food industry, farm management and agricultural extension. The agriculture/home economics certificate course will include subjects in biology, agronomy, horticulture, agro-economics, animal production, animal health, food industry, home economics and agricultural extension.

The Mpwapwa MATI is at present, March 1973, the only training institute offering training in veterinary science and animal husbandry and will have in the 1972-73 school year an estimated output of 119 certificate holders and 36 diplomates. Training is now divided between two sites, Mpwapwa and Morogoro, but will be concentrated at Mpwapwa when new facilities financed by an IDA credit are completed (see below) and the long-run output will be 36 diplomates and 110 certificate holders. The present teaching staff number 17 full time instructors of whom seven have a B.S. degree. The project requirement is 19, an increase of two. The short range qualification goal is seven B.S. graduates, six diplomates and six certificate holders. The long-range goal is for all staff members to have B.S. degrees. It is planned to add a range management instructor and an animal health instructor to the present staff and to upgrade staff members to a B.S.

A diploma course in animal health is planned. The proposed course will require 52 weeks including field practicals and examinations, and offer animal anatomy and physiology, pathology, parasitology, pharmacology and therapeutics, surgery, obstetrics and infertility diseases (including artificial insemination), and veterinary extension.

An animal husbandry diploma course of 20 weeks duration has been implemented to upgrade workers in animal husbandry. The course started in March 1972 and offered 13 weeks of resident course work at Mpwapwa plus seven weeks of field practicals, ujamaa work, and examination. Subjects taught include breeds, and breeding, animal nutrition, reproduction and artificial insemination, general husbandry, and building and construction.

A diploma course in range management is planned but assistance is required to develop the syllabus.

awarded in June 1973. Construction is expected to be completed in twelve to eighteen months. The new facilities at the Mpwapwa MATI will permit increasing the enrollment by 185 new students to a total annual enrollment of 235 certificate students and 36 diploma students.

In reviewing the three possible institutes for AID assistance in livestock training Mpwapwa MATI stands out as the logical institute to assist. The Mbeya MATI is being competently assisted by the NORDIC group. A good case could be made for assistance to Tengeru in dairy husbandry training because of the importance Tanzania attaches to the expansion of dairying, but such assistance is not being considered by USAID. The Ministry and USAID have jointly agreed that USAID training assistance in the livestock subsector should be concentrated at the Mpwapwa MATI. Tanzania's livestock subsector trained manpower demands will fully absorb the output of both the Mbeya and Mpwapwa MATIs.

The Mpwapwa MATI at present is the only institute offering certificate and diploma training in animal husbandry and veterinary science to provide personnel to assist farmers in general livestock production will emphasis on range livestock. Improvement of this type of training will benefit more farmers in the livestock subsector than assistance in specialized livestock areas such as dairying, swine or poultry. The more important factors for AID in selecting the Mpwapwa MATI for assistance are: it offers training in livestock/veterinary and plans to add training in range management; it is located in a typical range production environment and will provide direct support to USAID's ongoing and proposed activities in the livestock subsector; AID assistance will supplement and complement IDA assistance both at the Mpwapwa MATI and IDA's proposed Phase II Livestock Development Project; and it is essential for realizing development of Tanzania's comparatively large livestock resources.

The present facilities at Mpwapwa/Morogoro are inadequate. The staff quarters are crowded and the office space is poorly laid out and scattered. The library's physical facilities at Mpwapwa are adequate, but there is a dire shortage of periodicals and books. Student textbooks are also in very short supply. There is no laboratory at Mpwapwa, and only a poorly equipped 30 student laboratory at Morogoro. Electricity and water supply at both Mpwapwa and Morogoro are good. Recommendations for improvement at Mpwapwa after the Morogoro program is transferred to Mpwapwa include: (a) increase the first year certificate course from 20 weeks to 40 weeks instruction; (b) increase the length of diploma courses to one full year; (c) improve staff quality through teacher training instruction and B.S. degrees for all staff; and (d) discontinue use of research workers as part-time teachers.

The facilities at Mpwapwa will be substantially improved by the International Development Association (IDA) Third Education Project in Tanzania. The IDA project provides 14 man-years of technician assistance and a credit of \$3,300,000 to construct one new agricultural training institute (Mtwara), expand three existing agricultural training institutes (Olmotony, Mpwapwa, and Ukiriguru), construct four new rural training centers, and expand five existing rural training centers. Technical assistance in the IDA project includes: (a) agricultural education, four man-years; (b) agricultural extension, two man-years; (c) teaching materials, two man-years; (d) project architect, four man-years, and (e) home economics, two man-years.

The IDA funded technicians will be posted in the Ministry in Dar es-Salaam. They will visit and work with all institutes on revision of curricula. However, professional/technical input will be required from the AID-funded technicians in developing appropriate curricula in food crops (soils, agronomy, crop production, etc.) and in livestock (animal production, health and nutrition and range management). Therefore, most of the responsibility for the technical input for developing the above curricula will fall on the AID-funded personnel.

The IBRD team will also develop teaching guides, texts, and visual aids; train Tanzanian staff in preparing and utilizing such aids; and train Tanzanians in interpreting research results and preparing teaching and extension materials from research findings.

The activities of the AID and IDA-funded technicians therefore will be complementary to each other and allow for greater progress in attaining the project purpose.

IDA-financed construction scheduled for the Mpwapwa MATI includes sixteen senior staff hours, ten junior staff houses, and 44,900 square feet of new institute physical plant construction. All plans and specifications for the IDA financed construction have been completed (November 1972). Bids will be advertised in April 1973 and contracts for construction