

THE POLYTECHNIC

ENGINEERING
PROJECT
NO
612-0201

FLORIDA A&M UNIVERSITY

U
S
A
I
D

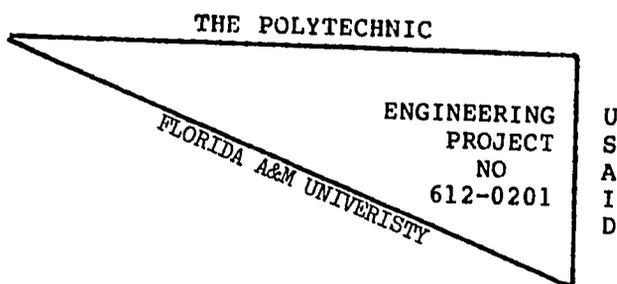
FOURTH QUARTER REPORT
OCTOBER 1ST, 1985 -
DECEMBER 31ST, 1985

FOURTH QUARTER REPORT

OCTOBER 1ST, 1985 - DECEMBER 31ST, 1985

CONTRACT NO AFR 021 C 00 3014 00

UNIVERSITY OF MALAWI ENGINEERING PROGRAM



COLLEGE OF ENGINEERING SCIENCE & TECHNOLOGY

FLORIDA A&M UNIVERSITY

THE UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

UNIVERSITY OF MALAWI - THE POLYTECHNIC
FAMU/USAID POLYTECHNIC PROJECT

P.O. Box 30202
Chichiri
BLANTYRE 3

December 31st, 1985

Mr. John F. Hicks
USAID Representative
NICO House
P.O. Box 30455
Capital City
LILONGWE 3

Dear Mr. Hicks:

This fourth quarter Project - Progress - Report - October 1, 1985 through December 31, 1985 - reflects the activities of the FAMU/USAID Technical Assistance Team at the University of Malawi - The Polytechnic. Further, this report also gives an update on the FAMU/USAID procurement contract activities.

Those team members who are concerned primarily with classroom activities, spent the entire fourth quarter carrying out normal instructional assignments. An exception is in order for Professor Ajit S. Gill, who also is department head for civil engineering.

The team met weekly, - Fridays 1:30 - 3:00 - to discuss, concerns of curriculum, project evaluation, and to look into the possibility of there being a need for USAID to provide additional technical assistance to the Polytechnic's engineering efforts.

It appears that procurement is moving along at a fairly timely manner: some items have already been let for bids, and perhaps all will have by the first of January 1986. The bank Letter of Commitment has also been promised shortly.

I am pleased to report that all other elements of the FAMU/USAID Polytechnic Projects are progressing at an acceptable pace.

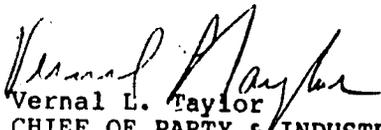
Cont/...

Cont/...

Mr. John F. Hicks
USAID Representative
LILONGWE

If additional information - on any aspect of this report - is
desired please feel free to request same:

Sincerely


Vernal L. Taylor
CHIEF OF PARTY & INDUSTRIAL COUNSELOR

VLT/svk

TABLE OF CONTENTS

	PAGE #
I INTRODUCTION	1
II HIGHLIGHTS	2
Team Finalizing Draft of Proposal Revised Curriculum for Polytechnic	2
Florida A&M University New President Extended Invitation	2
Procurement Activities	2-3
Counterparts Activities	3
Evaluation is Scheduled	4
Team Completes Proposal Draft	4
III TECHNICAL ASSISTANCE TEAM ACTIVITIES	5
Industrial Counsellor & Chief of Party	6-10
Electrical Engineering	11-14
Civil Engineering	15-18
Mechanical Engineering	19-22
IV RECOMMENDATIONS	23-24
V FIELD ACCOUNTS	25
VI ACCOUNTING	26

I INTRODUCTION

Florida Agricultural and Mechanical University (FAMU) Technical Assistance Team has been assigned to the University of Malawi's Polytechnic to carry out an engineering project contract - agreement between FAMU and the United States Agency for International Development (USAID).

The objectives of the Technical Assistance services are to provide specialized expertise in engineering through classroom instruction and to assist the Principal and Department Chairmen of the Polytechnic in developing, reviewing assessing and, as necessary, modifying the Institute's existing curriculum.

The purpose of the Project is to improve and expand the institutional capability of the Polytechnic Institute to produce Malawian Engineering Manpower for Government, Industry and Private Sectors.

This is the Fourth Quarter Report, and it principally covers the period October 1st through December 31st, 1985.

II HIGHLIGHTS

Team Finalizing Draft of Proposal Revised Curriculum for Polytechnic

After more than two and a half years of full participation in instruction, and assessing the Polytechnic's present curriculum, the FAMU/USAID Technical Assistance Team has finalized a draft of it's suggested innovations. Prior to submission of the curriculum to the Polytechnic's administration it will be reviewed by several bodies to get their inputs and comments.

Florida A&M University New President Extended Invitation

The Principal of the University of Malawi Polytechnic has extended an invitation to President Frederick Humphries to visit the Polytechnic, and other colleges of Malawi University system. There appears to be a strong desire on the parts of both Florida A&M University and University of Malawi to strengthen the existing linkages and to established others. The visit should take place during the first part of 1986.

Procurement Activities

All required steps, and procedures that are necessary for procurement of engineering and science laboratory equipment appear to have been completed. According to FAMU's Director of International Programs, USAID/Washington - around the

middle of December - predicted that the letter of commercial credit would be available in about ten days. The Bidding process has already begun for some items. Recently, FAMU was presented the list continuing facilities for the New Library. As soon as FAMU receives - from USAID/Malawi - some clarification on a few points, preliminary procurement activities will begin moving along in a timely manner.

Counterparts Activities

The Principal of Polytechnic recently approved an additional list of names of individuals whom the Technical Assistance Team Members requested for counterparts. Most of the new counterparts, are those who recently returned from overseas training with B.Sc. and master's degrees. The Team and counterparts are concentrating mostly on the use of computers in engineering instruction. The team member - counterpart match follow:-

Team Member	Counterpart	Dept. of Eng.
Professor A. S. Gill	Mr. M. Bizaliele	Civil
Mr. J. McCloud	Mr. R. Kacelenga Mr. C. Chipofya	Electrical Electrical
Mr. C. J. Rigby	Mr. N. Ben Mr. G. Ngwalo	Mechanical Mechanical
Mr. V. L. Taylor	Mr. F. Chitani	Industrial Career Counselling

Evaluation is Scheduled

According to USAID/Malawi, the Project will undergo it's evaluation during the latter part of June and the first part of July 1986. Team members have begun preparation for same.

Team Completes Proposal Draft

A draft of a paper justifying the need for continuing USAID support toward the Polytechnic's efforts in Engineering Education has been completed by the Team. The Paper will be passed to the Polytechnic's Principal for his assessment, input, and decision.

III TECHNICAL ASSISTANCE TEAM ACTIVITIES

The following are the individual team member's descriptions of his activities during the third quarter:

Mr. Vernal L. Taylor, Industrial Counsellor and Chief of Party.

Mr. James L. McCloud, Associate Professor of Electrical Engineering.

Professor Ajit S. Gill, Professor of Civil Engineering.

Mr. Cornel J. Rigby, Associate Professor of Mechanical Engineering.

VERNAL L. TAYLOR - INDUSTRIAL COUNSELLOR

As indicated in the following semi-log frame, the program for Industrial Counselling is well underway. Most major tasks have been completed and other components are progressing satisfactorily. Except for up-dates, the following is essentially the same as the third quarter's report; however I would like to make the following observation:

The lack of a readily available Counterpart to work with the Industrial Counsellor on routine and developing Counselling activities is yet a problem. This will remain a problem as long as the Counterpart assigned has to carry on full scale instructional and related University responsibilities in a department with activities only remotely related to Industrial Career Counselling. This is not a problem for other Technical Assistance Team Members, because both the Counterpart and Team Members are working within the same department and with the same interest.

The Industrial Counselling position is a new and important position at the Polytechnic; and therefore, it requires devotion of adequate time for planning, implementing, and assessing the various aspects of Counselling.

While the present arrangement may be the best that the University can afford, it leaves a lot to be desired. It places too much of

an extra burden on the Counterpart; so much so, he is not able to devote even the bare minimum time required to acquire the skills of Counselling. At first, it appeared the plan would work; but when attempts were made to set up regular Counselor - Counterpart conferences, it was discovered just how busy the Counterpart is with other responsibilities. The position requires fulltime participation on the part of the Counsellor. The FAMU/USAID Technical Assistance Team Counsellor will continue to develop and catalogue the necessary materials and mechanics for a functional Counselling service with the hope that the University will soon find necessary resources to enable the employment of an Industrial Counsellor, not just to render service to engineering students, but to all students whose specialities lead to job with the industris.

REVIEW OF INDUSTRIAL COUNSELOR'S PROGRESS REPORT
FOURTH QUARTER - OCTOBER 1ST, - DECEMBER 31ST, 1985

OUTPUTS	INDICATORS	ACTIVITIES
<p>1. Establish a guidance Counselling System which will help define where students should work when doing practical training.</p>	<ol style="list-style-type: none"> 1. Files on all engineering students on computer. 2. File of all firms participating in Industrial Attachment Program. 3. Student evaluation of Industrial work experiences on file. 4. Industrial supervisor's evaluations of students work on file. 	<p>Operation of this system has been initiated. The student's academic and Industrial Attachment experiences are being filed on the computer. The second evaluation on the effectiveness of the Industrial Attachment Programs has just been completed - 1985 participants. The evaluation enables the Industrial Counselor to review comments by both the student and and his immediate supervisor as to how and what the student did while on Industrial Attachment. This information will be gathered on each group of students involved in Industrial Attachment experiences. The evaluations are passed on to relevant Department Heads and Dean of Engineering. Those unusual cases will warrant a follow-up conference by the Counsellor.</p>
<p>2. Established a records system capable of "Tracking" a student through the Polytechnic and monitoring the student's movement into the workforce or into post graduate work.</p>	<ol style="list-style-type: none"> 1. Computerized student record keeping system in operation. 2. Mechanism's in place for maintaining up dated information on Industrial Attachment activities for each student. 	<p>This system has been completed. The system satisfies the output requirements as stated for both students and graduates. The system accomodates both engineering and non engineering student. All student academic records are being computerized. The process is slow. Part time employment is necessary to complete the job.</p>
<p>3. Service as Liason Officer between the Polytechnic and the users of its output.</p>	<ol style="list-style-type: none"> 1. Record of Industrial visits, and communication linkage with firms. 2. Evaluative remarks and/or reports- achieved through surveys, on file. 	<p>Operation of this program has been initiated, as indicated in the past reports. It is an on-going process. Evaluative remarks received through means of the Training and Job Analysis Survey are compiled, and typed for distribution to the Principal and those who are concerned with curricula development.</p>

FOURTH QUARTER - OCTOBER 1ST - DECEMBER 31ST, 1985

OUTPUT	INDICATOR	ACTIVITIES
4. Ensure that proper administrative action is taken to train a counterpart so that this staff position becomes a permanent.	<ol style="list-style-type: none">1. Name of counterpart of file.2. Counterpart communication linkage established with Counselor.3. Record of Counselor and counterparts visit to firms.4. Record of scheduled meeting.	Mr. Frank Chitani, lecturer and Head of Automobile workshop was recently assigned as counterpart for the Industrial Career Counsellor's counterpart. Mr. Chitani had been working as counterpart along with three others for the past two years. Being a fulltime lecturer his time devoted to Counselling activities is very limited. Hopefully he will have been acquired enough knowledge to enable him to successfully carry on once the Counsellor departs.
5. Provide Industry - related Counselling to engineering students and others.	<ol style="list-style-type: none">1. Record of Counselor - Counselees conferences.2. Record of communication with students (forms letters, etc)3. Information bank established - feedback, and inputs students, graduates, and Industrial Personnel.	This part of the counselor's assignment has begun. Most of the counseling has been to engineering graduates. The mechanics for providing this service is in place.

FOURTH QUARTER - OCTOBER 1ST - DECEMBER 31ST, 1985

OUTPUT	INDICATOR	ACTIVITIES
<p>6. Establish and maintain contact with public, Governmental and Private Sectors entities utilizing engineers and assist in further development of an information bank which can be used to advise Polytechnic students and graduates of employment opportunities.</p>	<ol style="list-style-type: none">1. Preview of firms manpower needs on file.2. Copies of students applications for job on file.3. Copies of students applications for Industrial Attachment experience.4. Letters of inquires, and introduction on file	<p>Training and Job Analysis Survey Forms have been returned from firms, and the data has been compiled and analyzed. Follow-up conferences with firms contact persons have been initiated on a small scale.</p> <p>The Counselling department is taking on increased responsibilities for providing placement service to both graduates and Industrial Attachment students.</p> <p>Follow-up study on 1984, graduates engineer completed.</p>

UNIVERSITY OF MALAWI - THE POLYTECHNIC
FAMU/USAID POLYTECHNIC PROJECT

TO: Mr. V. L. Taylor,
Chief of Party

FROM: Mr. James L. McCloud,
FAMU/USAID Polytechnic Technical Assistance
Team Member

SUBJ: FOURTH QUARTER PROGRESS REPORT OCTOBER 1985 TO
DECEMBER 1985

This correspondence contains the activities in which I was engaged during the fourth quarter of the calendar year 1985.

A. TEACHING ELECTRICAL ENGINEERING COURSES

The courses that I was responsible for teaching are:

- a) D6 electronics (digital and microprocessor component)
- b) D6 computational methods

The senior projects that I am supervising are:

- a) Romulator (Multiprocessor)
- b) Analog to digital and digital to analog converters

I developed the following laboratory material:

- a) Format for writing laboratory reports
- b) Wrote the following laboratory experiments for D6 electronics:
 1. Flip - Flops
 2. Shift registers
 3. Counters

I wrote the following computer programs that can be used in electrical engineering to aid instruction:

1. Network analysis - to solve for unknown current in an electrical network.
2. Hybrid - this program calculates the voltage and current gains of the common emitter amplifier.
3. Simulator - this program determines the reponse of a system defined by a differential equation.
4. Amplifier design - this program solves the circuit equations for a stabilized self-biased transistor.

B. DEVELOPING ELECTRICAL ENGINEERING CURRICULUM

I participated in the revision of the current curriculum via, faculty meetings, and discussions with the dean of engineering.

Worked on electrical engineering component of proposed curriculum that is to be presented to the Polytechnic.

Wrote a syllabi for computational methods.

C. TRAINING TEACHING ASSISTANTS

The Principal of the Polytechnic assigned the following Malawian faculty members as my counterparts:

Mr. C. Chipofya

Mr. R. Kacelenga

Mr. Chipofya and I are team teaching D6 electronics therefore we interface constantly, discussing curriculum development and classroom procedures.

Mr. Kacelenga and I share the same office, where we often discuss curriculum development and classroom procedures.

Upon the arrival of the equipment purchased by USAID, we will work closely in the commissioning, and integrating of this equipment in to the electrical engineering curriculum.

D. OTHER

The faculties of civil and mechanical engineering requested that I hold a seminar on microprocessors. This seminar was presented on November 28, 1985.

Met with the Head of Mathematics and Science to discuss configuration of computer center and location of computer center.

Appointed by the Principal to the college computer committee for the Polytechnic.

TO: Mr. V. L. Taylor, Chief of Party,
FAMU/USAID Technical Project

FROM: Professor A. S. Gill,
Technical Assistance Team Member *A.S. Gill*

SUBJECT: QUARTERLY PROGRESS REPORT FOR PERIOD OCTOBER -
DECEMBER, 1985

This memorandum furnishes my Progress Report as a member of the FAMU/USAID Assistance Team to the Polytechnic for the period indicated above.

1.0 GENERAL

The start of the first term of the new academic year 1985-86 entailed a number of activities related both to teaching, developing of assigned courses and to carrying out of administrative tasks by me as Head of the Department of Civil Engineering. These are described at some length this report.

2.0 PROJECT OBJECTIVES AND PROGRESS

2.1 Teach Assigned Courses

Following courses were taught by me during the period under report:

1. Transportation to D6C students (2 hours/week).

2. Geotechnics to D6C students. Of a total of 4 hours/week allocated for this course I took 2 hours/week, the rest being taken by a colleague of mine in the Department.
3. Geology to D5C students (2hours/week).
4. Vocational Studies to D3C students. Of a total of 2 hours/week assigned for this course, I took 1 hour/week, the second hour being taken by a colleague.
5. Supervise two Technical Projects of D6C students. There are a total of four D6C students, two of whom are working on Technical Projects under me.

2.2 Some Other Tasks Carried out

- I was nominated by the faculty of the Polytechnic to serve as member of the University of Malawi Research and Publications Committee. In this capacity I attended one meeting of this committee at Zomba.
- Upon invitation by the Malawi Group of Professional Engineers, of which I am a member, I presented a talk illustrated by slides, at a meeting of this group in October, 1986. The subject of the talk was "A case History of Failure of an Embankment in Sensitive Clay".
- I applied for a research grant of K300.00 to the University Research and Publications Committee in July

1985. This research project was funded in December, 1985.

- I was invited by the Ministry of Education and Culture to sit as an independent member of an Interview Board for posts of Senior Architectural Assistant and Architectural Assistant in the Ministry, I attended meeting of this Board on November 29th, 1985.
- I attended the University Convocation at Zomba on 2nd November, 1985.

2.3 Make Recommendations for Improving the curricula for Diploma and Degree Programs

The draft report of the FAMU/USAID Technical Assistance Team in this regard was finalized. It is expected to be released shortly.

2.4 In Service Training to Counterparts

Following a request from me, the Principal has approved Mr. M. M. Bizaliele, Lecturer in Department of Civil Engineering to be my Counterpart for training. Mr. Bizaliele recently joined the Polytechnic upon completion of graduate studies at Columbia University.

Mr. Bizaliele and I worked on some recommendations for improving the course offerings in Geotechnics to diploma and degree level students. Besides, I have had Mr. Bizaliele involve in part supervision of the laboratory tests underway by D6C students for their Technical Projects.

TO: Mr. V. L. Taylor,
Chief of Party

FROM: Mr. C. J. Rigby, Mechanical Engineer,
FAMU/USAID Polytechnic Technical Assistance

SUBJ: PROGRESS REPORT FOR THE PERIOD
OCTOBER 1 - DECEMBER 31ST, 1985

A. Teaching Classroom and Laboratory

During the first term of the 1985-86 academic year, I spent most of my time preparing lectures, grading papers, and conducting the following teaching assignments:

Monday:

1. 2 hrs/week D6/Solid Mechanics. I was scheduled to teach this course in parallel with the Mechanical Engineering Department Chairman who taught plasticity for 1 hour per week. I gave an introduction to elasticity and three dimensional stresses and strains.

2. Tuesday:

4 hrs per week D3/Student Projects. On this day I supervised five third year students on four different D3/Projects:

(a) Computer Graphics

This project is to use the BASIC language to construct a computer program that will make three dimensional drawings on paper.

(b) Computer-Aided Design (CAD) of a simple automobile suspension system.

(c) Computer simulation of sun position at several sites in Malawi.

(d) Calibration and Performance evaluation of the Heat Pump/Air cooler apparatus in T2. All of the students were making satisfactory progress at the end of Term 1.

3. Wednesday: 1 hr and Friday: 2hrs

On these days I taught one section of the first year class D1/Mechanical Science. This course is offered by the Maths and Science Departments but due to a staffing shortage, we were asked to help support their teaching program. My students included both T1 first year technicians and D1 first year diploma. The course is basically like the mechanics part of a pre-calculus General Physics course taught to first year liberal arts

students in the U.S.A. Many of these students were very, alert and eager to learn.

4. Thursday = 3 hours /week

D2/Mechanical Science Laboratory. During this period, I conducted laboratory sessions for the entire second year diploma in engineering program. The students are divided into three groups: Civil, Mechanical, Electrical and each week a different group comes on a rotational basis.

B. Counterparts, Training

During this period I spent several sessions with Mr. G. Ngwalo and Mr. N. Ben. We discussed how to use the computer in classroom instruction and I assisted them to use the Rainbow 100 computer installed by the Technical Assistance Project. In addition I made arrangements for Mr. N. Ben and Mr. R. Chindebvu (a lecturer in the electrical engineering dept.) to use (part time) a locally available IBM/PC. This is an attempt to prepare the staff in advance of the anticipated delivery of several IBM computers as part of the USAID Procurement Contract.

C. Recommendations for Improvement of Degree and Diploma Curriculums

During this period I participated in weekly meetings called by the Chief of Party which dealt with (among other topics) the curriculum evaluation. We have made progress in drafting a document of curriculum evaluation and recommendations for improvement and expect to release it in the near future.

At the department level, a meeting was called by the Department Chairman on November 13th to discuss a Proposed Degree Curricula dated October 23rd, 1985. At the close of the meeting, the only significant change the majority agreed upon was to add a course in Strength of Materials for 2 hours per week. This is a long recognized and much needed course to support the D6/Solid Mechanics course. I submitted a letter dated 13th November, 1985 to the Head of the Department in which I evaluated this October 23rd, 1985, proposal and recommended some improvements.

IV RECOMMENDATIONS

The following are recommendations believed necessary to help the Technical Assistance Team, and also to assist the total USAID Polytechnic Project more nearly realize the expected end results.

1. That consideration be given to the possibility of a need to have some team members remain at the Polytechnic beyond the present June 16, 1986 deadline, or that provision be made for their return on a short term bases. The reasoning behind this suggestion arises from the fact that there is a very important need for Technical Assistance Team Members to contribute to the proper installation of much of the approximately \$750,000.00 worth of laboratories equipment that is being purchased under the FAMU/USAID Procurement Contract. This is especially true in the department of engineering. Critical to good instruction, and to the proper use of laboratory facilities is a dedicated and stable faculty. The Dean of engineering, Department Heads, and the majority of engineering teaching faculty are on short term contracts - two or four years. Since receiving initial inputs from the faculty to aid in selection of proper laboratory equipment, more than 20 of those who

participated have already left the Polytechnic - including two Department Heads. More are schedule to leave at the close of this academic year. With this broading discontinuity, it is highly improbable that adequate attention will be given the need to fully incorporate the equipment properly into instruction; as a result, much equipment will be found stored away. The Technical Assistance Team played a very strong role in determing what the equipment list should contain. Laboratory instruction sheets centered around the new equipment must be developed and catalogued. Otherwise, one should not expect any reasonable degree of standardization in curriculum offering.

Special consideration must be given to this concern.

2. That planning for the initial meeting of the Project's Advisory Council get underway. It has been proposed that the Council should hold its initial meeting in Malawi, and then follow-up with a second meeting in the U.S.A. It is suggested that this meeting take place during Florida A&M University President's visit to Malawi which should take place in February or March of 1986. It is also suggested that Dr. Hartmann - Director of International Programs - accompany the President.

V FIELD ACCOUNTS

FIELD ACCOUNT BY CODE

CHECK #	DATE	VENDOR	ITEM	PURPOSE	AMOUNT K
*BUDGET CODE 1					
136789	25/10/85	MS. S. V. KHAMISA	MONTHLY PAY	SECRETARY	325.50
243304	25/11/85	MS. S. V. KHAMISA	MONTHLY PAY	SECRETARY	325.50
243305	25/11/85	MS. ANN MAGANGA	PAY FOR ASSISTING IN STUDENTS EVALUATION FORMS		33.15
2433	20/12/85	MS. S. KHAMISA	MONTHLY PAY	SECRETARY	325.50
243316	23/12/85	MS. S. KHAMISA	OVERTIME	SECRETARY	40.00
SUBTOTAL					1049.65

FIELD ACCOUNT BY CODE

CHECK #	DATE	VENDOR	ITEM	PURPOSE	AMOUNT K
*BUDGET CODE 5					
136773	01/10/85	AMERICAN EMBASSY	IMMUNIZATION	FOR TEAM MEMBERS	131.45
136772	01/10/85	BLANTYRE WATER BOARD	WATER BILL	UTILITIES/WATER	166.55
136775	03/10/85	GASKELLS LTD	TYPEWRITER EDITOR 4C	CONTRACT SERVICE	40.00
136776	07/10/85	GASKELLS LTD	PHOTOCODUCTOR MASTER	FOR COPIA 1000	575.00
136777	08/10/85	J. S. KANABAR	BULBS	USAID HOUSES	5.95
136778	09/10/85	EVERGLO ELECTRIC			23.20
136779	10/10/85	ESCOM	ELECTRIC BILL	UTILITIES/ELECTRICITY	409.63
136781	11/10/85	DAILY TIMES	NEWSPAPER	SUBSCRIPTION 1 YR OFFICE	46.98
136787	18/10/85	CARPET & FURNISHING	DESK LAMP	FOR MR. McCLOUD	24.00
136788	22/10/85	MR. V. L. TAYLOR	PETTY CASH	WATCHMAN'S PAY K12/WK	120.00
136790	25/10/85	MALAWI POST OFFICE	TELEPHONE BILL	COMMUNICATION USA	389.50
136791	01/11/85	DHL INTERNATIONAL	DOCUMENTS & FILMS	FOR DR HARTMANN	52.00
136792	07/11/85	AMI RENNIE PRESS	CLEARANCE CHARGE	FOR MR McCLOUD'S CARGO	69.21
136796	11/11/85	GOVERNMENT HOTEL TRAINING	SCHOOL LUNCHE WITH AID REPRESENTATIVE		60.67
136797	12/11/85	ESCOM	ELECTRICITY BILL	UTILITIES/ELECTRICITY	298.83
136799	13/11/85	BLANTYRE WATER BOARD	WATER BILL	UTILITIES/WATER	182.97
136800	15/11/85	PRESS FURNITURE & JOINERY	BILL FOR CURTAINS & CARPET	MR. V. L. TAYLOR	1014.70
243301	18/11/85	AMI RENNIE PRESS	CLEARANCE CHARGE	FOR MR. TAYLOR'S CARGO	27.50
243302	22/11/85	DHL INTERNATIONAL	DOCUMENTS	FOR DR HARTMANN	52.00
243303	22/11/85	J. S. KANABAR	BATTERY	FOR WATCHMAN TORCH	4.50
243306	26/11/85	GASKELLS LTD	SERVICE CONTRACT	FOR COPIA 1000	337.00
243307	29/11/85	MALAWI POST OFFICE	TELEPHONE BILL	COMMUNICATION	434.75
243308	29/11/85	MALAWI POST OFFICE	TELEPHONE BILL	COMMUNICATION OFFICE	216.20

FIELD ACCOUNT BY CODE

CHECK #	DATE	VENDOR	ITEM	PURPOSE	AMOUNT K
*BUDGET CODE 5					
243310	29/11/85	BLANTYRE WATER BOARD	WATER BILL	UTILITIES/WATER	226.06
243309	06/12/85	PPS	STATIONARY	OFFICE SUPPLIES	19.11
243312	17/12/85	ESCOM	ELECTRICITY BILL	UTILITIES/ELECTRICITY	389.24
243317	19/12/85	DHL	COURIER	TO USA DOCUMENTS	52.00
243318	19/12/85	BLANTYRE WATER BOARD	WATER BILL	UTILITIES/WATER	124.46
SUBTOTAL					5493.46

FIELD ACCOUNT BY CODE

CHECK #	DATE	VENDOR	ITEM	PURPOSE	AMOUNT K
*BUDGET CODE 6					
243311	16/12/85	STANSFIELD MOTORS	WIPERS	FOR PROJECT CAR	32.20
SUBTOTAL					32.20

FIELD ACCOUNT BY CODE

CHECK #	DATE	VENDOR	ITEM	PURPOSE	AMOUNT K
*BUDGET CODE 7					
136783	16/10/86	PROF. A. S. GILL	REIMBURSEMENT	FOR TELEPHONE CALL TO FAMU	52.20
136784	16/10/86	MR. V. L. TAYLOR	REIMBURSEMENT	FOR DRIVER AND REPORTS	66.00
136793	07/11/85	PROF. A. S. GILL	REIMBURSEMENT	FOR STUDENT HELP FOR MSPE	18.00
136795	08/1185	MR. J. L. McCLOUD	REIMBURSEMENT	FOR LODGING & FOOD FROM USA	140.82

SUBTOTAL

277.32

TOTAL

K6852.63

~~-26-~~

VI ACCOUNTING

	A	B	C	D	E	F	G	H	I
DATE	BAL. FORWARD (KWACHA)	DEPOSIT (US. \$)	EXCHANGE RATE (US. TO K)	GAIN IN (KWACHA)	TOTAL (A+B+D) (KWACHA)	LESS PAYMENT (KWACHA)	BAL (KWACHA)	EXPI CODE	CHEQUE NO.
01/10/85	7449.46	-	-	-	7449.46	166.55	7282.91	5	136772
01/10/85	7282.91	-	-	-	7282.91	131.45	7151.46	5	136773
03/10/85	7151.46	-	-	-	7151.46	40.00	7111.46	5	136775
07/10/85	7111.46	-	-	-	7111.46	575.00	6536.46	5	136776
08/10/85	6536.46	-	-	-	6536.46	5.95	6530.51	5	136777
09/10/85	6530.51	-	-	-	6530.51	23.20	6507.31	5	136778
10/10/85	6507.31	-	-	-	6507.31	409.63	6097.68	5	136779
10/10/85	6097.68	-	-	437.00	6534.68				
11/10/85	6534.68	-	-	-	6534.68	46.98	6487.70	5	136781
16/10/85	6487.70	-	-	-	6487.70	52.50	6435.20	5	136783
16/10/85	6435.20	-	-	-	6435.20	66.00	6569.20	7	136784
18/10/85	6569.20	-	-	-	6569.20	24.00	6545.20	5	136787
22/10/85	6545.20	-	-	-	6545.20	120.00	6425.20	5	136788
25/10/85	6425.20	-	-	-	6425.20	325.50	6099.70	1	136789
25/10/85	6099.70	-	-	-	6099.70	389.50	5710.20	5	136790

Vernon Taylor
 CHIEF OF PARTY

CODE

- | | |
|----------------------------|--------------------------------|
| 1. Salaries | 5. Other Direct Cost |
| 2. Consultants | 6. Equipment, Vehicle Material |
| 3. Travel & Transportation | 7. Reimbursement |
| 4. Allowance | 8. Per - Diem |

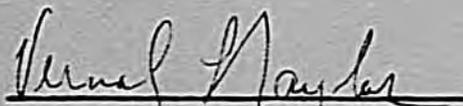
	A	B	C	D	E	F	G	H	I
DATE	BAL. FORWARD (KWACHA)	DEPOSIT (US. \$)	EXCHANGE RATE (US. TO K)	GAIN IN (KWACHA)	TOTAL (A+B+D) (KWACHA)	LESS PAYMENT (KWACHA)	BAL (KWACHA)	EXPI CODE	CHEQUE NO.
01/11/85	5710.20	-	-	-	5710.20	52.00	5658.20	5	136791
07/11/85	5658.20	-	-	-	5658.20	69.21	5588.99	5	136792
07/11/85	5588.99	-	-	-	5588.99	18.00	5570.99	7	136793
08/11/85	5570.99	-	-	-	5570.99	140.82	5430.17	7	136795
11/11/85	5430.17	-	-	-	5430.17	60.67	5369.50	5	136796
12/11/85	5369.50	-	-	-	5369.50	298.83	5070.67	5	136797
13/11/85	5070.67	-	-	-	5070.67	182.97	4887.70	5	136799
15/11/85	4887.70	-	-	-	4887.70	1014.70	3873.00	5	136800
18/11/85	3873.00	-	-	-	3873.00	27.50	3845.50	5	243301
22/11/85	3845.50	-	-	-	3845.50	52.00	3793.50	5	243302
22/11/85	3793.50	-	-	-	3793.50	4.50	3789.00	5	243303
25/11/85	3789.00	-	-	-	3789.00	325.50	3463.50	1	243304
25/11/85	3463.50	-	-	-	3463.50	33.15	3430.35	1	243305
26/11/85	3430.35	-	-	-	3430.35	337.00	3093.35	5	243306

Kennel Maylor
 CHIEF OF PARTY

CODE

- | | |
|----------------------------|-----------------------------------|
| 1. Salaries | 5. Other Direct Cost |
| 2. Consultants | 6. Equipment, Vehicle
Material |
| 3. Travel & Transportation | 7. Reimbursement |
| 4. Allowance | 8. Per - Diem |

	A	B	C	D	E	F	G	H	I
DATE	BAL. FORWARD (KWACHA)	DEPOSIT (US. \$)	EXCHANGE RATE (US. TO K)	GAIN IN (KWACHA)	TOTAL (A+B+D) (KWACHA)	LESS PAYMENT (KWACHA)	BAL (KWACHA)	EXPI CODE	CHEQUE NO.
29/11/85	3093.35	-	-	-	3093.35	434.75	2658.60	5	243307
29/11/85	2658.60	-	-	-	2658.60	216.20	2442.40	5	243308
29/11/85	2442.40	-	-	-	2442.40	226.06	2216.34	5	243310
29/11/85	2216.34	2749.69	.6037	1805.03	6770.06	23.23	6747.83		Bank Charges
06/12/85	6747.83	-	-	-	6747.83	19.11	6728.72	5	243309
16/12/85	6728.72	-	-	-	6728.72	32.20	6686.52	6	243311
17/12/85	6686.52	-	-	-	6686.52	389.24	6297.28	5	243312
19/12/85	6297.28	-	-	-	6297.28	52.00	6245.28	5	243317
19/12/85	6245.28	-	-	-	6245.28	129.46	6115.82	5	243318
20/12/85	6120.82	-	-	-	6120.82	325.50	5795.32	1	243313
23/12/85	5795.32	-	-	-	5795.32	40.00	5755.32	1	243316


 CHIEF OF PARTY

CODE

- | | |
|----------------------------|-----------------------------------|
| 1. Salaries | 5. Other Direct Cost |
| 2. Consultants | 6. Equipment, Vehicle
Material |
| 3. Travel & Transportation | 7. Reimbursement |
| 4. Allowance | 8. Per - Diem |