PDAAR072

IRN: 39353

THE POLYTECHNIC

FLORIDA A&M UNIVERSITY

ENGINEERING
PROJECT
NO
612-0201

USAID

FIRST QUARTER REPORT
JANUARY 1, 1985 -
MARCH 31, 1985

UNIVERSITY OF MALAWI - THE POLYTECHNIC
FAMU/USAID POLYTECHNIC PROJECT

The Polytechnic
P/Bag 303
Chichiri
BLANTYRE 3

1st January, 1985

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

Dear Mr. Cole:

This First Quarter Progress Report - January 1, 1985 to March 31, 1985 - reflects the activities of the FAMU/USAID Technical Assistance Team at the University of Malawi - The Polytechnic.

Technical Assistance Team Members are continuing with those teaching responsibilities that were assigned during the first part of the academic year; - as indicated in the Fourth Quarter Report, 1984. The Industrial Career Counselor's assignments are progressing in a satisfactorily manner; with several major phases already completed, or are being implemented. While counterparting is yet a weak link in the overall effort of the Team, each Team Member continue to make the best of the situation.

Progress on the FAMU/USAID Procurement Contract is moving in a timely manner. Several lists have been completed and are being sent back to the Polytechnic for review prior to presentation for bids. Therefore, I am happy to report that elements of both the Procurement and Technical Assistance Contracts are progressing in a timely manner.

Cont/

Mr. Sheldon W. Cole
USAID Representative

Thanks again for the support you and your staff are giving to our efforts here at the Polytechnic.

Sincerely

Vernal Taylor

VERNAL L. TAYLOR
CHIEF OF PARTY & INDUSTRIAL COUNSELOR

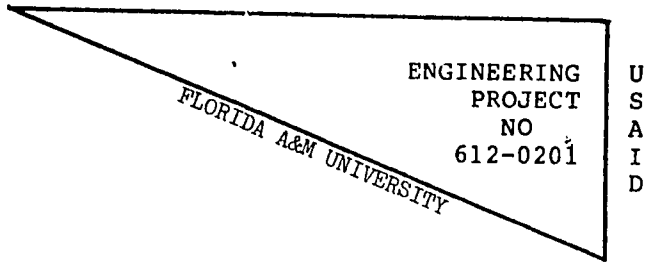
FIRST QUARTER REPORT

JANUARY 1, 1985 - MARCH 31, 1985

CONTRACT NO AFR 021 C 00 3014 00

UNIVERSITY OF MALAWI ENGINEERING PROGRAM

THE POLYTECHNIC



COLLEGE OF ENGINEERING SCIENCE & TECHNOLOGY

FLORIDA A&M UNIVERSITY

THE UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

TABLE OF CONTENTS

		PAGE NO.
I	INTRODUCTION	1
II	HIGHLIGHTS	2
	Vice Principal to Visit U.S.A	2
	President Statisfied with Progress	3
	Procurement Contract Settled	4
	Consultancy	4
	Mr. James McCloud	4
	Dr. Nicholas Gaymon	5
	Training and Job Analysis Survey Data Compilation Completed	5
	Polytechnic Computerized Student Record Keeping Reality	6
III	TECHNICAL ASSISTANCE TEAM ACTIVITIES	7
	Industrial Counselor	8-11
	Electrical Engineering	12-14
	Mechanical Engineering	15-18
	Civil Engineering	19-23
IV	RECOMMENDATION	24
V	FIELD EXPENDITURES	25
VI	ACCOUNTS	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 First Quarter Report, and it principally covers the period January 1, through March 31st, 1985.

II HIGHLIGHTS

Vice Principal To Visit U.S.A

Approval has been granted by USAID/Malawi for the Vice Principal of the Polytechnic to visit Florida A&M University and other Universities of State University System of Florida that are located in the Tallahassee area.

Dr. L. G. M. Mhango is Vice Principal, and Head of the Department of Science and Mathematics. He has a strong background in both science and engineering. It was determined that since USAID is presently investing heavly in the purchase of facilities and equipment for both science and engineering, that it would be good and proper to have an individual of Dr. Mhango's status to visit some U.S Universities that are established and have on-going programs. Therefore, some of the concerns of Dr. Mhango while on his visit will be to:

1. Serve as resource person on behalf of the Polytechnic; where questions may arise concerning the on-going procurement efforts at FAMU.
2. Talk with the various faculties of engineering and sciences.
3. Observe laboratories and facilities lay-outs; particularly, for computers, engineering, and sciences.

4. Observe curricula structures and teaching methods.
5. participate in the commencement exercises.
6. Seek out possible means of strengthening the linkage between the University of Malawi - The Polytechnic and Florida A&M University.

We are pleased that this visit has been granted to Dr. Mhango, because we feel that it will inhanse the overall efforts of the FAMU/USAID Technical Assistance Team. The Trip is planned for 19th April, 1985. The visit spreads over a period of approximately 10 days.

President Satisfied with Progress - Dr. Walter L. Smith, the President of Florida A&M University (FAMU) in Tallahassee Florida, on March 8, 1985 expressed satisfaction with the progress of the FAMU/USAID Polytechnic engineering project in Blantyre. Dr. Smith discussed with University Officials the educational relationship between the two Universities, reviewed progress of the engineering project, and the construction of the new facilities for the Polytechnic. During his nine-day stay in the country, Dr. Smith met and held warm discussions with the Technical Assistance Team, the Polytechnic's administration, engineering department heads, and degree seeking Student Body. He met with the Vice Chancellor, and some of his staff. He also met with USAID Representative and his Program Officer, the US Ambassador to

Malawi, and the USIS Official. President Smith was also given several tours some of which included an industrial firm, Zomba Plateau, Lake Malawi, Chancellor College and the Polytechnic engineering facilities. Invitation to the President to Visit Malawi was extended by the Principal of the Polytechnic Mr. A. V. Kambalametore.

Procurement Contract Settled - The FAMU/USAID Polytechnic Procurement Contract has been settled. Mr. David Garms, Program Officer, USAID/Malawi informed Chief of Party of the fact that FAMU's proposal for procurement had been accepted, and that the sum of $74,549.00 has been approved for service charge. There are approximately 1,200 items making up the total procurement package. The lists of the items are being computerized, and the last progress report indicated that the task is well underway.

Consultancy - Country clearances are being sought for two Florida A&M University Professors to visit the Polytechnic.

Mr. James McCloud, an electrical engineer and computer science specialist will work with Technical Assistance Team Members in their efforts to incorporate the use of microprocessors in engineering instruction and laboratories.

Dr. Nicholas Gaymon, FAMU Librarian will serve as consultant to the Polytechnic librarian as indicated:

1. Preparation of specification for selected library facilities.
2. Advise on layout of the Audio Visual Room in the new Library.
3. Advise on the future computerization of some of the library services as need arises.
4. Exploring ways as to how the Malawi Polytechnic Library can become a reviewing institution of American Books, as was suggested by Dr. Walter Smith.
5. Explore areas where Polytechnic's Library can establish linkage with Florida A&M University.
6. Ways Florida A&M University may provide the Polytechnic some books, as was suggested by Dr. Walter smith.

Training and Job Analysis Survey Data Compilation Completed

Dr. M. P. Gill has recently completed the analysis of the Training and Job Analysis Survey. The work was thoroughly done and it should provide a bank of information that will indicate a relevant profile for present and future engineering manpower needs; and the desired preparation of the Polytechnic's graduates who should fill those needs.

There are many other aspects of the findings which are too numerous to mention here. It will be a while before the complete report is typed, however, those comments from firms concerning graduates and curricula have been extracted, and are being prepared for release to those who are presently evaluating the curricula.

Polytechnic Computerized Student Record Keeping System a Reality

The Polytechnic has recently assigned a staff member to be responsible for computerizing and up keep of all student records.

Ms. Florence Gonani who received her word processing and other computer training under the FAMU/USAID Polytechnic Project is responsible for operation of the Digital Computer that was also purchased under FAMU/USAID contract for that specific purpose.

Initially the computer system was to be used only for engineering student but, the format being used accomodates all Polytechnic students. The specific information collected from students on Industrial Attachment and their respective supervisors are also being computerized for the first time.

III TECHNICAL ASSISTANCE TEAM ACTIVITIES

During the period January 1, 1985 through March 31, 1985, Technical Assistance Team Members continued teaching assignments that were distributed at the beginning of the academic year. Each course has a duration of one academic year.

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

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

Dr. Ernest E. Erickson, Professor of Electrical Engineering.

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

Dr. Ajit S. Gill, Professor of Civil Engineering.

VERNAL L. TAYLOR - INDUSTRIAL COUNSELOR

As indicated in the following semi-log from, the program for Industrial Counselling is well underway. Several major tasks have been completed and several other components are progressing satisfactorily.

REVIEW OF INDUSTRIAL COUNSELOR'S PROGRESS REPORT
FIRST QUARTER - JANUARY 1ST - MARCH 31ST, 1985

OUTPUTS	INDICATORS	ACTIVITIES
1. Establish a guidance Counselling System which will help define where students should work when doing practical training.	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.	Operation of this system has been initiated. The student's academic and Industrial Attachment experiences are being filed on the computer. The first evaluation on the effectiveness of the Industrial Attachment Programs has just been completed - 1984 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 student involved in Industrial Attachment experiences. Those unsual cases will warrent a follow-up conference by the Counsellor.
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.	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.	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 records are being computerized.
3. Service as Liason Officer between the Polytechnic and the users of its output.	1. Record of Industrial visits, and communication linkage with firms. 2. Evaluative remarks and/or reports-achieved through surveys, on file.	Operation of this program has been initiated, as indicated in the fourth quarter report, 1984. It is an on-going process. Evaluative remarks received through means of the Training and Job Analysis Survey have been compiled, and typed for distribution to the Principal and those who are concerned with curricula development.

FIRST QUARTER - JANUARY 1ST - MARCH 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.	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.	Four 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; however, this arrangement does not provide definately for a permanent position for an Industrial Counselor as stipulated in contract.
5. Provide Industry - related Counselling to engineering students and others.	1. Record of Counselor - Counsellees 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, but only on a small scale. Most of the counseling has been to engineering graduates. The mechanic is in place for providing this service.

FIRST QUARTER - JANUARY 1ST - MARCH 31ST, 1985

OUTPUT	INDICATOR	ACTIVITIES
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.	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 inquire.	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. The Counselling department is taking on increased responsibilities for providing placement service to both graduates and Industrial Attachment students. Preparation for follow-up study on 1984, 1985 is underway.

PROGRESS REPORT
1ST JANUARY - 31ST MARCH, 1985
DR. E. E. ERICKSON

A. TEACHING ELECTRICAL ENGINEERING COURSES

Assigned teaching in D5 - Electrical Technology (Electronics) and D6 - Electronics (Digital) was continued during this term. I was also assigned to teach TE4 - Instrumentation to 10 technicians students and TE5 - Signal Transmission to 17 advanced technician students. Mr. D. Sinclair took over the TE5 class in mid - February for the remainder of the academic year. There is good cooperation among the faculty of Electrical Engineering so arrangements were easily made for others to take my classes during my emergency leave from 14th February to 6th March.

I prepared and conducted a digital electronics experiment on sequential logic circuits for the D6 class. There was some problem in getting time in the laboratory due to so many others using the laboratory. This points to the need to regularly schedule laboratory time, preferably outside of lecture - class time, for each of the electrical engineering courses requiring laboratory. There is apparently no complete file of experiments in the laboratory. I propose to compile a number of digital electronic experiments for use by the teaching staff.

Another new experience was that I had to prepare final examination questions for D5 - Electronics and final examination questions with solutions for D6 - Digital Electronics to be moderated locally and in England for the examinations to be given in June.

B. DEVELOPING ELECTRICAL ENGINEERING CURRICULUM

An evaluation of the Electrical curriculum for the B. Sc. degree is underway. Syllabi for the pertinent courses in D4, D5 and D6 courses have been collected. Due to major changes made recently in the D1, D2 and D3 curricula, we will have to work with drafts of the new syllabi for these courses.

I was appointed to a university committee to review the thesis which was prepared by Mr. G. E. Matoga for the M.Sc. degree in Physics. After my review, I presented my comments in a brief written report to Mr. S. M. H. Nyirenda, Senior Assistant Registrar (academic) of the University of Malawi. Unfortunately, I was in U.S.A. at the time of the committee meeting.

C. TRAINING TEACHING ASSISTANTS

Mr. Charles Chipofya, a new instructor in the Electrical Engineering Department, was assigned as my counterpart. Mr. Chipofya has had training in West Germany in Electrical Engineering with major in electronics. He is currently

teaching Industrial Studies but is expected to teach electronics courses in the next academic year. We have had brief meetings and he observed two of my classes. He will be assisting me in writing and checking digital electronics laboratory experiments and we will be working together to revise the D5 and D6 Electrical Technology syllabi during the next quarter.

D. DIPLOMA CURRICULUM

I was appointed to the college of Engineering Curriculum Committee and attended two faculty meetings concerning the D1, D2 and D3 curriculum. The revised curriculum has now been approved by the College of Engineering Faculty. The dificulties in obtaining the new curriculum was primarily due to the fact that the curriculum must be common for the Diploma, the B. Sc. in Engineering, and now the B. Sc. in Technical Education, as well as the first year for the technician programs. The increase in the science content of the curriculum is a major improvement. It was reported that most of the course syllabi for the new curriculum are in final draft form.

1985 First Quarter Report of Progress of Professor Cornel J. Rigby, Mechanical Engineer, FAMU/USAID Polytechnic Technical Assistance Team Member

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

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

SUB: PROGRESS REPORT FOR THE PERIOD OF JANUARY 1, 1985 THROUGH MARCH 31, 1985

A. Teach Mechanical Engineering courses both classroom and laboratory.

The 2nd term of the school year began on January 7th and ended March 29th, which included 11 weeks of classroom instruction plus an exam week. During this reporting period I continued with classroom instruction and course development for two senior level courses:-

D6/Solid Mechanics (SM) and D6/Process Engineering (PE) - The course outlines took on more detailed shape along the guidelines listed in the last report (4th Quarter 1984).

Results from the first term examinations and course work show some modest overall improvement in grades from last term [38% improvements vs 25% who dropped in a grade level for a course while the remaining students maintained the same grade]. Again the grades ranged from "pass" (3 in a scale of 6) to "Near Distinctions" (5 in a scale of 6).

In addition to the teaching and course development activities mentioned above, I prepared examinations and solutions for D6/SM and D6/PE final examinations which are to be held in June. There was no planned laboratory experiments during this reporting period.

B. Provide In-Service Training to Mechanical Engineering Teachning Assistants.

I have continued assistance to Mr. Chawawa , my counterpart, on use of the computer as a teaching aid and for problem solving. We have spent several sessions together during this reporting period on the RAINBOW 100 computer provided by the contract.

Another Malawian joined the Mechanical Engineering Department in January 1985. He was originally assigned to assist me in teaching D6/Solid Mechanics, but he has been kept too busy doing other tasks for the Department. He has

however set one problem for the final examination in D6/SM that I was required to submit.

C. Assist in Developing a Relevant Curriculum Basic to Obtaining the B.Sc. and M.A. Degrees in Mechanical Engineering.

During this reporting period, I completed the revision of syllabuses for both D6/SM and D6/PE amd finished most of the developmental work for these courses.

I have collected and extracted materials from several sources of information that will enable the Team to set up guidelines for a continuing systematic curriculum development procedure.

A suggested list of text books was developed that is keyed to classroom use at the Polytechnic. The lack of text books is a major weakness at the Polytechnic. Students can only afford to buy a few of the many texts that are needed to carry on effective engineering instructions.

One remedy is to earmark some of the library books to be donated by USAID for a controlled text book reserve section. Then enough copies of required text books can be kept on reserve for student use for a number of years [until the text book list was updated]. For example, of the 9000 books to be purchased, we could provide for 25 students x 7

courses per year x a 6 year program. This requires a total of 1050 designated books out of 9000 which is a very good way to support our curriculum development efforts.

D. Recommend Practical Changes in the Current Curriculum for Diploma Candidates.

I have participated in several meetings of the Faculty of Engineering Curriculum Revision Committee during this reporting period. The focus has been on finalizing revisions of the D1 curriculum and obtaining a consensus on the D2 curriculum. One major issue is the inclusion of a D2 physics course to be taught by the Department of Mathematics and Science.

The Team has begun a process of evaluating the curriculum with emphasis on the various engineering, math and science courses.

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

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

SUB: QUARTERLY PROGRESS REPORT FOR PERIOD JANUARY - MARCH, 1985

This memorandum furnishes a Progress Report for the period January 1st to March 31st, 1985, towards meeting the objectives of the USAID Project at the Malawi Polytechnic.

1.0 GENERAL

Progress was maintained in all areas which have been defined as the objectives of the USAID. Particular details in this respect are furnished below.

2.0 PROJECT OBJECTIVES AND PROGRESS

2.1 Teach Assigned Courses

The courses assigned to me for teaching during the first term of the current academic year were reported by me in the last quarterly report, these being:

For D6C: i) Transportation, ii) Part Geotechnincs
iii) Hydraulics and Hydrology iv) Supervision over Research Projects for two students

For D2C: Surveying.

At the start of the 1984 - 85 academic year I had offered to take up teaching of Hydraulics and Hydrology until the arrival of Mr. A. Swan who had been offered an appointment in the Civil Engineering Department but who did not arrive during the first term. Consequent upon arrival of Mr. Swan in late January of this year, I gave up teaching of Hydraulics and Hydrology. In place, I took over teaching of Vocational Studies to D3C (2 hours per week) and Part Geology to D5C (2 hours per week). Consequently, my teaching load during the period under report was:

For D6C: 1. Transportation 2 hours per week

2. Part Geotechnics 2 hours per week

3. Supervision of Research Projects of two students

For D5C: Part Geology 2 hours per week

For D2 : Surveying 4 hours per week average

Some manuals published by the U.S. Asphalt Institute, and obtained through USAID funds, were loaned to D6C students for part coverage of the course in Transportation. These, not being available in Malawi, significantly benefitted the students.

I paid a visit to Lilongwe on March 7th and 8th, 1985, where I met Officials of Mininstry of Works and Supplies and discussed with them the major current road construction

and maintenance projects in Malawi, particular features of each, current design standards for roads and design innovations being pursued in Malawi (for instance, use of soil stabilized bases and types of soil stabilization being experimented upon). This overview of the working of the Roads Department was of considerable assistance to me in my instruction of the Transportation course to D6C. A copy of my report to the Chief of Party of my visit to Lilongwe is attached with this memorandum.

As part of the Research Projects of D6C students which I am supervising, two pieces of equipment were designed by me and got fabricated. One was a special mould for remoulded soil samples through the centre of which grout material of pre-determined thickness was introduced co-axial with the soil sample. A second piece of equipment was a vibrating stand for imparting vibrations to test samples of soil. The cost of fabrication of the vibrating stand was met through USAID funds.

2.2 Make Recommendations for Improving the Curricula for Diploma and Degree Programs

I attended frequent meetings of the Polytechnic Diploma Curriculum Review committee which has been working on changes in the Diploma curriculum. Besides, members of the Team separately discussed plans to pursue independently an assessment of the existing curricula of the Polytechnic. A

working paper prepared by me and Professor Hazeltine in July 1984, was discussed in this connection. This phase of work is likely to be accelerated at the end of the current academic year since my teaching load has been exceptionally heavy for the entire academic year to-date.

2.3 In - Service Training to Counterparts

Mr. Chikoko, laboratory technician in the Department of Civil Engineering has been designated a counterpart to me for in-service training. He was involved in the fabrication of moulds and vibrating stands mentioned in Section 2.1 above. Mr. Chikoko was introduced to some fine points of triaxial testing. He is already familiar with CBR tests which were carried out by D6C transportation class with his assistance.

There is a limitation in imparting of training to Mr. Chikoko of the calibre expected in the USAID Project Paper in that it is difficult, because of his background, to actually involve him in instruction of engineering courses. Nevertheless, Mr. Chikoko is a keen learner and is making a useful contribution towards strengthening the USAID Program objectives.

UNIVERSITY OF MALAWI - THE POLYTECHNIC
FAMU/USAID POLYTECHNIC PROJECT

TO: Mr. V L Taylor, COP

DATE: 25th March, 1985

FROM: A S Gill, FAMU/USAID Technical Assistance Team Member

SUB: REPORT ON VISIT TO LILONGWE

Following is a report of my visit to Lilongwe on March 7 and 8, 1985 to meet with officials of the Ministry of Works there.

1. I met Mr. Brian Jones Chief Road Design Engineer of Ministry of Works on March 8. I had discussions with him on applicable design standards in Malawi for flexible and rigid pavements, availability of Portland Cement and Bitumen for road construction and procedures currently employed for repairs and rehebilitation of pavements.

   Mr. Jones told me that the system of classification of roads into main Secondary and District was being standardized in co-operation with SADEC countries of Africa and that when the standards are finally adopted, these would facilitate inter - country movement of traffic and goods.

   The U.S. consulting firm of De Leuw, Cather and Company, Transportation Engineers, were working on this Project of standardization. In addition, this company has also been assigned the task of bringing up to date the Highway Design manual of the Malawi Ministry of Works. Mr. Jones kindly supplied me with a copy of the current edition of this manual.

   I was apprised of the performance of sand asphalt surfacing, cement stabilized and lime stabilized construction for roads in Malawi and the inherent problems in extensive adoption of these in road construction in Malawi.

2. I also availed during my trip of the apportunity to see Mr. Malima, Deputy Chief Engineer and Mr. Chisi, Controller of Roads both in the Ministry of Works and Supplies.

My visit was useful in acquainting me with the conditions particularly relevant to design of transportation systems in Malawi and I intend to make use of it in my instruction to D6C students in Transportation and Highway Engineering.

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 a team of American Engineering Educators visit the Polytechnic for the purpose of consulting with team members, and reviewing the individual and collective progress of the team. Such a team would consist of active members of the American Society for Engineering Education (ASEE). Each area of engineering, - civil, mechanical, electrical, and Industrial Counselling would be represented. An estimated figure of $22,000.00 should be adequate to provide for such a service.

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.

3. That plans begin for the mid-way-project evaluation. Because of the delayed and staggering beginning dates for each segment of the project, evaluation procedure as planned must have become more complicated.

V FIELD EXPENDITURES

FIELD ACCOUNT BY CODE

CHECK #	DATE	VENDOR	ITEM	PURPOSE	AMOUNT K
* BUDGET CODE					
					0.00
162363	27/02/85	SOCHE TOURS TRAVEL	TRAVEL TO BLANTYRE	DR. SMITH'S TICKET TO BLANTYRE	61.50
** SUBTOTAL **					
					61.50

FIELD ACCOUNT BY CODE

CHECK #	DATE	VENDOR	ITEM	PURPOSE	AMOUNT K
* BUDGET CODE 1					
162344	25/01/85	MS. SHARMA	MONTHLY PAY	SALARY	211.00
162358	25/02/85	MS. SHARMA	SECRETARY	SALARY	211.00
162362	25/02/85	MR. G. MAHECHA	MONTHLY PAY	ASSISTING IN SURVEY FORMS	243.00
162377	26/03/85	SECRETARY	MONTHLY PAY		251.00
162379	26/03/85	MR. G. MAHECHA	MONTHLY PAY	ASSISTING WITH SURVEY FORMS	279.00
** SUBTOTAL **					
					1195.00

FIELD ACCOUNT BY CODE

CHECK #	DATE	VENDOR	ITEM	PURPOSE	AMOUNT K
* BUDGET CODE 5					
162327	02/01/85	KHALIDS CONSTRUCTION	REPAIRING GEYSER	HOUSEHOLD (MR. TAYLOR'S HOUSE)	253.88
162328	02/01/85	BLANTYRE WATER BOARD	WATER BILL	UTILITIES/WATER	88.65
162329	02/01/85	ESCOM	ELECTRICITY BILL	UTILITIES/WATER	300.76
162330	03/01/85	V. L. TAYLOR	PETTY CASH	TRAVEL,FEUL,MAILING PROCUR.ETC	150.00
162331	02/01/85	ESCOM	ELECTRICITY BILL	UTILITIES/ELECTRICITY	91.62
162334	09/01/85	J.S. KANABAR	4 FLASH LIGHT BULBS	WATCHMAN	3.40
162335	11/01/85	PPS	STATIONARY	OFFICE SUPPLIES	56.19
162336	14/01/85	MALAWI POST OFFICE	TELEPHONE BILL	COMMUNICATION	689.55
162337	14/01/85	MALAWI POST OFFICE	TELEPHONE RENT	RENT FEE FOR TELEPHONE	8.00
162338	18/01/85	BLANTYRE PRINT	RUBBER STAMPS	OFFICE SUPPLIES	12.30
162339	18/01/85	DESIGNATED SCHOOLS	SCHOOL FEES	FOR MR. RIGBY'S SON	585.00
162340	22/01/85	BLANTYRE WATER BOARD	WATER BILL	UTILITIES/WATER	243.16
162341	22/01/85	ESCOM	ELECTRICITY BILL	UTILITIES/ELECTRICITY	381.46
162342	22/01/85	INSPECTOR OF TAXES	TAX PAYMENT	FOR MS. SHARMA	89.50
162343	24/01/85	AMI RENNIE PRESS	CLEARANCE	FOR DR. ERICKSON	59.26
162345	29/01/85	GASKELLS LTD	TONER	FOR COPIA 1000 OFFICE SUPPLIES	53.00
162346	31/01/85	MALAWI POST OFFICE	TELEPHONE BILL	COMMUNICATION	612.23
162347	01/02/85	V. L. TAYLOR	PETTY CASH	FOR WATCHMAN PAYMENT	120.00
162351	04/02/85	BLANTYRE PRINT	RUBBER STAMPS	OFFICE SUPPLIES	18.00
162353	15/02/85	V. L. TAYLOR	PETTY CASH	MAILING INVOICES, FUEL ETC.	100.00
162356	18/02/85	J. S. KANABAR	FLASH LIGHT BULBS	WATCHMAN	6.00
162360	25/02/85	STANSFIELD MOTORS	REPAIRING VEHICLE		10.02
162365	10/03/85	V. L. TAYLOR	PETTY CASH	TRAVEL FOR DR. SMITH	120.00
162366	01/03/85	BLANTYRE WATER BOARD	WATER BILL	UTILITIES/WATER	126.99
162367	01/03/85	MALAWI POST OFFICE	TELEPHONE BILL	COMMUNICATION	604.20

FIELD ACCOUNT BY CODE

CHECK #	DATE	VENDOR	ITEM	PURPOSE	AMOUNT K
* BUDGET CODE 5					
162370	11/03/85	AHI RENNIE PRESS	CLEARANCE FEE	COMPUTER PARTS	154.27
162371	15/03/85	ESCOM	ELECTRICITY BILL	UTILITIES/ELECTRICITY	360.81
162373	18/03/85	PPS	STATIONARY	OFFICE SUPPLIES	67.30
162374	22/03/85	GASKELLS LTD	FOR COPIA 1000	SERVICE CONTRACT	300.00
162375	22/03/85	GASKELLS LTD	FOR EDITOR 4C	TYPEWRITER SERVICE CONTRACT	35.00
** SUBTOTAL **					5700.55

FIELD ACCOUNT BY CODE

CHECK #	DATE	VENDOR	ITEM	PURPOSE	AMOUNT K
* BUDGET CODE 6					
162369	08/03/85	CITY MOTORS	REPAIRING VEHICLE		350.00
162372	15/03/85	STANSFIELD MOTORS	DEPOSIT	FOR REPAIRING CAR	10.00
162380	28/03/85	STANSFIELD	REPAIRING VEHICLE	FOR TRANSPORTATION	2.50
** SUBTOTAL **					
					362.50

FIELD ACCOUNT BY CODE

CHECK #	DATE	VENDOR	ITEM	PURPOSE	AMOUNT K
* BUDGET CODE 7					
162332	03/01/85	UNIVERSITY OF MALAWI	POLYTECHNIC TELEPHON	COMMUNICATION TO U.S.A	143.60
162348	04/02/85	UNIVERSITY OF MALAWI	POLYTECHNIC BILL	BOOKSTORE,FUEL,POST OFFICE ETC	833.29
162350	04/02/85	UNIVERSITY OF MALAWI	POLYTECHNIC BILL	BALANCE OF CHECK 162348	50.00
162352	14/02/85	DR. A.S. GILL	REIMBURESEMENT	BOOKSTORE, DEVELOP FILM D6C	18.71
162357	22/02/85	DR. A. S. GILL	REIMBURSEMENT	PLATES FOR ENGINEERING STUDENT	35.00
** SUBTOTAL **					
					1080.60

FIELD ACCOUNT BY CODE

CHECK #	DATE	VENDOR	ITEM	PURPOSE	AMOUNT K
* BUDGET CODE 8					
162333	05/01/85	SOCHE TOURS & TRAVEL	MRS F. ERICKSON	MEDICAL TRAVEL TO SOUTH AFRICA	531.00
162364	01/03/85	DR. A. S. GILL	PER DIEM	TICKET TO U.S.A	4792.00
162368	07/03/85	CAPITAL HOTEL	PER DIEM	TRAVEL TO LILONGWE CONFERENCE	94.80
** SUBTOTAL **					5417.80
** TOTAL **					13817.95

VI ACCOUNTS

	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.
02/01/85	3193.23	–	–	–	3193.23	253.88	2939.35	5	162327
02/01/85	2939.35	–	–	–	2939.35	88.65	2850.70	5	162328
02/01/85	2850.70	–	–	–	2850.70	300.76	2550.54	5	162329
02/01/85	2550.54	–	–	–	2550.54	91.62	2458.92	5	162331
03/01/85	2458.92	–	–	–	2458.92	150.00	2308.92	5	162330
03/01/85	2308.92	–	–	–	2308.92	143.60	2165.32	7	162332
05/01/85	2165.32	–	–	–	2165.32	530.00	1634.32	8	162333
09/01/85	1634.32	–	–	–	1634.32	3.40	1630.92	5	162334
09/01/85	1630.92	1761.91	.6373	1002.74	4395.57	25.49	4370.08		Bank Charges
09/01/85	4370.08	6256.33		3585.31	14211.72	25.46	14186.26		Bank Charges
11/01/85	14186.26	–	–	–	14186.26	56.19	14130.07	5	162335
14/01/85	14130.07	–	–	–	14130.07	689.55	13440.52	5	162336
14/01/85	13440.52	–	–	–	13440.52	8.00	13432.52	5	162337
18/01/85	13432.52	–	–	–	13432.52	12.30	13420.22	5	162338

CODE

1. Salaries
2. Consultants
3. Travel & Transportation
4. Allowance
5. Other Direct Cost
6. Equipment, Vehicle Material
7. Reimbursement
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.
18/01/85	13420.22	–	–	–	13420.22	585.00	12835.22	5	162339
22/01/85	12835.22	–	–	–	12835.22	243.16	12592.06	5	162340
22/01/85	12592.06	–	–	–	12592.06	381.46	12210.60	5	162341
22/01/85	12210.60	–	–	–	12210.60	89.50	12121.10	5	162342
24/01/85	12121.10	–	–	–	12121.10	59.26	12061.84	5	162343
25/01/85	12061.84	–	–	–	12061.84	211.00	11850.84	1	162344
29/01/85	11850.84	–	–	–	11850.84	53.00	11797.84	5	162345
31/01/85	11797.84	–	–	–	11797.84	612.23	11185.61	5	162346
02/02/85	11185.61	–	–	–	11185.61	120.00	11065.61	5	162347
04/02/85	11065.61	–	–	–	11065.61	833.29	10232.32	7	162348
04/02/85	10232.32	–	–	–	10232.32	50.00	10182.32	7	162350
04/02/85	10182.32	–	–	–	10182.32	18.00	10164.32	5	162351
14/02/85	10164.32	–	–	–	10164.32	18.71	10145.61	7	162352
15/02/85	10145.61	–	–	–	10145.61	100.00	10045.61	5	162353

CODE

1. Salaries
2. Consultants
3. Travel & Transportation
4. Allowance
5. Other Direct Cost
6. Equipment, Vehicle Material
7. Reimbursement
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.
18/02/85	10045.61	–	–	–	10045.61	6.00	10039.61	5	162356
22/02/85	10039.61	–	–	–	10039.61	35.00	10004.61	7	162357
25/02/85	10004.61	–		–	10004.61	211.00	9793.61	1	162358
25/02/85	9793.61	–	–	–	9793.61	10.02	9783.61	5	162360
25/02/85	9783.61	–	–	–	9783.61	243.00	9540.59	1	162362
27/02/85	9540.59	–	–	–	9540.59	61.50	9479.09	3	162363
01/03/85	9479.09	–	–	–	9479.09	4792.00	4687.09	8	162364
01/03/85	4687.09		–	–	4687.09	120.00	4567.09	5	162365
01/03/85	4567.09	–	–	–	4567.09	126.99	4440.10	5	162366
01/03/85	4440.10	–	–	–	4440.10	604.20	3835.90	5	162367
07/03/85	3835.90	–	–	–	3835.90	94.80	3741.10	8	162368
08/03/85	3741.10	–	–	–	3741.10	350.81	3391.10	6	162369
11/03/85	3391.10	–	–	–	3391.10	154.27	3236.83	5	162370
15/03/85	3236.83	–	–	–	3236.83	360.81	2876.02	5	162371

Vernal Taylor

CODE

1. Salaries
2. Consultants
3. Travel & Transportation
4. Allowance
5. Other Direct Cost
6. Equipment, Vehicle Material
7. Reimbursement
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.
15/03/85	2876.02	–	–	–	2876.02	10.00	2866.02	6	162372
15/03/85	2866.02	750.45	.6244	451.42	4067.89	6.43	4061.46		Bank Charges
15/03/85	4061.46	5778.94	.6202	3538.92	13379.32	47.03	13332.29		Bank Charges
18/03/85	13332.29	–	–	–	13332.29	67.30	13264.99	5	162373
22/03/85	13264.99	–	–	–	13264.99	300.00	12964.99	5	162374
22/03/85	12964.99	–	–	–	12964.99	35.00	12929.99	5	162375
26/03/85	12929.99	–	–	–	12929.99	251.00	12678.99	1	162377
26/03/85	12678.99	–	–	–	12678.99	279.00	12399.99	1	162379
28/03/85	12399.99	–	–	–	12399.99	2.50	12397.49	6	162380

Verrol Playton

CODE

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