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THE POLYTECHNIC

ENGINEERING  
PROJECT  
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SECOND QUARTER  
REPORT APRIL 1, 1984 -  
JUNE 30, 1984

FLORIDA A&M UNIVERSITY

UNIVERSITY OF MALAWI - THE POLYTECHNIC  
FAMU/USAID POLYTECHNIC PROJECT

The Polytechnic  
P/Bag 303  
Chichiri  
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30th June, 1984

Mr. Sheldon W. Cole  
USAID Representative  
NICO House  
P.O. Box 30455  
Capital City  
LILONGWE 3

Dear Mr. Cole:

This second Quarter Progress Report - April 1, 1984 to June 30th, 1984 - reflects the activities of the FAMU/USAID Technical Assistance Team at the University of Malawi - The Polytechnic.

As you are aware, the Technical Assistance Team has just completed it's first academic year at The Polytechnic. Except for the setback in the target date for completion of the computerized Student Record Tracking System - caused by a delay in approval for Mr. Stephen Payne's visit to The Polytechnic - and the difficulty encountered in identifying suitable counterparts, we experienced no other unusual problems. Recently, permission was granted for Mr. Payne's visit, and counterparts have been assigned to each team member; therefore I am happy to report that - at this point - all phases of FAMU/USAID Polytechnic Project are underway and progressing in a timely manner.

I wish to express to you again, my sincere appreciation for your show of concern and support for the efforts here at the Polytechnic.

Sincerely



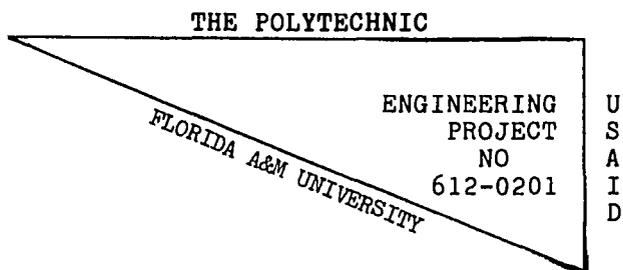
VERNAL L. TAYLOR  
CHIEF OF PARTY & INDUSTRIAL COUNSELOR  
FAMU/USAID POLYTECHNIC PROJECT

SECOND QUARTER REPORT

APRIL 1, 1984 - JUNE 30, 1984

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

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## 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 Second Quarter Report, and it principally covers the period April 1st through June 30th, 1984; Although some excerpts from the first quarter are included.

## II HIGHLIGHTS

Dr. Charles C. Kidd, Dean college of Engineering Science and Technology arrived in Malawi 20th June, 1984, and he remained through 28th June, 1984. While in the country he participated in several meetings with USAID Mission Representative and member of his staff, several meeting with FAMU/USAID Technical Assistance Team, a meeting with the Polytechnic Principal, and with the department heads for civil, electrical and mechanical engineering. At the conclusion of his visit, it was determined that all phases of the contract were in progress and moving along in a timely manner. Therefore the Dean left the country very pleased with his findings.

Counterparts, all members of the FAMU/USAID Technical Assistance Team have been assigned counterparts. The majority of the team members will be working with several Malawian as counterparts instead of a single individual. The concept of multi - counterparts verses single provides additional assurance that special skills imparted by Team members will be perpetuated upon termination of contract.

The availability of Malawians who qualify for counterparts was found to be scarce, but with diligence on the parts of the Polytechnic's Principal, and the individual team members, a satisfactory solution was reached.

Recommended Equipment List Completed - Through close cooperation with department heads and engineering faculty, the Technical Assistance Team Members have drawn up a list of additional laboratory equipment deemed necessary to strengthen the Polytechnic's efforts in engineering. The list is being forwarded to the Dean of Engineering who in turn will review, and discuss it further with the Principal and COP. A formal request - by the Principal and COP - will be made to USAID Mission Representative for his consideration. The Technical Assistance Team is looking forward to the purchase of additional equipment so that counterparts and students will have opportunities to benefit from their knowledge and experiences gained through previous work with such equipment.

Training and Job Analysis Survey The first part of survey is nearing completion. Thus far good responses have been received from the participating firms. Like all such surveys, this one requires a considerable amount of time and efforts of all parties concerned. A second part of the survey will be underway soon. The second part will seek feedback from Polytechnic graduates.

The data discovered should prove helpful to department heads, Industrial Counselor, and the administration.

### III UPCOMING ACTIVITIES

Dr. Walter L Smith, President of Florida A&M University has been extended a formal invitation by the Principal to Visit the University of Malawi. The President has accepted the invitation, and he has plans to depart from U.S for Malawi late in July 1984 or early August 1984. Because of Florida A&M University's strong interest for international programs in developing countries, it is most likely that President Smith will seek ways and means to further establish linkages between the University of Malawi, Florida A&M University and State University System of Florida.

Professor To Join FAMU/USAID Technical Assistance Team, -  
Dr. Ernest Erickson, - Professor of Electrical Engineering at the University of Central Florida will replace Professor Barrett Hazeltine who will be returning to Brown University at the close of this academic year. Professor Erickson has visited Malawi before, and as a result he and his wife will be rejoining friends.

### IV TECHNICAL ASSISTANCE TEAM ACTIVITIES

This section gives a progress report - in the words of each team member - about the extent to which each is carrying out his Contracted Assignments. The reports follow:

Professor Ajit S. Gill, Professor in Civil Engineering.

Professor Barrett Hazeltine, Professor in Electrical Engineering and Management.

Professor Cornel J. Rigby, Professor in Mechanical Engineering .

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

M E M O

TO: Mr. V. L. Taylor,                      DATE: 27th June, 1984  
Chief of Party

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

SUB: SEMI ANNUAL REPORT

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This memorandum furnishes the Semi Annual Report for the period January to June, 1984 outlining my major activities during this period as member of the FAMU/USAID Technical Team at the Polytechnic.

1.0 GENERAL

This Report includes assential elements of my First Quarter Report for the period January to March, 1984 furnished vide my memorandum of March 26th. In addition, it includes report of activities during the second quarter of the current year.

Particular attention was given throughout the period under review towards fulfilling the objectives of the FAMU/USAID Project. The following elaborates the specific efforts made towards that end.

## 2.0 PROJECT OBJECTIVES AND PROGRESS

### 2.1 Teach Assigned Courses

Following courses were assigned to me during the academic year 1983 - 84.

- i. Transportation for D6 students
- ii. 50 per cent of Construction Technology course (Surveying part) for D2 students
- iii. 50 per cent of Vocational Studies course (Highways part) for D3 students
- iv. 25 per cent of Construction Technology course (Geology part) for D5 students.
- v. In January, 1984 Instruction of one half of the remainder of the Geotechnics course was added on to my teaching schedule. This involved classroom teaching for two hours per week out of a total of four hours of instruction per week in this course.

Upon going through the Geotechnics course content already covered, it was my conclusion that additional instruction in laboratory testing of soils was desirable. Accordingly, with the concurrence of the Head of the Department of Civil Engineering, I held nine two - hour laboratory sessions with the students to broadly cover the techniques of laboratory testing of soils. Mr. J. Bundred, the instructor in charge of this course since the start of the current academic year,

also participated in part of this additional instruction.

- vi. A three week course of Engineering Project for D5C (four hours per week) was handled by me during March.

Some innovations in instructions of the assigned courses were introduced by me. These are listed below:

- Content of course Transportation for D6C was revised. A new text book for this course for the year 1984 - 85 has been recommended. In addition, some publications of the U.S. Asphalt Institute which are not available in this country, have already been secured through USAID funds and these would be used in instruction during the 1984 - 85 academic year and made available to the students.
- Some relevant instructional material comprised of publications of the Geological Survey Department of the Government of Malawi were purchased with USAID funds and used in instruction of the Geology course (part of Construction Technology course) for D5C students.
- The Highway part of the Vocational Studies course for D3C had no prescribed course outline. A course outline was prepared and followed in instruction.

- A new text book for Surveying for D2 has been recommended for the year 1984 - 85.
- Introduced use of USAID supplied Micro computer in Geotechnics D6C course. Some software for civil engineering applications was ordered through the USAID Project. Part of this has since been received. It is intended to incorporate use of this software in instruction in order to enhance the utility of the USAID supplied hardware.

As instances of my increased involvement in instructional activities, I would like to mention the following:

- i. Upon an invitation by the Department of Mechanical Engineering of the Polytechnic, I was on the panel of examiners for one D6M Technical Project oral this month.
- ii. As part of D6 course requirements, a student is required to write a Technical Project on a subject of his choosing. Usually faculty members suggest suitable topics for Technical Projects, although each student is free to choose one for himself. Of a total of six students who would commence their final year (D6C) in September 1984, two have indicated their intention to choose the topics suggested by me. Consequently, it is expected that they would both work under my supervision during the next academic year.

111. Upon invitation, I attended on June 27th a meeting of the Senate of the University of Malawi. The meeting was chaired by the Vice Chancellor and attended, amongst others, by the Principals of all the constituent colleges of the University of Malawi.

## 2.2 Recommendation for Purchase of Industrial Materials

A list of laboratory equipment to be purchased with USAID funds was prepared by Dr. Balfour, Head of the Civil Engineering Department. I collaborated with him in preparation of this list which was finalized and submitted to Chief of Party of the FAMU/USAID Project.

## 2.3 Make Recommendations for Degree Syllabus

At the commencement of the USAID Technical Assistance Project, it was envisioned that each Technical Assistance Team Member would work with his respective Department Head to assess the syllabus of the present degree course and furnish recommendations for its revisions. It appears that under the existing circumstances the best course in this regard is for the Technical Assistance Team Member to work within the system and be instrumental in initiating and and/or recommending changes to make the instructional program more responsive to the country's needs. Towards this end, I have actively participated in studies recently carried out within the Department of Civil Engineering for proposed changes in the Diploma and Degree Programs.

There may be some difficulty in getting the recommendations given effect to in the near future.

Independently of my participation in deliberations mentioned above, I am currently working with other members of the FAMU/USAID team to come up with some recommendations for revision of the course syllabi and these would be furnished in due course.

#### 2.4 In Service Training to Teaching Assistants

Designation of Mr. L. Chikoko, Laboratory Assistant in the Department of Civil Engineering, as a counterpart to receive training from me was approved by the Principal of the Polytechnic by his letter of 2nd May, 1984. This followed a recommendation made to this effect by me and supported by the Chief of Party. A program to train Mr. Chikoko in advanced techniques of soil testing is currently underway. Depending upon availability of supplies, it is intended to fabricate some soils laboratory equipment to supplement the considerable equipment that already exists.

#### 3.0 CLOSURE

With the instruction for the academic year 1983 - 84 having by now come to a close as also the final examinations and assessment there of, all the objectives of the FAMU/USAID Program upto this date have been accomplished. The only possible exception is the delay in furnishing of recommendations for changes in the curriculum. As mentioned

in the preceding section there have been some unforeseeable difficulty in it, this objective would no doubt be accomplished although at a later date.

The academic year 1983 - 84 has been for us one of challenges and fulfillment thereof. It is anticipated that this would continue to be so during the rest of the contract period of the FAMU/USAID team.

PROGRESS REPORT

JUNE 29, 1984

B. HAZELTINE

RESPONSIBILITY:

Teaching 5th year Electronic Circuits Course. Attached are the final examination (section B is relevant) and five laboratory exercises completed. I taught this subject for the entire year. The class size was seven. I revised the syllabus to include more digital electronics.

Teaching Industrial Studies for 4th year and the Electrical and Mechanical students in the 5th year. Attached are 14 case studies written this year and used in these courses and for the 5th year Business Studies. Several other cases written in the U.S were modified to be applicable in the Malawi context. Of the 14 cases written this year 8 were based on interviews with Malawian Managers.

In the 5th year course the students did an extensive assignment using MULTIPLAN, a spread sheet program, on the DEC computers. The assignment sheet for this exercise is attached. The purposes of the exercise were: 1) To demonstrate how modern computer software can aid in decision making and 2) to show the interaction of costs and revenues in management problem. Use of MULTIPLAN was demonstrated to the 4th

year students. The number of students in the 5th year was seven and in 4th year was 20.

Teaching 3rd year Electrical Engineering. I did the tutorials for the electrical and Civil students, 15 and 28 students respectively.

Project Supervision. I supervised two final year projects-"Point on Wave Switch" and "DC Motor Control Using AIM 65 Microprocessor". Copies of these projects are attached. I supervised five 3rd year projects. The titles were:

Linear Ohmmeter

Electronic Thermometer

Simple Radio Using an Integrated Circuit

Light Operated Switch Controlling a Light Flasher

Sound Synthesizer

I supervised one 3rd year Business Studies project - "Mandala Rubber Plantation."

Teaching in Management Department. I taught the final year undergraduate course - "Management Practice." I used some of the cases included and other cases written during my previous stay at the Polytechnic. The number of students was 24. I also taught "Quantitative Techniques" in the Post-graduate Diploma in Management program to 14 students. I taught in nine short courses for practicing engineers and managements and before

leaving will teach in three others, two of which I will take a lead in developing. The titles of these courses are: "Computers" and "Factory and Productions Management." The nine already existing short courses dealt with various aspects of management. The participants were normally people who had completed their formal education several years ago or who had received only small amount of formal education. The participants were just now moving into management positions as they move up in their organization management skills are needed for them to succeed in their new responsibilities. I will also teach in a course given at the Blantyre Water Board, for their engineering staff, developing their management skills. A lecturer in Mechanical Engineering and myself will teach a new course on Factory and Production Management. Malawian industry is to a great extent processing of agricultural products. Our course will help the managers of these factories in their planning, scheduling, leadership, and so forth. The course is especially important because localization of jobs has brought Malawian engineers into positions for which they were not formally trained. Attached are the outline of the course and a portions of the notes I have written. These notes will be used when the course is given in future years. Finally, Mrs Hazeltine and

I will teach an introductory computer course which has been oversubscribed, showing the large need for such a course. Computers have been used in several of these courses.

Curricula: I serve on the "Working Party to Review the Diploma/Degree" and have convened two subcommittees of that group. I have contributed to the revision of the engineering management syllabi and the electrical engineering syllabi. Attached is a memo describing the engineering management courses and minutes from a group I chaired beginning discussion of microprocessors. I participated in other discussions about electrical engineering courses.

Usefulness to Polytechnic: I am a co-editor of the revision of "Welcome to the Polytechnic - A guide for Newcomers."

Counterpart: With regard to counterparts, during June and July I am helping Welton Kunje, Staff Development Fellow in Electrical, to fill in gaps in his education so he will be in a better position to do graduate studies in the U.S. Mr. Kunje and I are reviewing electromagnetic field theory. Roy Kandonje, Technician in Electrical, and I are experimenting with various integrated circuits with the purpose of improving his background and possibly developing new laboratory exercises.

I am Internal Assessor for the MSC Thesis of a lecturer in Mathematics and Science - Geoffrey Matoga.

Research: I am studying the process of technology transfer, technology choice, and the interaction of the modern technological sphere with traditional technology. For this project I have interviewed about 25 managers of selected Malawian companies.

PROGRESS REPORT

JUNE 29, 1984

C. J. RIGBY

The major thrust of my activities during this reporting period has been involved in developing the mechanical engineering laboratories and improving/updating the diploma/degree curriculums. The Polytechnic was out of session during most of April for the Easter break; and during May the staff was involved in preparing for examinations which were given in June. As reported for last quarter, I was not given a teaching assignment and therefore remained outside of many of these activities. Below is listed a brief summary of my activities pursuant to my contractual responsibilities.

- A. Teach mechanical engineering courses both classroom and laboratory.

During this quarter I completed the grading of laboratory reports for D4/Fluid mechanics and Thermodynamics, D5/ Fluid mechanics and D5/Thermodynamics. These grades were transmitted to the department chairman on June 6.

The complications of the Mechanical Engineering Equipment list request for USAID funding occupied most of my time during April and was transmitted to the department chairman on May 18, 1984. This effort required communication with several staff members of the department and time consuming searches through many manufacturing catalogue throughout the

Polytechnic. A major problem was the lack of the appropriate U.S.A manufacturers catalogues. In fact I discovered one essential catalogue (Fisher Scientific Co.) in June; and based on this and other recently acquired information I am preparing an update to the equipment list request. I transmitted a letter to the department chairman on May 24, to clarify their confusion expressed during a May 23rd, department meeting concerning the valid of the USAID funding and the routing of this equipment list.

During April I made a thoroughly inventory of equipment in the Mechanical Engineering laboratories T1 and T2.

In June I was asked by the department chairman to make a preliminary and a detailed list of the status of the experiments with respect to laboratory sheets, development and commissioning of apparatus. The preliminary status list was transmitted on June 20 and I am still working on the detailed status of the experiments. This latter effort includes a list of suggested experiments for each apparatus and estimated man hours required to install, develop and commission each apparatus.

On May 4, I participated in a teaching methods seminar held at Bunda College near Lilongwe. This affair allowed me the opportunity to meet colleagues from other parts of the University of Malawi and to discuss common teaching problems and their suggested solutions.

On June 18, I attended a public seminar on the applications of microprocessor in industry; and on June 19, I participated in a workshop meeting on the teaching of microprocessors to engineering students. Both affairs were given by Dr. F. Arthur, Head of Electrical Engineering at the City of Birmingham Polytechnic (UK) and External Examiner to the Polytechnic in Malawi.

B. Counterpart

To Professor Harris, - Department Chairman - I have agreed to accept the responsibility for accessing, modifying, and/or developing the Mechanical Engineering laboratory experiments.

My counterpart, Mr. Nexon Ben has agreed to work with me on this task. In laboratory T2 there are about 30 sets of apparatus purchased since 1982 that require varying amounts of work in installation, development and commissioning. We are discussing how this can be done efficiently and expect to produce a Mechanical Engineering laboratory manual as a result of our efforts. We expect to formally begin work on or about July 9th.

C. Diploma/Degree Curriculum Improvement

I have been heavily involved in the activities of improving the diploma and degree curriculum since May at three levels of assemblies. I have studied the "Gray Report" - "Report on the visit of Curriculum Development Consultancy Team to

Malawi and advise on the setting up of a Degree course in Engineering at the University", dated April 1979, by Messers B. F. Gray, C. F. Field and R. F. Wills. This report by the U.K team set the basis for the present engineering diploma and degree programs at the Polytechnic. I obtained and studied relevant parts of the syllabus for courses D1 through D6.

In order to get first hand knowledge of the requirements of and the working environment of our graduates in industry, I made several plant visits. These visits included a visit on May 25, to the Plant and Vehicle site (GOM) in Blantyre, a visit to three firms on June 4, with the COP and Dr. A. Gill in Lilongwe, and a visit of the Tobacco Production Process Company in Blantyre with Dr. B Hazeltine on June 20. I plan to visit several other sites with the COP during this academic break.

As mentioned earlier I participated in three levels of meetings on diploma and degree curriculum improvement. This included several meetings at the department level since May, several meetings chaired by Dean Myers and several meetings chaired by the COP since early June. At the first two levels, the working group attempted to revamp the diploma curriculum and suggested more specialization in the degree program along the lines of civil, electrical and mechanical engineering. This effort was greatly criticized by the

review committee on June 20. The working party was redirected to strengthen the mathematics and science courses of the diploma and maintain a general degree program. I presented the new detailed objectives of this June 20, meeting to the COP chaired working party on June 29, for our parallel efforts at curriculum improvement.

REVIEW OF INDUSTRIAL COUNSELOR'S PROGRESS  
FIRST QUARTER

OUTPUTS	INDICATORS	ACTIVITIES
<p>1. Establish a guidance Counseling System which will help define where students should work when doing practical training.</p>	<p>1. File on all engineering students on computer. 2. File of all firms participating in Industrial Attachment Program.</p>	<p>The system is presently in operation - Academic records of engineering students are being filed on the computer. 90 firms have received the training and job analysis survey forms - the firms are filed on the computer - student counselling will begin after the survey is completed and data analyzed.</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>	<p>1. Computerized student record keeping system in operation.</p>	<p>This system has been completed except for very minor adjustments. The system satisfies the output requirements as stated for both students and graduates.</p>
<p>3. Service as Liaison Officer between the Polytechnic and the users of its output.</p>	<p>1. Record of Industrial visits, and communication linkage with firms.</p>	<p>The system is presently in progress - Industrial, Government and Private firms have been visited and will continue to be visited on a periodic basis.</p>

REVIEW OF THE INDUSTRIAL COUNSELOR'S PROGRESS  
FIRST QUARTER

OUTPUT	INDICATORS	ACTIVITIES
<p>4. Ensure that proper administrative action is taken to train a counterpart so that this staff position becomes a permanent.</p> <p>5. Provide Industry - related Counselling to engineering students and others.</p>	<ol style="list-style-type: none"> <li>1. Name of counterpart of file</li> <li>2. Counterpart communication linkage established with Counselor.</li> <li>3. Record of Counselor and counterparts visit to firms.</li> </ol> <ol style="list-style-type: none"> <li>1. Record of Counselor - Counsellees conferences</li> <li>2. Record of communication with students (forms letters, etc)</li> </ol>	<p>The selection of a counterpart has not taken place. Since it is highly improbable that a fulltime staff position will be provided, the Industrial Counselor is in the process of identifying, and recommending an individual who could work on a part time basis.</p> <p>This part of the Counselor's assignment will be initiated after collection and analysis of Training and Job Analysis Survey Forms results.</p>
<p>6. Establish and maintain contact with public, Governmental and Private Sector 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"> <li>1. Preview of firms manpower needs on hand.</li> <li>2. Copies of students applications for job on hand.</li> <li>3. Copies of students applications for Industrial Attachment experiences.</li> <li>4. Letters of inquire.</li> </ol>	<p>Thus far 90 survey forms have been sent out to Governmental, Private Sectors, and Industrial firms. Approximately has been returned.</p> <p>All necessary forms have been designed and reproduced;but the process of distributing and compling applications has not been initiated.</p> <p>The Industrial Counselor has qualified for, and recent became a full member in the Malawi Group of Professional Engineers.</p>

JUNE 29 INDUSTRIAL COUNSELOR'S PROGRESS REPORT

SECOND QUARTER

OBJECTIVES	INDICATORS	ACTIVITIES
<p>1. Establish a Guidance Counseling System which will help define where students should work when doing practical training.</p>	<p>1. File on all engineering students on computer 2. File of all firms participating in Industrial Attachment Program. 3. Record of Counselling sessions with student.</p>	<p>Computerization of engineering students records is being delayed due to USAID Malawi refusal to approve Mr. Payne's visit to install additional software programs. - plans are to fully computerized all data on students and graduates. Returned forms are indicating locations and needs for student on Industrial Attachment</p>
<p>2. Establish 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>	<p>1. Computerized student record keeping system in operation.</p>	<p>There has been no further improvement on the system; mainly because of the delay caused by USAID Malawi decision not to approve of Mr. Payne's visit to the Polytechnic to install necessary software. This matter should be cleared soon</p>
<p>3. Service as Liaison Officer between the Polytechnic and the users of its output.</p>	<p>1. Record of Industrial visits, and communication linkage with firms.</p>	<p>The system is presently in progress- Industrial, Government and private firms have been visited, and will continue to be visited on a periodic basis.</p>

SECOND QUARTER

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"><li>1. Name of counterpart of file</li><li>2. Counterpart communication linkage established with Counselor.</li><li>3. Record of Counselor and counterparts visit to firms.</li></ol>	The selection of counterparts has been complete - 4 faculty members of the Polytechnic have been assigned to counterpart with the Industrial Counselor instead of one. This arrangement should prove functional and provide the necessary continuity.
5. Provide Industry - related Counselling to engineering students and others.	<ol style="list-style-type: none"><li>1. Record of Counselor - Counselees conferences</li><li>2. Record of communication with students (forms letters, etc)</li></ol>	This part of the counselor's assignment has begun, but only on a small scale - returns from the Training and Job Analysis Survey are yet coming in - therefore - data collection is not completed. The majority of counseling has been to engineering graduates.

SECOND QUARTER

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"><li>1. Preview of firms manpower needs on hand.</li><li>2. Copies of students applications for job on hand.</li><li>3. Copies of students applications for Industrial Attachment experience.</li><li>4. Letters of inquire</li></ol>	<p>Approximately 50 of the 90 Training and Job Analysis Survey Forms have been return from firms. The process is somewhat slow, as is the case for all such surveys. Further it takes quite abit of time - on the part of the respondant - to fill out the forms. We are pleased with the participation thus far.</p> <p>The establishment of an information bank which can be used to advise students and graduates of employment opportunities can only be realized after the survey is completed. However, some graduates did get counselling as to where the job appeared to be according to firms indications on the returns</p> <p>A follow - up study on Polytechnic Graduates will begin soon. The necessary survey forms are being prepared. Again, the information gained from this study will be passed on to department heads and the administration.</p>

## V OVERALL REVIEW AND ASSESSMENT

The Technical Assistance Team has just completed its first academic year at the University of Malawi's Polytechnic. It is a pleasure to note and report that while there were some signs of reservation on the parts of some where implementation of the contract is concerned, there were no apparent effort to block or impeded progress on any particular phase of the contract. Differences in opinions and in interpretations on various contract elements did exist but never a confrontation between parties. In each case workable solutions were achieved without any other individual or agencies becoming involved. We are pleased about the overall results of our efforts at the University Malawi's Polytechnic during this 1983 - 84 academic year. We experienced no unusual problem. The only real problem encountered during this academic year resulted from the temporary denial of Mr. Stephen Payne's visit to the Polytechnic. The matter has been cleared up, and a trip is now being rescheduled so that he can come and carry out the requested computer software service.

## VI RECOMMENDATIONS

1. That those FAMU/USAID Technical Assistance Team Members who are concerned with teaching and curriculum development continue working in the direction with the techniques presently employed. Thus far team members have been working very conscientiously with

have been working very conscientiously with counterparts, co-workers, and their respective department heads. Up to this point, contributions have been made primarily through modification, and up dating instructional materials. They have served on various committees - curriculum as well as others. There has been no known or apparent conflicts between the team members their co-workers, department head, or counterparts. The team members holds regular scheduled meetings for the purpose of assuring that objectives of the project is being met according to contract specifications.

2. That slight adjustments be made in plans for project implementation such that the above mentioned practiced techniques and the plan more closely coincide. Modifications are presently taking place through efforts on the part of the Team.
3. That USAID/MALAWI Refrain from the practice of releasing negative reports or communications on the welfare of the FAMU/Polytechnic Project without first notifying and consulting with the Principal and Chief of Party to determine accuracy in allocations. Thus far the project has experienced two such inaccurate, undocumented reports.

We believe that a recent action taken by the Mission Representative will eliminate the chances that this will happen again. Thanks to him for his keen observation and show of concern for harmony in our total efforts in Malawi.

VIII

FIELD EXPENDITURES

MALAWI FIELD EXPENDITURES

DATE	VENDOR	ITEM	PURPOSE	CO DE	AMOUNT MK	CHEQUE NO.
4/04/84	PETTY CASH	10 20t STAMPS FOR MAILING TO U.S.A		5	2.00	084564
4/04/84	MR. C.J. RIGBY	TRAVEL EXPENSES FROM U.S.A TO MALAWI		7	684.88	084578
5/04/84		DUTY AND AIRPORT CHARGES AMI		5	109.80	084579
12/04/84		PETTY CASH		5	100.00	084580
15/04/84		CAPITAL HOTEL MR. RIGBY, MR. TAYLOR & DRIVER		5	180.67	084581
18/04/84		S & K STEEL FURNITURE PART PAYMENT		5	666.00	084582
18/04/84		PREPARATION OF REPORT COVERS		1	15.00	084583
19/04/84		MR. RIGBY PER DIEM		8	34.86	084584
19/04/84		MR. TAYLOR PER DIEM		8	46.84	084585
19/04/84		SECRETARY		1	187.00	084586
24/04/84		AMI RENNIE PRESS		5	107.00	084587
27/04/84		R.G. MUSSA MR. RIGBY'S DOUBLE BED		5	139.00	084588
27/04/84		CITY MOTORS LTD REPAIR OF THE CAR		6	954.14	084590
30/04/84		FOR USAID DEPART ON ROOM FOR MR. STACY		5	12.00	084591
02/05/84		MR. TAYLOR PER DIEM		8	23.68	084592
03/05/84		UNIVERSITY OF MALAWI POLYTECHNIC BULBS FOR MR. RIGBY AND MR. TAYLOR		5	4.20	084593
03/05/84		MALAWI POST OFFICE TELEPHONE BILL		5	490.30	084594
04/05/84		STATIONARY OFFICE SUPPLIES		5	16.89	084595
04/05/84		GESTETNER OFFICE SUPPLIES		5	43.20	084596
04/05/84		MRS MARY FRANCES HAZELTINE CONSULTANCY		1	676.00	084597
07/05/84		BLANTYRE WATER BOARD/WATER BILL FOR 3 HOMES		5	60.06	084598
11/05/84		HOGG ROBINSON INSURANCE FOR CAR		6	1451.92	123601
15/05/84		MALAWI POST OFFICE TELEPHONE BILL		5	813.00	123602

MALAWI FIELD EXPENDITURES

DATE	VENDOR	ITME	PURPOSE	CO DE	AMOUNT MK	CHEQUI NO.
15/05/84	ELECTRICITY BILLS			5	268.96	123601
17/05/84	GASKEILS CONTRACT SERVICE			5	580.00	123601
17/05/84	STATIONARY		OFFICE SUPPLIES	5	19.35	123601
17/05/84	PROF. HAZELTINE		ELECTRICAL PARTS	5	59.34	123601
22/05/84	BLANTYRE WATER BOARD		WATER BILL	5	104.49	123601
23/05/84	MALAWI BOOK SERVICE		OFFICE SUPPLIES	5	10.42	123601
23/05/84	MALAWI POST OFFICE STAMPS			5	17.00	123610
24/05/84	DR. A.S. GILL REIMBURSEMENT			7	34.50	123611
25/05/84	SECRETARY			1	187.00	123611
29/05/84	EVERGLO ELECTRIC CO.		REPAIR OF FREEZERS	5	113.34	123611
29/05/84	ELECTRICITY BILL			5	277.34	123611
30/05/84	DR. GILL REIMBURSEMENT			7	23.90	123611
30/05/84	BLANTYRE WATER BOARD/WATER BILL			5	34.24	123610
31/05/84	STATIONARY OFFICE SUPPLIES			5	22.33	123611
01/06/84	MR. RIGBY PER DIEM			8	122.00	123611
01/06/84	MR TAYLOR PER DIEM			8	122.00	123611
01/06/84	DR. GILL PER DIEM			8	122.00	123620
01/06/84	UNIVERSITY OF MALAWI POLYTECHNIC FOR FUEL, AND STATIONARY			7	231.59	123621
07/06/84	S & K STEEL FURNITURE		BALANCE ON FURNITURE	5	666.00	123621
07/06/84	STATIONARY OFFICE SUPPLIES			5	7.89	123621
08/06/84	FREIGHTAIR MANICA MRS GILL		CAR BOND FEE	6	25.00	123621
11/06/84	AMI RENNIE PRESS		CLEARANCE FOR DR. GILL'S CAR	6	70.26	123621
13/06/84	BLANTYRE WATER BOARD FOR A.S. GILL			5	22.97	123621
13/06/84	MR. RIGBY S & K STEEL FURNITURE		OFFICE DESK	5	213.75	123621

MALAWI FIELD EXPENDITURES

DATE	VENDOR	ITEM	PURPOSE	CO DE	AMOUNT MK	CHEQUE NO.
14/06/84	GASKELLS LTD	1 BOTTLE TONER FOR COPIA 1000		5	52.92	123628
15/06/84	MR. TAYLOR	REIMBURSEMENT FOR DRIVER EXPENSES		7	33.16	123629
15/06/84	GASKELLS LTD	1 PHOTOCODUCTOR MASTER FOR COPIA 1000		5	575.00	123630
26/06/84	SECRETARY			1	187.00	123631
26/06/84	MR. TAYLOR	PER DIEM		8	223.44	123632
27/06/84	AIR MALAWI	FOR DEAN KIDD PER DIEM FOR TRAVEL		8	233.00	123633
29/06/84	SOCHE TOURS	AND TRAVEL PER DIEM		8	107.00	123634

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	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.
04/04/84	9638.88	-	-	-	9638.88	2.00	9636.88	5	084564
04/04/84	9636.88	-	-	-	9636.88	684.88	8952.00	7	084578
05/04/84	8952.00	-	-	-	8952.00	109.80	8842.20	5	084579
12/04/84	8842.20	-	-	-	8842.20	100.00	8742.20	5	084580
15/04/84	8742.20	-	-	-	8742.20	180.67	8561.53	8	084581
18/04/84	8561.53	-	-	-	8561.53	666.00	7895.53	5	084582
18/04/84	7895.53	-	-	-	7895.53	15.00	7880.53	1	084583
19/04/84	7880.53	-	-	-	7880.53	34.86	7845.67	8	084584
19/04/84	7845.67	-	-	-	7845.67	46.84	7798.83	8	084585
19/04/84	7798.83	-	-	-	7798.83	187.00	7611.83	1	084586
24/04/84	7611.83	-	-	-	7611.83	107.00	7504.83	8	084587
27/04/84	7504.83	-	-	-	7504.83	139.00	7365.83	5	084588
27/04/84	7365.83	-	-	-	7365.83	954.14	6411.69	6	084590
30/04/84	6411.69	-	-	-	6411.69	12.00	6399.69	5	084591

Vernel Maylor

CODE

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|----------------------------|-----------------------------------|
| 1. Salaries                | 5. Other Direct Cost              |
| 2. Consultants             | 6. Equipment, Vehicle<br>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.
02/05/84	6399.69	-	-	-	6399.69	23.68	6376.01	8	084592
03/05/84	6376.01	-	-	-	6376.01	4.20	6371.81	5	084593
03/05/84	6371.81	-	-	-	6371.81	490.30	5881.51	5	084594
04/05/84	5881.51	-	-	-	5881.51	16.89	5864.62	5	084595
04/05/84	5864.62	-	-	-	5864.62	43.20	5821.42	5	084596
04/05/84	5821.42	-	-	-	5821.42	676.00	5145.42	1	084597
07/05/84	5145.42	-	-	-	5145.42	60.06	5085.36	5	084598
08/05/84	5085.36	4676.60	.7486	1570.52	11332.48				
08/05/84	11332.48	-	-	-	11332.48	25.43	11307.05		Bank Charges
11/05/84	11307.05	-	-	-	11307.05	1451.92	9855.13	6	123601
15/05/84	9855.13	-	-	-	9855.13	813.95	9041.18	5	123602
15/05/84	9041.18	-	-	-	9041.18	268.96	8772.22	5	123603
17/05/84	8772.22	-	-	-	8772.22	580.00	8192.22	5	123604
17/05/84	8192.22	-	-	-	8192.22	19.35	8172.87	5	123605

Vernon Taylor

CODE

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|----------------------------|-----------------------------------|
| 1. Salaries                | 5. Other Direct Cost              |
| 2. Consultants             | 6. Equipment, Vehicle<br>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.
17/05/84	8172.87	-	-	-	8172.87	59.34	8113.53	5	123606
22/05/84	8113.53	-	-	-	8113.53	104.49	8009.04	5	123607
23/05/84	8009.04	-	-	-	8009.04	10.42	7998.62	5	123609
23/05/84	7998.62	-	-	-	7998.62	17.00	7981.62	5	123610
24/05/84	7981.62	-	-	-	7981.62	34.50	7947.12	7	123611
25/05/84	7947.12	-	-	-	7947.12	187.00	7760.12	1	123612
29/05/84	7760.12	-	-	-	7760.12	113.34	7646.78	6	123613
29/05/84	7646.78	-	-	-	7646.78	277.34	7369.44	5	123614
30/05/84	7369.44	-	-	-	7369.44	23.90	7345.54	7	123615
30/05/84	7345.54	-	-	-	7345.54	34.24	7311.30	5	123616
31/05/84	7311.30	-	-	-	7311.30	22.33	7288.97	5	123617
01/06/84	7288.97	-	-	-	7288.97	122.00	7166.97	8	123618
01/06/84	7166.97	-	-	-	7166.97	122.00	7044.97	8	123619
01/06/84	7044.97	-	-	-	7044.97	122.00	6922.97	8	123620

*Vernon Maylor*

CODE

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

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	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.
01/06/84	6922.97	-	-	-	6922.97	231.59	6691.38	7	123621
07/06/84	6691.38	-	-	-	6691.38	666.00	6025.38	5	123622
07/06/84	6025.38	-	-	-	6025.38	7.89	6017.49	5	123623
07/06/84	6017.49	K493.50	-	-	6510.99				
08/06/84	6510.99	-	-	-	6510.99	25.00	6485.99	6	123624
11/06/84	6485.99	-	-	-	6485.99	70.26	6415.73	6	123625
13/06/84	6415.73	-	-	-	6415.73	22.97	6392.76	5	123626
13/06/84	6392.76	-	-	-	6392.76	213.75	6179.01	5	123627
14/06/84	6179.01	-	-	-	6179.01	52.92	6126.09	5	123628
15/06/84	6126.09	-	-	-	6126.09	33.16	6092.93	7	123629
15/06/84	6092.93	-	-	-	6092.93	575.00	5517.93	5	123630
26/06/84	5517.93	-	-	-	5517.93	187.00	5330.93	1	123631
26/06/84	5330.93	-	-	-	5330.93	223.44	5107.49	8	123632
27/06/84	5107.49	-	-	-	5107.49	233.00	4874.49	8	123633
29/06/84	4874.49	-	-	-	4874.49	107.00	4767.49	8	123634

*Jurnal Maylor*

CODE

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