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SEMI-ANNUAL REPORT

April 1, 1985 - September 30, 1985

ZIMBABWE BASIC EDUCATION AND SKILLS TRAINING PROJECT

ACADEMY FOR EDUCATIONAL DEVELOPMENT

AID CONTRACT NO. 613-K-606-C-00-4010

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I. BACKGROUND

On March 29, 1984 the Academy for Educational Development signed a contract with the Agency for International Development to provide technical expertise to the Government of Zimbabwe (GOZ) in support of the Basic Education and Skills Training Sector Assistance Program Grant, or BEST program. Under the BEST program AID is providing the Government of Zimbabwe with additional financial and other resources to implement its planned reforms in primary, secondary and teacher education and technical/vocational education. These reforms are directed at the development of an effective and affordable education and training system which has the capacity to meet Zimbabwe's own needs for educated manpower within the limitations imposed by scarce financial, human and other resources.

The Academy is to recruit and provide administrative support for both long- and short-term technical experts required by the BEST sector program. Most long-term experts, those recruited for one or more years, will serve as employees of the Government of Zimbabwe. These individuals will normally fill positions within either the Ministry of Labour, Manpower Planning and Social Welfare (M/LMPSW) or the Ministry of Education (MOE) including their respective training institutions and colleges. Most of these positions will be ones which are vacant due to the acute shortage of trained professional and technical manpower in Zimbabwe.

In addition to long-term experts, the Academy will also provide short-term experts, those recruited for less than one year, as required by the BEST sector program. Most of these individuals will not be recruited to fill existing positions within the Government of Zimbabwe, but will perform specialized professional and technical services in areas required by the GOZ in support of the objectives of the sector program. These services are likely to involve inservice training of the staff of M/LMPSW and MOE.

At the minimum level of effort, the Academy expects to identify and recruit approximately 800 person-months of short- and long-term technical assistance; at the maximum level of effort, approximately 1,600 person-months of technical assistance will be provided. It is anticipated that a major share of the long-term technical assistance recruited under this contract will be instructors for the existing and planned technical colleges and schools under the jurisdiction of M/LMPSW.

Effective January 30, 1985 the contract was amended to allow the Academy to provide technical assistance to GOZ through the AID sponsored ZIMMAN Project Grant. This grant provides assistance to the GOZ in sustaining high professional standards and

operational effectiveness through training trainers and staff development so that the numbers and credentials of Zimbabweans in selected areas will be increased. The Academy will provide long-term technical assistance personnel under this Project.

Most of the assistance provided under the ZIMMAN funds will be to the University of Zimbabwe. It will consist of individuals selected for specific departments who will not only hold teaching positions but who will be expected to be involved in curriculum development and providing tutorials to the more advanced students and those graduates seeking further education in their fields.

II. STATUS OF WORK AND PROGRESS TO DATE

This is the third biannual report covering the period April 1, 1985 - September 30, 1985, and will focus on achievements and progress made on the four main services that the Academy is to provide under the BEST contract:

- Logistical, managerial, and financial services for administration of the technical assistance component of the sector assistance program
- Identification and recruitment of short- and long-term technical experts required to implement the BEST sector program
- Coordination and liaison on matters related to the technical assistance requirements of the program as required by USAID/Zimbabwe and the Government of Zimbabwe
- Assistance to the Ministries of the Government of Zimbabwe involved in the implementation of the BEST program to prepare plans and requests for short- and long-term technical assistance

Progress made on the goals established for the third six month period of the contract will be discussed in the body of the report and specifically in Section E. A synopsis of the D.Os developed, worked on or completed during this report period is in Section F.

A. Logistical, managerial, and financial services for administration of the technical assistance component of the sector assistance program.

Support services for this period revolved around long and short-term technical assistance personnel and revision of the core budget of the contract. Work related to long term personnel, Operational Experts or OPEXers, involved developing orientation procedures for both pre-departure in the United States and arrival in Zimbabwe. Materials had been developed for the US but were revised based on experiences with the first group of OPEXers sent.

The first OPEXers went out under Delivery Order (D.O.) #3 starting in May. By the end of August, nine instructors and curriculum developers had departed for Zimbabwe. Two instructors and a curriculum developer specializing in computers were sent to Bulawayo, six to Harare and one instructor to Kwe Kwe. One lecturer for the new Bachelor of Applied Technology (B. Tech.) Program, recruited in June, was also settled in Harare at the end of this period. Dr. Klauss, Field Office Coordinator, was busy during this period assisting with the logistics of getting people and their goods through immigration and customs procedures and settling them into housing. He drove the second instructor placed in Bulawayo to that city, in part to be able to observe the settling in process there. On his return he paid a visit to the technical institutes in Gweru and Kwe Kwe.

Four short-term personnel went to Zimbabwe during this period. Eric Eno made two trips, one in June and another in late July and early August, to continue work on D.O. #4. His first trip was focused on customizing software, training and testing procedures for the Grade 7 and Zimbabwe Junior Certificate (ZJC) exam. The second trip followed up on the work begun on the previous trip. Dr. William Reynolds, the Academy's Director of Vocational and Technical Training spent three weeks in Zimbabwe in early July. The purpose of his trip was to make recommendations on equipment needs for the planned technical college at Masvingo, and for strategy planning and staff development needs for the technical colleges. Dr. David Redfield of Florida State University presented a paper on Competency Based Education and Dr. Myron Lewis of S.U.N.Y. at Buffalo spent two weeks assisting with the preparations for the B. Tech. Program.

The core budget contract was due for review and revision between the 18th and 24th month of the Project, or between October 1985 and March 1986. In preparation for that period the actual costs of operation were examined and future needs considered. A revision was drafted incorporating experienced and anticipated needs and discussed in late August during the visit of Dr. Rudi Klauss to the Washington, D.C. office. Dr. Richard Shortlidge, USAID/Harare HRDO, was also in Washington and participated in the review. A revised budget was submitted to USAID and the Government of Zimbabwe at the end of this period.

Office logistics affecting administration of the program mostly involved staff changes. Ms. Grace Ruredzo of the Field Office moved from half to full time to provide more administrative assistance there. The need for this change had been envisioned at the start of the Project. In the Home Office Ms. Almena Ryans served as an intern on a half time basis providing much needed additional administrative support. The proposed revised core budget includes an additional Administrative Assistant's position and it is hoped that Ms. Ryans will fill it. The current Administrative Assistant's position will become Logistics Coordinator and primarily handle the financial and logistical details. Ms. Parker would have been promoted to that position but she is moving to a more senior position in the Academy. This period ended as interviews were being held to select a Logistics Coordinator as her replacement.

Computerization of both offices of the Project has moved ahead. In the field the Impact Fund has been put on D-Base II. Some of the D.O. accounts have been computerized. It is expected that the Home Office will receive approval to purchase a computer to assist the Logistics Coordinator with his/her work. Explorations have also

been held with Carinet, a micro computer and telephone communication systems, to see how it works and whether it might be an advantageous technological addition to the program.

B. Identification and recruitment of short- and long-term technical experts required to implement the BEST sector program.

The first group of long-term personnel, identified by a selection committee from the Ministry of Labour, Manpower Planning and Social Welfare in February 1985, were selected as instructors and curriculum developers for the technical colleges. Nine accepted the offer of employment and arrived in Zimbabwe and were posted on the following dates:

| | | |
|---------|-----------------------------------|------------------------|
| May 5 | Ron Cox, Ed DeSanto, Ron Michaels | Harare Polytechnic |
| May 21 | Bill Gifford | Bulawayo |
| June 6 | Robert Iilini | Bulawayo |
| June 11 | Don Neff | Curriculum Development |
| June 22 | Richard Omoruyi | Harare |
| Aug 8 | James Cech | Kwe Kwe |
| Aug 31 | Ross Duncan | Bulawayo |

In early July another selection committee, headed by Deputy Secretary R. Muringi and including Dean R. Appiah of the University of Zimbabwe, Deputy Secretary E. Mufuka from the Public Service Commission and Dr. Myron Lewis of S.U.N.Y. - Buffalo, interviewed people recruited by the Academy under D.O. #9, signed the 25th of the previous month, for positions as lecturers in the new B. Tech. program. Twenty candidates were interviewed for eleven positions, nine accepted the offers made. Only one, Dr. Labib Eldoky, arrived in Harare during the period of this report though others were to follow by the end of the calendar year.

At the end of the interview process Dr. Lewis invited the team, including Dr. John Hatch the Project's Home Office Coordinator, to visit his technology program and to see the nearby program at Rochester Institute of Technology. As the team was departing from New York City after interviews there with Zimbabweans studying in engineering programs in this country, a comparative visit was also made to the technology program at Fairleigh-Dickinson University in New Jersey.

Slides of technical schools were brought back by Dr. Reynolds from his visit to Zimbabwe and these were augmented by slides taken by Dr. Hatch during his visit in August. Slides showing urban and rural areas, plus slides of each technical college and the University and its staff housing were taken to have available for recruitment, at

interviews and for presentations. During his visit Dr. Hatch collected histories, maps and tourist information to share with those selected to work in Zimbabwe. He also visited all of the OPEXers to get their perspectives on the recruitment process. Prior to his visit he had participated in planning and conducting training programs for technical personnel who would be working abroad, an experience which provided additional insights useful to the Project.

Though recruitment for positions at the University of Zimbabwe had begun in the last quarter of 1984 by the Institute of International Education, a letter of contract for those to be recruited had not been approved. A letter of agreement was approved by mid-May and D.O. #8 was signed June 25th formalizing the request for the Academy's assistance. Preparations for the interview process and an understanding of the University's needs and recruitment practices were greatly enhanced by the assistance of the Registrar, Rob Blair in Harare and visits in Washington, D.C., with Mr. Lumuel Tsikersyi on April 26 and Dr. Phineas Mahkurane, Pro-Vice Chancellor, on June 21.

On June 28 three candidates selected by the University were interviewed for positions in Microbiology. The interview panel was headed by Dr. Samuel Tswana of the University and included Dr. T. Sreevalsen of Georgetown University and Dr. L. Afronti of George Washington University. Three candidates for engineering positions were interviewed on July 16. Dean Appiah of the University headed the panel which included Dr. J. Knight of Virginia Polytechnic Institute and Dr. J. Dally of the University of Maryland. Dr. Hatch served on the panels as Recording Secretary. Planned interviews for Business and Accounting candidates were postponed until October as only one could attend. A Handbook for the appointed University personnel was developed to reflect the different needs of this program funded under the ZIMMAN Project.

Other recruitment activities included contracting Eric Eno to continue the work with the Examinations Branch of the Ministry of Education (MOE) and a subcontract with The Little Computer That Could of Greensboro, N.C. to develop needed software. The signing of D.O. #10 with the MOE on July 8 resulted in the need to recruit both long and short-term personnel to assist the Ministry with developing a computerized management information system at the regional level. Candidates initially proposed, with the exception of Mr. Kurt Moses, the Academy's Director of the Division for Management Services, when the delivery order was first developed in the last quarter of 1984 were found to be no longer available. Delivery Orders #12 and #13, for the Ministry of Labour, were signed on September 20 and also required the recruitment of personnel with computers and planning expertise. D.O. #11 will need two short-term experts to work on

training people to do planning with micro-computers, while D.O. #13 will need an expert to develop a scholarship tracking system.

Two D.O.s (D.O.s #14 & #15) were signed in late September to provide lecturers for the B. Tech. program and instructors for the technical colleges. As the time between signing and a visit of a selection team would be short, and because advertising was budgeted for, advertisements were run in ten Sunday newspapers and five professional journals. The response was rapid and large with nearly 1000 resumes received by the end of this period!

C. Coordination and liaison on matters related to the technical assistance requirements of the program as required by USAID/Zimbabwe and the Government of Zimbabwe.

Most of the efforts in this and section D take place in the field. The central point from which interactions develop there is the BEST Working Committee which consists of representatives of the ministries, USAID and the BEST funded Projects. Dr. Klaus is a member of this group where he has been active in developing Project activity statements and strategy documents. A special focus of his efforts has been on assisting with plans for staff development and technical assistance within the vocational and technical education and training sector of the Ministry of Labour, Manpower Planning and Social Welfare.

An area of focus this period has been computers. The development of D.O. #10 to provide MOE with regionalizing a computerized management information system was an ongoing activity until the D.O. was signed in early July. Under D.O. #4 work continued throughout the period in strengthening the Examination Branch of the MOE's marking, grading, reporting and distribution of Grade 7 and ZJC examinations through the use of computers. Two amendments were made to the D.O. to allow for the purchase of examination sheets, marks entry sheets, paper, ink, computer equipment, software and supplies. As part of that Project Alban Mundangepfupfu of the Treasury Computer Bureau visited the Washington office for consultations in late September.

Another set of visitors were a team led by Deputy Secretary, Sam Mumbengegwe of MOE which included Peter Dzvimbo, Vice-Principal, Belvedere Teachers' College, James Bwerazuva, Vice Principal, Mkoba Teachers' College and Henry Moyana, Principal, Morgan Zintec College. The Academy was asked to assist the Institute of International Education in establishing a three week educational study tour for them focused on the use of computers in education. The first week was spent in the Washington, D.C. area and subsequent weeks in Columbus, Ohio, Philadelphia, Princeton, N.J., Hanover, N.H. and the Boston area. The team left from Boston on May 11 after a debriefing meeting with Mr. Kurt Moses of the Academy.

The visits of Dr. Myron Lewis, Dr. David Redfield and Dr. Bill Reynolds were planned to make focused technical assistance available on specific needs of the Ministry of Labour. Dr. Reynolds' visit in early July focused on equipment needs, strategy planning and staff development needs. Dr. Lewis was invited to help the Ministry think through the form of the B. Tech. Program between August 13th and 23rd. Dr. Redfield

was to take part in a long planned week long conference on vocational and technical training. Dr. Redfield presented a paper on Competency Based Vocational Education during the last week of August. All three visits were planned for under D.O. #5.

Other coordinative efforts during this period included the visits of Dr. Hatch and Mr. Mzava to Zimbabwe and discussions held by Dr. Klauss with individuals and organizations involved in similar Projects. Dr. Hatch's visit to Zimbabwe from July 28 to August 24 provided an opportunity for the Home Office staff to better understand work of the Field Office, to visit with decision makers and implementers of the Project in the Ministries and the University, and to visit present and future work sites of long-term technical personnel sent by the Project. A copy of his trip report will be found in the Appendices.

To assist the Ministry of Education, D.O. #7 provided funds to bring Mr. Mzava, Director of Teacher Education, Ministry of Education, Tanzania to attend a conference on teacher education at Gweru, May 2 through 4. Similarly, D.O. #12, signed September 20th, provides for one year's salary "topping up" for Mrs. E. Honono, an American librarian hired locally by the Ministry of Labour, Manpower Planning and Social Welfare. Mrs. Honono had been a consultant to the Ministry.

In order to better provide coordinative assistance Dr. Klauss makes a point of meeting with agencies such as Delta, SIDA and GTZ and individuals that could broaden his understanding of developmental needs. Of special interest were discussions with Prof. R. Murapa of the University of Zimbabwe on management training needs, Mr. R. Catsman of the International Development Corporation and Dr. Levine of the USAID sponsored Project: Improving the Efficiency of Educational Systems. He has also continued to host and participate in meetings of a computer users group involving members of various ministries.

D. Assistance to the ministries of the Government of Zimbabwe involved in the implementation of the BEST program to prepare plans and requests for short- and long-term technical assistance.

Seven D.O.s were developed and signed during this period and two others developed and were in the process of being signed. The production of D.O.s takes a considerable amount of time and effort. From the initial discussions with a ministry about needs through defining those needs, through defining those needs more precisely on paper, costing them and then relating them to the BEST Project concepts and the Academy's contract, much time passes and many people are involved. The development of these D.O.s, plus the agreed upon contract for people hired to work at the University, represent a large part of the efforts of the Field Office during this period. The signing of D.O.s, however does not end the Field Offices involvement but rather shifts efforts from conceptualization to realization.

Delivery Orders #8 and #9 were signed in late June. D.O. #8 provides for the recruitment of faculty for specific departments of the University of Zimbabwe. The initial recruitment efforts were begun by the Institute of International Education but the effort, funded through the ZINMAN grant, was shifted to the Academy because of the long-term nature of the intended appointments. D.O. #9 was also for recruitment but for the new Bachelor of Applied Technology program of the Ministry of Labour, Manpower Planning and Social Welfare. As both delivery orders require the recruitment of engineers there was some overlap in recruitment efforts.

In late September D.O.s #11, #12 and #13 were signed. D.O.s #11 and #13 provided for the recruitment of short-term technical assistance specialized in computers in developing a scholarship tracking program and a plan for using and training people in the use of micro-computers for long range planning in the Ministry of Labour. D.O. #12 provided salary "topping" for a librarian in the same ministry.

In gestation for over a year before it was signed off on July 8, D.O. #10 provides for three years of assistance to the Ministry of Education in the development of a computerized regional management information system. The process requires the presence of a full time automation specialist, one-third time of Kurt Moses, the Academy's Director of the Division of Management Services, personnel from the Ministry, additional consultants and the basic equipment needed for computerization and training. The multiplicity of the needs and the desire to have the Project serviced as much as possible by Zimbabweans and Zimbabwean firms required careful planning and negotiation before the delivery order could be issued.

E. Review of goals established for the six month period.

1. University of Zimbabwe Personnel Contract: The contract for long-term staff for the University was completed and agreed to during this period. It allowed for the interviewing of candidates selected by the University in the fields of Engineering, Microbiology, Business, Accounting and Ophthalmology though only those in Engineering and Microbiology were interviewed in this period. Though no appointments have been made, a Handbook on the appointment process has been developed.
2. Generation of New Delivery Orders: As discussed previously, this period produced seven signed delivery orders plus two more which are in the process of being signed. Major delivery orders were for recruitment of long-term personnel for the Bachelor of Applied Technology program and for the University of Zimbabwe, and for the regionalization of the management information system of the Ministry of Education. As the technical assistance person did not arrive at Bulawayo Technical Institute until the last month of this period, the expected delivery order for micro-computers needs there had not been produced.
3. Twelve to eighteen month Project review: Review of Project budgetary needs was carried out throughout the period and culminated in a proposed budget for the remainder of the Project. Many minor adjustments were made based on actual cost and experience and additional allowance was made for establishing a new Coordinator in the Field Office when Dr. Klauss left. It is expected that the budget will be approved.
4. Computerized record keeping: Some efforts were made to computerize records of the Home Office but the hoped for transfer of financial record keeping to a micro-computer was not accomplished because of the change of administrative support staff and the workload during Dr. Hatch's month in Zimbabwe. The Field Office was able to refine its systems, putting the Imprest Fund on the D-Base II software and establishing mailing lists and other files.
5. Visit to Project in the field by Dr. Hatch: Dr. Hatch spent a month in Zimbabwe, three weeks "covering" the Field Office while Dr. Klauss was on vacation and one week working with Dr. Klauss. All long-term technical assistance personnel were

seen, sites of all technical colleges visited, many people talked with and much of the country seen and photographed. He also assisted in the settling in of one long-term technical assistance person and supporting three short-term visitors during his stay.

F. Delivery orders received, active or completed during this period.

Delivery Order #3

Started December 21, 1984, Delivery Order #3 provides up to 26 personyears of technical assistance to the Ministry of Labour, Manpower Planning and Social Welfare, including instructors and curriculum development personnel for the National Vocational Development Training Centre, and the Harare, Bulawayo and Kwe Kwe Technical Colleges. The goal guiding this D.O is to strengthen the national vocational training system in Zimbabwe.

Delivery Order #4

Started January 4, 1985, Delivery Order #4 provides 3 personmonths of technical services to the Ministry of Education in support of the administration and processing of the Grade 7, the Junior Certificate, and the "O" Level Examinations. This D.O. covers the second phase of BEST assistance to the Examinations Branch, the first being covered under D.O. #1. It includes Examinations Branch software development, implementation, evaluation, training, and support. Two amendments were made to this D.O. to allow for the purchase and delivery of NCS transoptic paper and ink, examination sheets, marks entry sheets, computer equipment, software and other supplies.

Delivery Order #5

Started January 4, 1985, Delivery Order #5 provides technical services in Library Development (1 person-month), Computer Studies (3 person-months) and Equipment Procurement (4 person-months) in the vocational and technical training institutions for the Ministry of Labour, Manpower Planning and Social Welfare. The D.O. was amended to include, at no additional cost, the services of a competency-based education specialist to participate in a workshop in June 1985.

Delivery Order #6

Started March 26, 1985, Delivery Order #6 provided short-term assistance to the Ministry of Education for post-secondary education and teacher training. The work

involved the participation of Dr. Hugh Gloster, President of Morehouse College in the official opening ceremonies of the Belvedere Teacher's College in Harare, March 29 to April 2, 1985.

Delivery Order #7

Started April 26, 1985, Delivery Order #7 provided short-term assistance to the Ministry of Education in teacher education. This involved the participation of Mr. Mzava, Director of Teacher Education from the Government of Tanzania's Ministry of Education in Tanzania in a panel discussion on Education for Self Reliance and the presentation of a major paper on Teacher Education. The conference was held in Gweru, May 2 to May 4, 1985.

Delivery Order #8

Started June 27, 1985, Delivery Order #8 provides up to 8 professors to teach in critical skills areas in various faculties of the University of Zimbabwe. Positions to be recruited include: Engineering, Business Studies, Medical Microbiology, and other medical specialties. This D.O. supports the University of Zimbabwe's staff development program under which various faculty from the University are being provided long-term and short-term training through the ZIMMAN Project.

Delivery Order #9

Started June 25, 1985, Delivery Order #9 provides twelve long-term technical assistance personnel to the Ministry of Labour, Manpower Planning and Social Welfare to teach courses in the new Bachelor of Technology practical engineering program at Harare Polytechnic. The goal of this D.O. is to fill manpower gaps which currently exist in the practical areas of engineering and business management skills within commerce and industry in Zimbabwe.

Delivery Order #10

Started July 8, 1985, Delivery Order #10 provides both long- and short-term personnel to assist the Ministry of Education with developing a computerized regional management information system. Equipment purchase, software development and personnel training will also be provided.

Delivery Order #11

Started September 13, 1985, Delivery Order #11 provides two short-term experts for a total of 5 personmonths to assist the Ministry of Labour, Manpower Planning and Social Welfare's divisions concerned with vocational and technical training in planning and implementing microcomputer applications to support program administration and development. This D.O. also includes two microcomputers and supporting software and supplies.

Delivery Order #12

Started September 23, 1985, Delivery Order #12 provided technical assistance to the Ministry of Labour, Manpower Planning and Social Welfare in the field of library science for one year. Mrs. Esi Honono will serve as a consultant to the Zimbabwe Institute of Development Studies and the Harare Polytechnic library system.

Delivery Order #13

Started September 20, 1985, Delivery Order #13 provides 2 personweeks of technical assistance to the Ministry of Labour, Manpower Planning and Social Welfare for the development of a plan for a Scholarship Tracking System to serve the needs of the Ministry and the various donor financed scholarship programs which it implements.

III. GOALS FOR THE NEXT SIX MONTHS

The next six months are expected to be heavily involved with the recruitment, selection, orientation and support of long-term technical personnel. Over thirty people and their families may be employed in Zimbabwe during this next period. Activities such as the BEST Working Committee, general recruitment and financial accounting will also continue. Special goals for the next six months include:

- A. Successful recruitment, orientation and settling in of long-term personnel for the University, the technical colleges, and the two ministries. Because of a short turn around time between recruitment and expected placement, housing shortage, and programmatic needs, it is important that the whole process run as smoothly and effectively as possible.
- B. Completion of computerization of office record keeping. With a core budget, approximately 15 Delivery Order budgets plus almost 50 long-term personnel in the field by the end of the next period, computerized record keeping will be essential. The advertisements for engineers will generate sufficient volume that the data based system for potential recruits will need maintenance as well.
- C. Recruitment, selection and hiring of computer expertise. Delivery Orders #10, #11, #13 and one or two more envisioned, will require immediate action if the Projects are to evolve as intended. Having qualified and available expertise when needed for long or short-term technical assistance will be important in the next and subsequent periods. This goal also includes the provision of hard- and software needed for the Projects on a timely basis.
- D. The development of an explanatory brochure on the Project. Publications such as this report or recruitment materials are intended for specific audiences and purposes. A more general brochure relating Project goals, processes and accomplishments would be useful both to special audiences and to the general public.

IV. ADMINISTRATIVE REPORT

- A. Fifth Quarterly Status Report
- B. Sixth Quarterly Status Report
- C. Core Contract Expenditures
- D. Delivery Order Expenditures

A. Fifth Quarterly Status Report

ZIMBABWE/BEST QUARTERLY STATUS REPORT

**Short-Term Personnel
June, 1985**

| <u>NAME</u> | <u>DO #</u> | <u>START DATE</u> | <u>END DATE</u> | <u>DURATION</u> | <u>STATUS</u> | <u>SERVICE TO BE PERFORMED INSTITUTION/MINISTRY</u> | <u>QUALIFICATIONS</u> |
|------------------|-------------|-------------------|-----------------|-----------------|------------------|--|--|
| Hugh Gloster | 006 | 3/27/85 | 12/1/84 | 4 days | Completed | Speaker, Belvedere College Opening Ceremonies; MO Education | President, Morehouse College, Atlanta, Georgia. |
| Eric Eno | 004 | 4/1/85 | 3/31/86 | 66 days | Currently Active | Grade 7, ZJC Software development and implementation/training; MO Education | Founder, Director: The Little Computer That Could Co. Consulted for Pragma Corp. in project design and education planning. Info. system analysis and development planning analysis for AED, 1980-82. |
| Irigo Mzava | 007 | 5/2/85 | 5/4/85 | 3 days | Completed | Panel Member, Panel Discussion: "Education for Self-Reliance" Conference on "Role of Education in Social Transformation;" MO Education | Director of Teacher Education, Ministry of Education, Government of Tanzania |
| William Reynolds | 005 | 6/30/85 | 7/20/85 | 15 days | Currently Active | Develop Planning Strategies for Vocational Technical Education for Government of Zimbabwe; MO Labour | Director, Vocational Technical Training Academy For Educational Development |

ZIMBABWE/BEST QUARTERLY STATUS REPORT

Long-Term Personnel
June, 1985

| <u>NAME</u> | <u>DO #</u> | <u>START DATE</u> | <u>END DATE</u> | <u>DURATION</u> | <u>STATUS</u> | <u>SERVICE TO BE PERFORMED INSTITUTION/MINISTRY</u> | <u>QUALIFICATIONS</u> |
|-----------------|-------------|-------------------|-----------------|-----------------|------------------|--|---|
| Ronald Cox | 003 | 5/5/85 | 5/4/87 | Two Years | Currently Active | Lecturer, Automotive Engineering; Harare Polytechnic Institute | Certification Hydraulics, Algebra/Trig, Driver Ed; Diploma Equipment Repair; Equipment Specialist; U.S. Army; Technical Institute, Botswana |
| Edward DeSanto | 003 | 5/5/85 | 5/4/87 | Two Years | Currently Active | Lecturer, Mechanical Engineering; Harare Polytechnic Institute | Qualified Welder, 30 yrs. work experience including 8 yrs. Swaziland and Botswana, U.S. Peace Corps |
| Ronald Michaels | 003 | 5/5/85 | 5/4/87 | Two Years | Currently Active | Lecturer, Civil Engineering; Harare Polytechnic Institute | B.S. Engineering Physics, U. of Tennessee, 20 yrs. engineering experience including work in Ghana and Saudi Arabia |
| William Gifford | 003 | 5/24/85 | 5/23/87 | Two Years | Currently Active | Lecturer, Mechanical Engineering; Bulawayo Technical College | M.Ed., in Counseling, U of Puget Sound; B.S.; Mechanical Engineering, U of Washington, 11 yrs. Engineering Experience, 3 yrs counseling experience 2 yrs. U.S. Peace Corps, Nepal |
| Robert Illinik | 003 | 6/10/85 | 6/9/87 | Two Years | Currently Active | Lecturer, Mechanical Engineering; Bulawayo Technical College | Ed.D., Vocational Education, UCLA; 45 yrs work experience: Machinist, Mech. Engineer, Tech. Advisor Teacher Trainer, Instructor Vocational Education |
| Donald Neff | 003 | 6/24/85 | 6/23/87 | Two Years | Currently Active | Curriculum Development Officer; MO Labour | Ph.D., Vocational Technical Education, Ohio State University; President, Washington Technical College |
| Richard Omoruyi | 003 | 6/24/85 | 6/23/87 | Two Years | Currently Active | Lecturer, Computer Sciences, Harare Polytechnic Institute | MPA, Management Information Systems, So. Illinois University; Communications Data Analyst, Westec Services, Inc; Instructor, State Technical Institute at Memphis |

B. Sixth Quarterly Status Report

ZIMBABWE/BEST QUARTERLY STATUS REPORT

**Short-Term Personnel
September, 1985**

| <u>NAME</u> | <u>DO #</u> | <u>START DATE</u> | <u>END DATE</u> | <u>DURATION</u> | <u>STATUS</u> | <u>SERVICE TO BE PERFORMED INSTITUTION/MINISTRY</u> | <u>QUALIFICATIONS</u> |
|------------------|-------------|-------------------|-----------------|-----------------|------------------|--|--|
| Eric Eno | 004 | 4/1/85 | 3/31/86 | 66 days | Currently Active | Grade 7, ZJC Software development and implementation/training; MO Education | Founder, Director: The Little Computer That Could Co. Consulted for Pragma Corp. in project design and education planning. Info. system analysis and development planning analysis for AED, 1980-82. |
| William Reynolds | 005 | 6/30/85 | 7/20/85 | 15 days | Completed | Develop Planning Strategies for Vocational Technical Education for Government of Zimbabwe | Director, Vocational Technical Training Programs, Academy for Educational |
| Myron Lewis | 005 | 8/12/85 | 8/25/85 | 14 days | Completed | Consultant/Advisor for the Bachelor of Tech. equipment and staffing | Ed.D., Administration and Vocational Education State University of New York; Professor Buffalo State College |
| William Redfield | 005 | 8/22/85 | 8/31/85 | 10 days | Completed | Presentor, "The Competency-Based Vocational Education Alternative," Vocational Education Conference, MO Labour | Ed.D., Education, University of Virginia; Professor, Department of Educational Leadership, Florida State University |
| Myron Lewis | 009 | 7/8/85 | 7/16/85 | 6 days | Completed | Member of Interview Panel, Recruitment Effort, MO Labour | Ed.D, Administration and Vocational Education State University of NY; Professor Buffalo State College |
| Kurt Moses | 010 | 7/15/85 | 7/15/88 | 260 days | Currently Active | Coordinator of Regional Computerization Effort, MO Education | Director, Systems Services Division, Academy for Development |

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ZIMBABWE/BEST QUARTERLY STATUS REPORT

**Long-Term Personnel
September, 1985**

| <u>NAME</u> | <u>DO #</u> | <u>START DATE</u> | <u>END DATE</u> | <u>DURATION</u> | <u>STATUS</u> | <u>SERVICE TO BE PERFORMED INSTITUTION/MINISTRY</u> | <u>QUALIFICATIONS</u> |
|-----------------|-------------|-------------------|-----------------|-----------------|------------------|---|--|
| Ronald Cox | 003 | 5/5/85 | 5/4/87 | Two Years | Currently Active | Lecturer, Automotive Engineering; Harare Polytechnic Institute | Certification Hydraulics, Algebra/Trig, Driver Ed., Diploma Equipment Repair; Equipment Specialist; U.S. Army; Technical Institute, Botswana |
| Edward DeSanto | 003 | 5/5/85 | 5/4/87 | Two Years | Currently Active | Lecturer, Mechanical Engineering; Harare Polytechnic Institute | Qualified Welder, 30 yrs. work experience including 8 yrs. Swaziland and Botswana, U.S. Peace Corps |
| Ronald Michaels | 003 | 5/5/85 | 5/4/87 | Two Years | Currently Active | Lecturer, Civil Engineering; Harare Polytechnic Institute | B.S. Engineering Physics, U. of Tennessee, 20 yrs. engineering experience including work in Ghana and Saudi Arabia |
| William Gifford | 003 | 5/24/85 | 5/23/87 | Two Years | Currently Active | Lecturer, Mechanical Engineering; Bulawayo Technical College | M.Ed., in Counseling, U of Puget Sound; B.S.; Mechanical Engineering, U of Washington, 11 yrs. Engineering Experience, 3 yrs. counseling experience 2 yrs. U.S. Peace Corps, Nepal |
| Robert Illinik | 003 | 6/10/85 | 6/9/87 | Two Years | Currently Active | Lecturer, Mechanical Engineering; Bulawayo Technical College | Ed.D., Vocational Education, UCLA; 45 yrs work experience: Machinist, Mech. Engineer, Tech. Advisor Teacher Trainer, Instructor Vocational Education |
| Donald Neff | 003 | 6/24/85 | 6/23/87 | Two Years | Currently Active | Curriculum Development Officer; MO Labour | Ph.D., Vocational Technical Education, Ohio State University; President, Washington Technical College |
| Richard Omoruyi | 003 | 6/24/85 | 6/23/87 | Two Years | Currently Active | Lecturer, Computer Sciences, Harare Polytechnic Institute | MPA, Management Information Systems, So. Illinois University; Communications Data Analyst, Westec Services, Inc; Instructor, State Technical Institute at Memphis |
| James Cech | 003 | 8/8/85 | 8/7/87 | Two Years | Currently Active | Lecturer, Automotive Engineering, KweKwe Technical College | Certified in Engineering Repair and Tuneup, Heating and Air Conditioning Systems, Manual Transmission at Direct Line and Auto Transport Specialist Consultant, USAID; Cooperative Farm Mechanic, U.S. Peace Corp |
| Ross Duncan | 003 | 9/2/85 | 9/1/87 | Two Years | Currently Active | Curriculum Developer Computer Science | Ed.D. in Adult Education, George Washington Univers Sr. Training Analyst, Analytical Systems Engineering Corp, 25 yrs. experience in curriculum development at training |
| Labib Eldoky | 009 | 9/17/85 | 9/16/87 | Two Years | Currently Active | Lecturer, Mechanical Engineering, Bachelor of Applied Technology Harare Polytechnic | Ph.D., Mechanical Engineering, University of Kansas; 14 yrs. teaching experience, 5 yrs. industrial experience in U.S. and Egypt |
| Esi Honoro | 012 | 9/1/86 | 8/31/87 | 1 Year | Currently Active | Librarian, GOZ MO Labour | M.L.S., Library and Information Systems; University of Philadelphia. (Recruited locally) |

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C. Core Contract Expenditures

CORE CONTRACT EXPENDITURES 4/85 - 6/85

CORE CONTRACT EXPENDITURES
 QUARTERLY FINANCIAL REPORT - JUNE 1985
 ZIMBABWE/BEST PROJECT
 USAID CONTRACT NO. 613-K-606-C-00-4010

| LINE ITEMS | ACCOUNT NUMBER | 5 YEAR BUDGET ALLOCATION | EXPENDITURES TO DATE 3/85 | EXPENDITURES THIS QUARTER 4/85-6/85 | EXPENDITURES TO DATE 6/85 | VARIANT FROM BUDGET |
|--|----------------|--------------------------|---------------------------|-------------------------------------|---------------------------|---------------------|
| SALARIES - U.S. PERSONNEL | | | | | | |
| Home Office Professional | 602 | 203,293 | 40,285 | 7,976 | 48,261 | 155,032 |
| Home Office Nonprofessional | 603 | 101,647 | 13,439 | 4,276 | 17,715 | 83,932 |
| Field Staff Professional | 602 | 287,330 | 44,081 | 13,770 | 57,851 | 229,479 |
| Field Staff Nonprofessional | 603 | 0 | 0 | 0 | 0 | 0 |
| TOTAL U.S. SALARIES | | 592,270 | 97,806 | 26,022 | 123,827 | 468,443 |
| SALARIES: ZIMBABWE NATIONALS | 605 | 40,658 | 3,736 | 797 | 4,533 | 36,125 |
| CONSULTANTS | 604 | 9,840 | 0 | 0 | 0 | 9,840 |
| FRINGE BENEFITS | 606 | 153,990 | 25,430 | 6,766 | 32,196 | 121,794 |
| TRAVEL AND TRANSPORTATION | | | | | | |
| U.S. Travel | 607 | 5,808 | 1,409 | 749 | 2,158 | 3,650 |
| International Travel | 607 | 44,986 | 18,167 | 3,730 | 21,897 | 23,089 |
| Other Personnel Travel | 607 | 0 | 170 | 0 | 170 | (170) |
| Transportation of Household Goods | 607 | 6,566 | 3,162 | 0 | 3,162 | 3,404 |
| Storage of Household Items | 607 | 3,000 | 1,300 | 0 | 1,300 | 1,700 |
| Per Diem and Local D.C. Travel | 607 | 20,653 | 2,572 | 14 | 2,586 | 18,067 |
| TOTAL TRAVEL AND TRANSPORTATION | 607 | 81,013 | 26,780 | 4,493 | 31,273 | 49,740 |
| OTHER DIRECT COSTS | 608-615 | 190,195 | 31,684 | 9,212 | 40,896 | 149,299 |
| SUBTOTAL | | 1,067,966 | 185,435 | 47,290 | 232,725 | 835,241 |
| OVERHEAD @ 28% | | 288,350 | 50,822 | 13,242 | 64,063 | 224,287 |
| ALLOWANCES | | | | | | |
| Post Differential | 626 | 28,733 | 3,651 | 1,377 | 5,028 | 23,705 |
| Quarters | 623 | 33,348 | 4,749 | 2,085 | 6,834 | 26,514 |
| Education | 627 | 19,050 | 1,161 | 583 | 1,744 | 17,306 |
| One-time Household Set-up | 622 | 8,500 | 8,500 | 0 | 8,500 | 0 |
| TOTAL ALLOWANCE | | 89,631 | 17,683 | 4,045 | 21,728 | 67,903 |
| EQUIPMENT | 630 | 27,150 | 24,282 | 0 | 24,282 | 2,868 |
| TOTAL | | 1,473,097 | 278,221 | 64,577 | 342,798 | 1,130,299 |

CORE CONTRACT EXPENDITURES 7/85 - 9/85

CORE CONTRACT EXPENDITURES
 QUARTERLY FINANCIAL REPORT - SEPTEMBER 1985
 ZIMBABWE/BEST PROJECT
 USAID CONTRACT NO. 613-K-606-C-00-4010

| LINE ITEMS | ACCOUNT NUMBER | 5 YEAR BUDGET ALLOCATION | EXPENDITURES TO DATE 6/85 | EXPENDITURES THIS QUARTER 7/85-9/85 | EXPENDITURES TO DATE 9/85 | VARIANT FROM BUDGET |
|--|----------------|--------------------------|---------------------------|-------------------------------------|---------------------------|---------------------|
| SALARIES - U.S. PERSONNEL | | | | | | |
| Home Office Professional | 602 | 203,293 | 48,261 | 10,024 | 58,286 | 145,008 |
| Home Office Nonprofessional | 603 | 101,647 | 17,715 | 4,407 | 22,122 | 79,525 |
| Field Staff Professional | 602 | 287,330 | 57,851 | 13,770 | 71,620 | 215,710 |
| Field Staff Nonprofessional | 603 | 0 | 0 | 0 | 0 | 0 |
| TOTAL U.S. SALARIES | | 592,270 | 123,827 | 28,201 | 152,028 | 440,242 |
| SALARIES: ZIMBABWE NATIONALS | 605 | 40,658 | 4,533 | 2,169 | 6,702 | 33,956 |
| CONSULTANTS | 604 | 9,840 | 0 | 0 | 0 | 9,840 |
| FRINGE BENEFITS | 606 | 153,990 | 32,196 | 7,332 | 39,528 | 114,462 |
| TRAVEL AND TRANSPORTATION | | | | | | |
| U.S. Travel | 607 | 5,808 | 2,158 | 728 | 2,886 | 2,922 |
| International Travel | 607 | 44,986 | 21,897 | 4,236 | 26,134 | 18,852 |
| Other Personnel Travel | 607 | 0 | 170 | 0 | 170 | (170) |
| Transportation of Household Goods | 607 | 6,566 | 3,162 | 0 | 3,162 | 3,404 |
| Storage of Household Items | 607 | 3,000 | 1,300 | 450 | 1,750 | 1,250 |
| Per Diem and Local D.C. Travel | 607 | 20,653 | 2,586 | 2,008 | 4,594 | 16,059 |
| TOTAL TRAVEL AND TRANSPORTATION | 607 | 81,013 | 31,273 | 7,422 | 38,495 | 42,318 |
| OTHER DIRECT COSTS | 608-615 | 190,195 | 40,896 | 11,415 | 52,311 | 137,884 |
| SUBTOTAL | | 1,067,966 | 232,725 | 56,539 | 289,264 | 778,702 |
| OVERHEAD @ 28% | | 288,350 | 64,063 | 15,831 | 79,894 | 208,456 |
| ALLOWANCES | | | | | | |
| Post Differential | 626 | 28,733 | 5,028 | 1,377 | 6,405 | 22,328 |
| Quarters | 623 | 33,348 | 6,834 | 2,040 | 8,874 | 24,474 |
| Education | 627 | 19,050 | 1,744 | 0 | 1,744 | 17,306 |
| One-time Household Set-up | 622 | 8,500 | 8,500 | 0 | 8,500 | 0 |
| TOTAL ALLOWANCE | | 89,631 | 21,728 | 3,417 | 25,145 | 64,486 |
| EQUIPMENT | 630 | 27,150 | 24,282 | 2,690 | 26,972 | 178 |
| TOTAL | | 1,473,097 | 342,799 | 78,477 | 421,275 | 1,051,822 |
| January 20, 1986 | | | | | | |

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D. Delivery Order Expenditures

Delivery Order #1 Expenditures

Delivery Order #2 Expenditures

Delivery Order #3 Expenditures

Delivery Order #4 Expenditures

Delivery Order #5 Expenditures

Delivery Order #6 Expenditures

Delivery Order #7 Expenditures

Delivery Order #8 Expenditures

Delivery Order #9 Expenditures

Delivery Order #10 Expenditures

D. DELIVERY ORDER #1 EXPENDITURES

SIGNED 8/5/84, COMPLETED 3/31/85

BUDGET: DO #1
ZIMBABWE/BEST PROJECT
USAID CONTRACT NO. 613-K-606-C-00-4010

| LINE ITEM | ACCOUNT NUMBER | BUDGET ALLOCATION | ADJUSTED BUDGET 1/85 | EXPENDITURES TO DATE 6/85 | EXPENDITURES THIS PERIOD 7/85-9/85 | EXPENDITURES TO DATE 9/85 | VARIANT FROM BUDGET |
|--|----------------|-------------------|----------------------|---------------------------|------------------------------------|---------------------------|---------------------|
| Short-Term Costs: | | | | | | | |
| SALARIES AND WAGES | | | | | | | |
| Moses 32 days @ 211/day | 702 | \$6,752 | \$6,752 | \$6,752 | \$0 | \$6,752 | \$0 |
| Secretarial 28 days @ 67/day | 702 | 1,876 | 1,876 | 1,876 | 0 | 1,876 | 0 |
| Employee Benefits @ 26% | 704 | 2,243 | 2,243 | 2,243 | 0 | 2,243 | 0 |
| Bay Consultant Fee 10 days @ 250/day | 706 | 2,500 | 4,000 | 4,000 | 0 | 4,000 | 0 |
| TRAVEL AND PER DIEM | | | | | | | |
| Moses 2 RT Wash/Harare @ 2,300 | 711 | 4,600 | 3,100 | 2,772 | 0 | 2,772 | 328 |
| Bay 1 RT Boston/Harare @ 2,300 | 711 | 2,300 | 2,300 | 1,734 | 0 | 1,734 | 566 |
| Per Diem Moses 17 days @ 80 | 711 | 1,360 | 1,060 | 829 | 0 | 829 | 231 |
| Per Diem Bay 10 days @ 80 | 711 | 800 | 1,100 | 1,092 | 0 | 1,092 | 8 |
| TOTAL TRAVEL & PER DIEM | | 9,060 | 7,560 | 6,427 | 0 | 6,427 | 1,133 |
| OTHER DIRECT COSTS | 714 | 4,750 | 4,750 | 2,643 | 0 | 2,643 | 2,107 |
| Communications, Xerox, Postage, Etc. | | | | | | | |
| SUBTOTAL OF SHORT-TERM | | 36,241 | 34,741 | 30,368 | 0 | 30,368 | 4,373 |
| INDIRECT COST @ 27% | 798 | 9,785 | 9,380 | 8,199 | 0 | 8,199 | 1,181 |
| Long-term Costs: | | | | | | | |
| SALARIES AND WAGES | | | | | | | |
| Eno 153 days @ 200 | 708 | 34,540 | 30,600 | 30,600 | 0 | 30,600 | 0 |
| TRAVEL AND PER DIEM | | | | | | | |
| 3 RT Greensboro/Harare @ 2,300 | 712 | 6,900 | 10,840 | 10,781 | 0 | 10,781 | 59 |
| Per Diem 143 days @ 80 | 712 | 11,440 | 11,440 | 9,700 | 30 | 9,730 | 1,710 |
| Incountry Travel (Zimbabwe) | 712 | 2,000 | 2,000 | 0 | 0 | 0 | 2,000 |
| TOTAL TRAVEL & PER DIEM - LT | | 20,340 | 24,280 | 20,481 | 30 | 20,511 | 3,769 |
| OTHER LONG-TERM DIRECT COSTS | 716 | 1,000 | 1,000 | 711 | 0 | 711 | 289 |
| SUBTOTAL OF LONG-TERM | | 55,880 | 55,880 | 51,792 | 30 | 51,822 | 4,058 |
| INDIRECT COST @ 2% | 799 | 1,118 | 1,118 | 1,036 | 1 | 1,036 | 81 |
| TOTAL OF SHORT- AND LONG-TERM COSTS | | \$103,024 | \$101,119 | \$91,395 | \$31 | \$91,426 | \$9,693 |

D. DELIVERY ORDER #2 EXPENDITURES
SIGNED 9/6/84 , COMPLETED 11/30/84

BUDGET: DELIVERY ORDER 02
 ZIMBABWE/BEST PROJECT
 USAID CONTRACT NO. 613-K-606-C-00-4010

| LINE ITEM | ACCOUNT NUMBER | BUDGET ALLOCATION | EXPENDITURES TO DATE 9/85 * | VARIANT FROM BUDGET |
|--|----------------|-------------------|-----------------------------|---------------------|
| IBM PC - 256 ram, 2 disk drive With monochrome display card, monitor | 750 | \$3,500.00 | \$2,415.00 | \$1,085.00 |
| DOT MATRIX PRINTER, 132 column carriage Graphics capability, tractor feed | 750 | 2,000.00 | 1,145.00 | 855.00 |
| 2 GRAPHICS DISPLAY CARDS | 750 | 1,000.00 | 828.00 | 172.00 |
| KNOWLEDGE MAN DATA BASE MENT K Print and K Graphic Utilities | 750 | 750.00 | 1,652.00 | (902.00) |
| 150 DISKETTES | 750 | 450.00 | 622.00 | (172.00) |
| 2 SETS OF 64K RAM CHIPS | 750 | 150.00 | 78.00 | 72.00 |
| 24,000 ADHESIVE LABELS 3 OR 4 ACROSS | 750 | 200.00 | 133.00 | 67.00 |
| TRANSFORMER | 750 | 0.00 | 214.00 | (214.00) |
| SHIPPING/HANDLING/INSURANCE | | 0.00 | 1,106.00 | (1,106.00) |
| MISCELLANEOUS EXPENSES | | 950.00 | 0.00 | 950.00 |
| TOTAL OF LINE ITEMS IN BUDGET | | \$9,000.00 | \$8,193.00 | \$807.00 |

* No change in expenditures since 3/85.

D. DELIVERY ORDER #3 EXPENDITURES

SIGNED 1/2/85

BUDGET: DELIVERY ORDER #3 - QUARTERLY REPORT
 ZIMBABWE/BEST PROJECT
 USAID CONTRACT NO. 613-K-606-C-00-4010

| LINE ITEM | ACCOUNT NUMBER | BUDGET ALLOCATION | EXPENDITURES TO DATE LAST QUARTER | EXPENDITURES THIS QUARTER 7/85-9/85 | EXPENDITURES TO DATE 9/85 | VARIANT FROM BUDGET |
|---------------------------------|----------------|-------------------|-----------------------------------|-------------------------------------|---------------------------|---------------------|
| US ANNUAL BASE SALARY, YEAR 1 | 701 | \$455,000.00 | \$10,246.66 | \$52,847.01 | \$63,093.67 | \$391,906.33 |
| 5% INCENTIVE, YEAR 1 | 710 | 27,300.00 | 643.00 | 3,269.24 | 3,912.24 | 23,387.76 |
| 7% RETIREMENT, YEAR 1 | 703 | 38,220.00 | 900.25 | 4,582.82 | 5,483.07 | 32,736.93 |
| TOTAL: YEAR ONE SALARY PAYMENTS | | 520,520.00 | 11,789.91 | 60,699.07 | 72,488.98 | 448,031.02 |
| US ANNUAL BASE SALARY, YEAR 2 | 701 | 482,300.00 | 0.00 | 0.00 | 0.00 | 482,300.00 |
| 5% INCENTIVE, YEAR 2 | 710 | 28,665.00 | 0.00 | 0.00 | 0.00 | 28,665.00 |
| 7% RETIREMENT, YEAR 2 | 703 | 40,131.00 | 0.00 | 0.00 | 0.00 | 40,131.00 |
| TOTAL: YEAR TWO SALARY PAYMENTS | | 551,096.00 | 0.00 | 0.00 | 0.00 | 551,096.00 |
| SETTLING IN ALLOWANCE | 726 | 109,200.00 | 58,800.00 | 16,800.00 | 75,600.00 | 33,600.00 |
| TRAVEL AND PER DIEM, YEAR 1 | 712 | 61,750.00 | 20,991.35 | 12,143.36 | 33,134.71 | 28,615.29 |
| TRAVEL AND PER DIEM, YEAR 2 | 712 | 64,350.00 | 0.00 | 0.00 | 0.00 | 64,350.00 |
| AIR FREIGHT | 722 | 61,750.00 | 7,899.40 | 14,323.18 | 22,222.58 | 39,527.42 |
| STORAGE | 713 | 71,240.00 | 7,400.73 | 7,080.22 | 14,480.95 | 56,759.05 |
| PREDEPARTURE EXPENSES | 727 | 0.00 | 200.00 | 667.56 | 867.56 | (867.56) |
| OTHER COSTS LONG-TERM | 716 | 0.00 | 157.09 | 0.00 | 157.09 | (157.09) |
| SUBTOTAL, LONG-TERM COSTS | | 1,439,906.00 | 107,238.48 | 111,713.39 | 218,951.87 | 1,221,111.22 |
| 2% ADMINISTRATIVE COST | 799 | 28,798.12 | 2,144.77 | 2,234.27 | 4,379.04 | 24,422.22 |
| RECRUITMENT COSTS | 751 | 28,000.00 | 8,545.22 | 726.36 | 9,271.58 | 18,728.42 |
| TOTAL | | \$1,496,704.12 | \$117,928.47 | \$114,674.02 | \$232,602.49 | \$1,264,261.86 |

December 31, 1985

D. DELIVERY ORDER #4 EXPENDITURES

SIGNED 1/4/85

BUDGET: DELIVERY ORDER 04 - QUARTERLY REPORT
 ZIMBABWE/BEST PROJECT
 USAID CONTRACT NO. 613-K-606-C-00-4010

| LINE ITEM | ACCOUNT NUMBER | BUDGET ALLOCATION | AMENDED BUDGET | SECOND AMENDED BUDGET | EXPENDITURES TO DATE LAST QUARTER | EXPENDITURES THIS PERIOD 7/85-9/85 | EXPENDITURES TO DATE 9/85 | VARIANT FROM BUDGET |
|--|----------------|-------------------|----------------|-----------------------|-----------------------------------|------------------------------------|---------------------------|---------------------|
| SOFTWARE DEVELOPMENT SUPPORT | | | | | | | | |
| 30 days @ \$225 | 706 | \$6,750.00 | \$6,750.00 | \$6,750.00 | 60.00 | \$6,800.00 | \$6,800.00 | (650.00) |
| Travel: 2 rt US-Zimbabwe | 711 | 6,000.00 | 6,000.00 | 6,000.00 | 2,467.00 | 3,349.00 | 5,816.00 | 184.00 |
| Per Diem: 42 days @ \$66 | 711 | 2,772.00 | 2,772.00 | 2,772.00 | 0.00 | 2,940.58 | 2,940.58 | (168.58) |
| SYSTEMS DEVELOPMENT SUPPORT | | | | | | | | |
| 40 days @ \$225 | 706 | 9,000.00 | 9,000.00 | 9,000.00 | 0.00 | 0.00 | 0.00 | 9,000.00 |
| Travel: 2 rt US-Zimbabwe | 711 | 6,000.00 | 6,000.00 | 6,000.00 | 0.00 | 0.00 | 0.00 | 6,000.00 |
| Per Diem: 56 days @ \$66 | 711 | 3,696.00 | 3,696.00 | 3,696.00 | 0.00 | 0.00 | 0.00 | 3,696.00 |
| HARDWARE EVALUATION | | | | | | | | |
| 10 days @ \$250 | 706 | 2,500.00 | 2,500.00 | 2,500.00 | 0.00 | 0.00 | 0.00 | 2,500.00 |
| Travel: 1 rt US-Zimbabwe | 711 | 3,000.00 | 3,000.00 | 3,000.00 | 0.00 | 0.00 | 0.00 | 3,000.00 |
| Per Diem: 14 days @ \$66 | 711 | 924.00 | 924.00 | 924.00 | 0.00 | 0.00 | 0.00 | 924.00 |
| ONR TRAINING AND SUPPORT | | | | | | | | |
| 10 days @ \$250 | 706 | 2,500.00 | 2,500.00 | 2,500.00 | 0.00 | 0.00 | 0.00 | 2,500.00 |
| Travel: 1 rt US-Zimbabwe | 711 | 3,000.00 | 3,000.00 | 3,000.00 | 0.00 | 0.00 | 0.00 | 3,000.00 |
| Per Diem: 14 days @ \$66 | 711 | 924.00 | 924.00 | 924.00 | 0.00 | 0.00 | 0.00 | 924.00 |
| TRAVEL PREPARATION COSTS | | | | | | | | |
| | 714 | 400.00 | 400.00 | 400.00 | 17.08 | 22.29 | 39.37 | 360.63 |
| SUBTOTAL | | | | | | | | |
| | | 47,466.00 | 47,466.00 | 47,466.00 | 2,484.08 | 13,111.87 | 15,595.95 | 31,870.05 |
| INDIRECT COSTS @ 20% | | | | | | | | |
| | 798 | 12,815.82 | 12,815.82 | 12,815.82 | 695.54 | 3,671.32 | 4,366.87 | 8,448.95 |
| SUBCONTRACT: LITTLE COMPUTER THAT COULD Examinations Software Development | | | | | | | | |
| | 750 | 80,000.00 | 80,000.00 | 80,000.00 | 15,968.60 | 19,677.00 | 33,645.60 | 44,354.40 |
| VIDEO RECORDING EQUIPMENT | | | | | | | | |
| | 750 | 5,000.00 | 5,000.00 | 5,000.00 | 0.00 | 0.00 | 0.00 | 5,000.00 |
| SUPPLIES, COMMUNICATIONS | | | | | | | | |
| | 750 | 3,000.00 | 3,000.00 | 7,060.00 | 150.00 | 2,430.75 | 2,580.75 | 4,479.25 |
| PAPER FOR TRIAL LOCAL PRINTING | | | | | | | | |
| | 750 | 0.00 | 3,100.00 | 3,100.00 | 0.00 | 0.00 | 0.00 | 3,100.00 |
| ANSWER SHEETS FOR 1985 EXAMINATIONS | | | | | | | | |
| | 750 | 0.00 | 83,305.00 | 83,305.00 | 0.00 | 59,963.84 | 59,963.84 | 23,341.16 |
| AMENDMENT 02 - EQUIPMENT | | | | | | | | |
| Hercules Graphics Card | 750 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | 0.00 | 500.00 |
| 2 x IBM PC Power Supplies | 750 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | 0.00 | 500.00 |
| 2 x R.A.M. chips - 256K | 750 | 0.00 | 0.00 | 150.00 | 0.00 | 0.00 | 0.00 | 150.00 |
| Quadram Memory Board | 750 | 0.00 | 0.00 | 325.00 | 0.00 | 0.00 | 0.00 | 325.00 |
| Label Feeder | 750 | 0.00 | 0.00 | 325.00 | 0.00 | 0.00 | 0.00 | 325.00 |
| 2 Disk Conversion Kits MCS Model 701B Optical Mark | 750 | 0.00 | 0.00 | 5,000.00 | 0.00 | 0.00 | 0.00 | 5,000.00 |
| AMENDMENT 02 - SOFTWARE | | | | | | | | |
| Project Management Software | 750 | 0.00 | 0.00 | 500.00 | 0.00 | 401.00 | 401.00 | 99.00 |
| MCS ITS Item Analysis Software for Optical Mark Reader | 750 | 0.00 | 0.00 | 750.00 | 0.00 | 0.00 | 0.00 | 750.00 |
| SHIPPING AND INSURANCE | | | | | | | | |
| | 750 | 0.00 | 0.00 | 3,000.00 | 0.00 | 0.00 | 0.00 | 3,000.00 |
| SUBTOTAL WITHOUT OVERHEAD CHARGE | | | | | | | | |
| | | 80,000.00 | 174,405.00 | 189,515.00 | 16,118.60 | 82,472.59 | 98,591.19 | 90,923.81 |
| GRAND TOTAL | | | | | | | | |
| | | \$148,281.82 | \$234,686.82 | \$249,796.82 | \$19,298.22 | \$99,253.78 | \$118,554.01 | \$131,242.81 |

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D. DELIVERY ORDER #5 EXPENDITURES

SIGNED 1/4/85

BUDGET: DELIVERY ORDER #5 - QUARTERLY REPORT
 ZIMBABWE/BEST PROJECT
 USAID CONTRACT NO. 613-K-606-C-00-4010

| LINE ITEM | ACCOUNT NUMBER | BUDGET ALLOCATION | EXPENDITURES TO DATE LAST QUARTER | EXPENDITURES THIS PERIOD 7/85-9/85 | EXPENDITURES TO DATE 9/85 | VARIANT FROM BUDGET |
|--|----------------|--------------------|-----------------------------------|------------------------------------|---------------------------|---------------------|
| TECHNICAL ASSISTANCE PERSONNEL | | | | | | |
| Library Specialist (Sharon Feen) (1 person x 4 wks x 5 days @ \$200) | 706 | 4,000.00 | 0.00 | 0.00 | 0.00 | 4,000.00 |
| Voc-Tech Equipment Specialist (Reynolds, Lewis) (2 persons x 8 wks x 5 days @ \$200) | 706 | 16,000.00 | 335.95 | 6,728.58 | 7,064.53 | 8,935.47 |
| Computer Studies Expert (1 person x 1 wk x 5 days @ \$250) | 706 | 15,000.00 | 0.00 | 0.00 | 0.00 | 15,000.00 |
| Competency-based Education Expert (Redfield) (1 person x 1 wk x 5 days @ \$250) | 706 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| SUBTOTAL TECHNICAL ASSISTANCE PERSONNEL | 706 | 35,000.00 | 335.95 | 6,728.58 | 7,064.53 | 27,935.47 |
| TRAVEL | | | | | | |
| Airfare (4 rt US-Zimbabwe) | 711 | 12,000.00 | 2,289.00 | 3,220.44 | 5,509.44 | 6,490.56 |
| Per Diem (224 days @ \$66) | 711 | 14,784.00 | 56.20 | 2,424.55 | 2,480.75 | 12,303.25 |
| 2 Rental Cars | 711 | 3,000.00 | 0.00 | 459.82 | 459.82 | 2,540.18 |
| Airfare: CBE Expert (1 rt US-Zimbabwe) | 711 | 0.00 | 0.00 | 3,588.96 | 3,588.96 | (3,588.96) |
| Per Diem: CBE Expert (5 days @ \$66) | 711 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| SUBTOTAL TRAVEL | 711 | 29,784.00 | 2,345.20 | 9,693.77 | 12,038.97 | 17,745.03 |
| SHORT-TERM DIRECT COSTS | 714 | 0.00 | 21.60 | 70.55 | 92.15 | (92.15) |
| SHORT-TERM COST SUBTOTAL | | 64,784.00 | 2,702.75 | 16,492.90 | 19,195.65 | 45,588.35 |
| INDIRECT COSTS @ 28% | 798 | 17,491.68 | 756.77 | 4,618.01 | 5,374.78 | 12,116.90 |
| TOTAL COSTS | | \$82,275.68 | \$3,459.52 | \$21,110.91 | \$24,570.44 | \$57,705.24 |

NOTE: No cost amendment allowed addition of CBE expert, for whom there was no line item. Overage will result from his/her work and travel.

D. DELIVERY ORDER #6 EXPENDITURES
SIGNED 3/27/85, COMPLETED 4/11/85

DELIVERY ORDER #6
 ZIMBABWE/BEST PROJECT
 USAID PROJECT NO. 613-K-606-C-00-4010

| LINE ITEM | ACCOUNT NUMBER | BUDGET ALLOCATION | EXPENDITURES TO DATE 9/85 * | VARIANT FROM BUDGET |
|-------------------------------------|----------------|-------------------|-----------------------------|---------------------|
| CONSULTANCY FEE 3 days @ 250/day | 706 | \$750.00 | \$750.00 | 90.00 |
| TRAVEL EXPENSES | | | | |
| Full-fare Economy Air Ticket | 711 | 3,125.00 | 3,109.00 | 16.00 |
| Per Diem 5 days @ 60/day | 711 | 300.00 | 322.00 | (22.00) |
| MISCELLANEOUS EXPENSES/CONTINGENCY | 714 | 100.00 | 52.10 | 47.90 |
| SUBTOTAL | | 4,275.00 | 4,233.10 | 41.90 |
| INDIRECT COSTS @ 27% | 798 | 1,154.25 | 1,142.94 | 11.31 |
| TOTAL COST OF CONSULTANCY | | \$5,429.25 | \$5,376.04 | \$53.21 |

* No change in expenditures since 4/85.

January 20, 1986

D. DELIVERY ORDER #7 EXPENDITURES
SIGNED 4/29/85, COMPLETED 5/6/85

BUDGET: DELIVERY ORDER #7
 ZIMBABWE/BEST PROJECT
 USAID CONTRACT NO. 613-K-606-C-00-4010

| LINE ITEM | ACCOUNT NUMBER | BUDGET ALLOCATION | EXPENDITURES TO DATE 6/85 | EXPENDITURES THIS PERIOD 7/85-9/85 | EXPENDITURES TO DATE 9/85 | VARIANT FROM BUDGET |
|---------------------------------|----------------|-------------------|---------------------------|------------------------------------|---------------------------|---------------------|
| TRAVEL r/t Dar es Salaam-Harare | 711 | \$800.00 | \$746.93 | \$0.00 | \$746.93 | \$53.07 |
| PER DIEM 6 days @ \$60 | 711 | 360.00 | 354.02 | 0.00 | 354.02 | 5.98 |
| SUBTOTAL | | 1,160.00 | 1,100.95 | 0.00 | 1,100.95 | 59.05 |
| Indirect Costs @ 27% | 798 | 313.20 | 297.26 | 0.00 | 297.26 | 15.94 |
| TOTAL | | \$1,473.20 | \$1,398.21 | \$0.00 | \$1,398.21 | \$74.99 |

January 20, 1986

D. DELIVERY ORDER #8 EXPENDITURES

SIGNED 6/27/85

BUDGET: DELIVERY ORDER #8 - QUARTERLY REPORT

ZIMBABWE/BEST PROJECT

USAID CONTRACT NO. 613-K-606-C-00-4010

| LINE ITEM | ACCOUNT NUMBER | BUDGET ALLOCATION | EXPENDITURES TO DATE LAST PERIOD | EXPENDITURES THIS PERIOD 7/85-9/85 | EXPENDITURES TO DATE 9/85 | VARIANT FROM BUDGET |
|--------------------------------|----------------|-------------------|----------------------------------|------------------------------------|---------------------------|---------------------|
| US ANNUAL BASE SALARY, YEAR 1 | 701 | 337,600.00 | 0.00 | 0.00 | 0.00 | 337,600.00 |
| 5% INCENTIVE, YEAR 1 | 710 | 22,000.00 | 0.00 | 0.00 | 0.00 | 22,000.00 |
| 7% RETIREMENT, YEAR 1 | 703 | 30,800.00 | 0.00 | 0.00 | 0.00 | 30,800.00 |
| TOTAL: YEAR 1 SALARY PAYMENTS | | 390,400.00 | 0.00 | 0.00 | 0.00 | 390,400.00 |
| US ANNUAL BASE SALARY, YEAR 2 | 701 | 359,600.00 | 0.00 | 0.00 | 0.00 | 359,600.00 |
| 5% INCENTIVE, YEAR 2 | 710 | 23,104.00 | 0.00 | 0.00 | 0.00 | 23,104.00 |
| 7% RETIREMENT, YEAR 1 | 703 | 32,344.00 | 0.00 | 0.00 | 0.00 | 32,344.00 |
| TOTAL: YEAR 2 SALARY PAYMENTS | | 415,048.00 | 0.00 | 0.00 | 0.00 | 415,048.00 |
| SETTLING-IN ALLOWANCE | 726 | 67,200.00 | 0.00 | 0.00 | 0.00 | 67,200.00 |
| PREDEPARTURE EXPENSES | 727 | 3,200.00 | 0.00 | 0.00 | 0.00 | 3,200.00 |
| ORIENTATION PER DIEM | 712 | 2,400.00 | 0.00 | 0.00 | 0.00 | 2,400.00 |
| EDUCATIONAL ALLOWANCE, YEAR 1 | 707 | 4,000.00 | 0.00 | 0.00 | 0.00 | 4,000.00 |
| EDUCATIONAL ALLOWANCE, YEAR 2 | 707 | 4,000.00 | 0.00 | 0.00 | 0.00 | 4,000.00 |
| STORAGE, YEAR 1 | 713 | 22,400.00 | 0.00 | 0.00 | 0.00 | 22,400.00 |
| STORAGE, YEAR 2 | 713 | 22,400.00 | 0.00 | 0.00 | 0.00 | 22,400.00 |
| RECRUITMENT COSTS | | | | | | |
| Panelist honoraria | 728 | 2,400.00 | 0.00 | 900.00 | 900.00 | 1,500.00 |
| Candidate Airfare and Per Diem | 728 | 7,800.00 | 0.00 | 700.96 | 700.96 | 7,099.04 |
| SUBTOTAL | | 941,248.00 | 0.00 | 1,600.96 | 1,600.96 | 939,647.04 |
| 2% ADMINISTRATIVE COST | 799 | 18,824.96 | 0.00 | 32.02 | 32.02 | 18,792.94 |
| TOTAL | | \$960,072.96 | 0.00 | \$1,632.98 | \$1,632.98 | 958,439.98 |

January 5, 1985

D. DELIVERY ORDER #9 EXPENDITURES

SIGNED 6/27/85

BUDGET: DELIVERY ORDER #9 - QUARTERLY REPORT

ZIMBABWE/BEST PROJECT

USAID CONTRACT NO. 613-K-606-C-00-4010

| LINE ITEM | ACCOUNT NUMBER | BUDGET ALLOCATION | EXPENDITURES TO DATE LAST PERIOD | EXPENDITURES THIS PERIOD 7/85-9/85 | EXPENDITURES TO DATE 9/85 | VARIANT FROM BUDGET |
|-------------------------------|----------------|-------------------|----------------------------------|------------------------------------|---------------------------|---------------------|
| US ANNUAL BASE SALARY, YEAR 1 | 701 | 484,800.00 | 0.00 | 0.00 | 0.00 | 484,800.00 |
| 5% INCENTIVE, YEAR 1 | 710 | 30,000.00 | 0.00 | 0.00 | 0.00 | 30,000.00 |
| 7% RETIREMENT | 703 | 42,000.00 | 0.00 | 0.00 | 0.00 | 42,000.00 |
| TOTAL: YEAR 1 SALARY PAYMENTS | | 556,800.00 | 0.00 | 0.00 | 0.00 | 556,800.00 |
| US ANNUAL BASE SALARY, YEAR 2 | 701 | 514,800.00 | 0.00 | 0.00 | 0.00 | 514,800.00 |
| 5% INCENTIVE, YEAR 2 | 710 | 31,500.00 | 0.00 | 0.00 | 0.00 | 31,500.00 |
| 7% RETIREMENT, YEAR 2 | 703 | 44,100.00 | 0.00 | 0.00 | 0.00 | 44,100.00 |
| TOTAL: YEAR 2 SALARY PAYMENTS | | 590,400.00 | 0.00 | 0.00 | 0.00 | 590,400.00 |
| SETTLING-IN ALLOWANCE | 726 | 100,800.00 | 0.00 | 8,400.00 | 8,400.00 | 92,400.00 |
| TRAVEL AND PER DIEM | 712 | 133,200.00 | 0.00 | 9,004.66 | 9,004.66 | 124,195.34 |
| PREDEPARTURE EXPENSES | 727 | 4,800.00 | 0.00 | 0.00 | 0.00 | 4,800.00 |
| AIR FREIGHT | 722 | 57,000.00 | 0.00 | 2,805.00 | 2,805.00 | 54,195.00 |
| EDUCATIONAL EXPENSES | 707 | 12,000.00 | 0.00 | 0.00 | 0.00 | 12,000.00 |
| STORAGE | 713 | 67,200.00 | 0.00 | 0.00 | 0.00 | 67,200.00 |
| RECRUITMENT | 728 | 31,200.00 | 0.00 | 22,945.06 | 22,945.06 | 8,254.94 |
| SUBTOTAL | | 1,533,400.00 | 0.00 | 43,154.72 | 43,154.72 | 1,510,245.28 |
| 2% ADMINISTRATIVE COSTS | 799 | 31,068.00 | 0.00 | 863.09 | 863.09 | 30,204.91 |
| TOTAL | | \$1,584,468.00 | \$0.00 | \$44,017.81 | \$44,017.81 | \$1,540,450.19 |

January 5, 1986

2/2

SIGNED 7/15/85

| LINE ITEM | ACCOUNT NUMBER | BUDGET ALLOCATION | EXPENDITURES AS OF LAST QUARTER | EXPENDITURES THIS PERIOD 7/85-9/85 | EXPENDITURES AS OF 9/85 | VARIANT FROM BUDGET |
|--|----------------|-------------------|---------------------------------|------------------------------------|-------------------------|---------------------|
| 1. SALARY: | | | | | | |
| Program Specialist (KDR/AED) | 702 | 958,571 | 0 | 81,577 | 81,577 | 854,994 |
| Project/Automation Specialist (AED) | 702 | 142,657 | 0 | 0 | 0 | 142,657 |
| Secretary (AED) | 702 | 19,048 | 0 | 0 | 0 | 19,048 |
| Software Specialist (ST) | 702 | 28,571 | 0 | 0 | 0 | 28,571 |
| Total Salary: | | 249,048 | 0 | 1,577 | 1,577 | 247,471 |
| 2. BENEFITS: | | | | | | |
| | 704 | 64,752 | 0 | 410 | 410 | 64,342 |
| 3. CONSULTANTS (Hardware & Training): | | | | | | |
| | 706 | 60,000 | 0 | 0 | 0 | 60,000 |
| Total Salary, Benefits, & Consultants: | | 373,800 | 0 | 1,987 | 1,987 | 371,813 |
| 4. TRAVEL AND TRANSPORTATION: | | | | | | |
| International Travel | | | | | | |
| 10 RT Wash/Harare @2,500 | 711 | 25,000 | 0 | 0 | 0 | 25,000 |
| Per Diem @64/day | 711 | 11,000 | 0 | 0 | 0 | 11,000 |
| In-country Travel | | | | | | |
| 30 RT/Yr. Harare/Dul @ \$100/trip | 711 | 3,000 | 0 | 0 | 0 | 3,000 |
| Per Diem @ 644 | 711 | 4,000 | 0 | 0 | 0 | 4,000 |
| Total Travel: | | 43,000 | 0 | 0 | 0 | 43,000 |
| 4. OTHER DIRECT COSTS: | | | | | | |
| Office Supplies | 714 | 3,000 | 0 | 0 | 0 | 3,000 |
| 904 Ins. @2.67 of overseas salaries | 714 | 6,780 | 0 | 0 | 0 | 6,780 |
| Communications | 714 | 5,000 | 0 | 0 | 0 | 5,000 |
| Printing & Reproduction | 714 | 2,500 | 0 | 0 | 0 | 2,500 |
| Postage & Delivery | 714 | 4,500 | 0 | 0 | 0 | 4,500 |
| Visa and Medical | 714 | 300 | 0 | 0 | 0 | 300 |
| Temporary Clerical | 714 | 0 | 0 | 602 | 602 | (602) |
| Total Other Direct Costs: | | 22,080 | 0 | 602 | 602 | 21,378 |
| Subtotal Costs Subject to Overhead: | | 438,880 | 0 | 2,589 | 2,589 | 436,291 |
| 7. OVERHEAD | | | | | | |
| | 798 | 30,000 | 0 | 725 | 725 | 29,275 |
| Subtotal Direct Costs Plus Overhead: | | 468,880 | 0 | 3,314 | 3,314 | 465,566 |
| 8. EQUIPMENT & SOFTWARE: | | | | | | |
| Computer Hardware | 750 | 384,000 | 0 | 0 | 0 | 384,000 |
| Off-the-Shelf Software | 750 | 54,000 | 0 | 0 | 0 | 54,000 |
| Custom Software Core | 750 | 50,000 | 0 | 0 | 0 | 50,000 |
| Communications Equipment | 750 | 9,000 | 0 | 0 | 0 | 9,000 |
| Spare Parts | 750 | 96,000 | 0 | 0 | 0 | 96,000 |
| Form Paper for redesign | 750 | 12,000 | 0 | 0 | 0 | 12,000 |
| Training materials | 750 | 6,000 | 0 | 0 | 0 | 6,000 |
| Total Equipment and Software: | | 611,000 | 0 | 0 | 0 | 611,000 |
| 9. EQUIPMENT SHIPPING: | | | | | | |
| | 750 | 57,000 | 0 | 0 | 0 | 57,000 |
| 10. SHORT-COURSE SCHOLARSHIP: | | | | | | |
| | 752 | 90,000 | 0 | 0 | 0 | 90,000 |
| 11. ALLOWANCES: | | | | | | |
| Housing Allowance - Auto Specialist | 753 | 10,500 | 0 | 0 | 0 | 10,500 |
| Settling In Allowance @8,500 | 754 | 8,500 | 0 | 0 | 0 | 8,500 |
| Educational Allowance @1,500/child | 755 | 0 | 0 | 0 | 0 | 0 |
| Guard Service @9250/yr. | 756 | 0 | 0 | 0 | 0 | 0 |
| Storage @9100/yr. + \$1,500 transfer | 757 | 2,000 | 0 | 0 | 0 | 2,000 |
| Post Differential @ 10% of Salary | 758 | 0 | 0 | 0 | 0 | 0 |
| Air Freight Shipping | 759 | 0 | 0 | 0 | 0 | 0 |
| Total Allowances: | | 21,000 | 0 | 0 | 0 | 21,000 |
| Subtotal Other Costs: | | 779,000 | 0 | 0 | 0 | 779,000 |
| GRAND TOTAL: | | 81,247,800 | 0 | 83,314 | 83,314 | 81,244,486 |
| January 5, 1986 | | | | | | |

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APPENDIX A
TRAVEL OF CORE CONTRACT PERSONNEL

APPENDIX A

TRAVEL OF CORE CONTRACT PERSONNEL

April 1, 1985 - September 30, 1985

| <u>DATE</u> | <u>TRAVELER</u> | <u>DESTINATION</u> | <u>PURPOSE</u> |
|---------------------|-----------------|--|--|
| June 10 - 12 | R. Klauss | Bulawayo | To learn more about the instructional program at Bulawayo Technical College; to visit OPEXers; and to gather views from the personnel at Bulawayo and Kwe Kwe concerning staff development for the technical college system. |
| July 16 - 18 | J. Hatch | Buffalo, NY Rochester, NY N.Y.C., NY | To accompany a team from the Ministry of Labour on a tour of institutions offering Bachelor degrees in Engineering Technology. |
| July 27 - August 23 | J. Hatch | Harare | To become familiar with recent developments in technical assistance needs; visit possible new placement sites (including the University of Zimbabwe); and to visit with OPEXers and their families to hear their views on their orientation at AED/Washington. |
| August 14 - 22 | R. Klauss | U.S. | To cover the AED/Washington office while J. Hatch was in Zimbabwe covering the field office. |

APPENDIX B
HOME OFFICE MONTHLY REPORTS

Academy for Educational Development

AED
International Division

ZIMBABWE BASIC EDUCATION AND SKILLS TRAINING PROJECT

Monthly Progress Report No. 12

April 1, 1985 - April 30, 1985

AID Contract No. 613-K-606-C-00-4010

DELIVERY ORDER #3

A good part of the month was spent in correspondence and communication with those awaiting word on the final approval of their contract. By mid-month we were notified that all had been approved, save two who were over 60 years of age and needed further review. All were notified whose contracts had been approved, though it took a bit longer to actually receive the contracts. Three - Cox, Michaels and De Santo - were ready to depart so the rest of the month was spent in preparing for their orientation on May 2 and 3, assisting with their storage and shipping arrangements and getting their settling-in allowance and tickets.

Ross Duncan, an initial interview candidate for both this Delivery Order and D.O. #5 as a computer curriculum developer, became interested in a long-term assignment and was encouraged to submit all of his papers for appointment under this Delivery Order. Three computer science faculty members from the Tallahassee area - two seen at the Lively Area Vocational Center - also expressed interest in possible appointments under D.O. #5 but were encouraged to apply for long-term assignments. Their decisions have not been received.

DELIVERY ORDER #4

Software systems development is well underway by The Little Computer That Could as a subcontractor. Negotiations have been held with Eric Eno to provide support in systems and software development in Harare on a short-term consultancy basis.

DELIVERY ORDER #6

Dr. Hugh M. Gloster, President of Morehouse College in Atlanta, returned from the opening of Belvedere Teachers' College on April 2. While in Harare, Dr. Gloster visited the University and attended a reception of the Prime Minister.

DELIVERY ORDER #7

Mr. Mzava, Director of Teacher Education in the Ministry of Education of the Government of Tanzania, was invited to attend a conference on education in Harare and

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participate on a panel on Education Self-Reliance. The Delivery Order was proposed and approved on April 24 as the means for getting Mr. Mzava to the conference. The conference will take place in early May.

ZIMMAN

More applications were sent to the University without further clearance in order to move the selection process along a bit faster. University applications and initial rejection letters were also sent out. The University agreed to have AED establish interview panels and hold interviews, and have asked their departments to forward questions for the panels to pose.

Two people each in Medical Microbiology, Mechanical Engineering and Accountancy have been approved for interviews. From the original group seven have been rejected, two not decided upon, and one has withdrawn. An understanding of the selection process at the University was greatly enhanced by a meeting with Lemuel Tsikirayi, Director of Appointments and Personnel at the University, held at the Academy on April 26. In turn, we were able to help him with contacts on some of his interests in American education.

RECRUITMENT

Forty-six resumes were sent to the field as part of a process of early identification of potential candidates for the next selection needs for the technical institutes. Information was also provided to the field on the next Annual Conference of the American Vocational Association in anticipation of both recruitment and possible participation by Zimbabweans.

ADMINISTRATIVE

Major administrative activities involved the Institute of International Education (IIE) this month. The Computers In Education course for four members of the Ministry of Education headed by Mr. Mumbengegwi, Deputy Minister for Planning, filled much time with planning, logistics and hosting. IIE's support in this course of three weeks and four major locales was instrumental in making it work, including the direct hire of the AED-recruited escort officer. The course began on April 22 in Washington and will end in Boston on May 10, and includes visits to schools, teacher education programs, state planning agencies and software and hardware manufacturers.

As a result of the snafus that developed in planning the computer course and to avoid them in the future, Dorothy Anderson and John Hatch met in Washington, DC. It was agreed that for any IIE-sponsored project in which the Academy is involved, the line of communication would be DC-NYC-Harare, and the reverse for communication from the field. If it is an AED-sponsored project, communication would be NYC-DC-Harare and return. This will assure that the office managing the project in the United States will know the status of the project at all points.

In a side development, John Hatch met with Joan Murray, Director of International Purchasing with IIE, to talk about the possibility of using her office's service for future

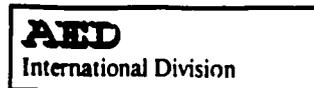
procurement needs. Other administrative activities included the completion of a bibliography on teacher education publications for AID/Harare by Joan Parker, and the interviewing of intern candidates to help out during the summer and summer vacation periods.

FUTURE

The major activity for the next two months will be the preparation for departure, orientation and departure of OPEXers. We expect that most of them will have departed by mid-June. Recruitment will continue for vocational instructors and plans for the next "wave" of interviews should be completed in the near future. Follow-up recruitment of computer science and perhaps other instructors from the Tallahassee area will be pursued.

Preparation for the budget review and Hatch's visit to Harare in July/August will also fill some of the time. Quarterly, half-yearly, and annual reports - delayed by the Computers in Education course and OPEXers' departures - will be completed as a basis for the planning for the budget review and trip to Harare.

Academy for Educational Development



ZIMBABWE BASIC EDUCATION AND SKILLS TRAINING PROJECT

Monthly Progress Report No. 13

May 1, 1985 - May 31, 1985

AID Contract No. 613-K-606-C-00-4010

DELIVERY ORDER #3

Processing of applications and answering questions for three computer studies instructors/curriculum developers has continued. Major efforts under this delivery order, however, have involved the orientation of four OPEXers and three of their spouses. Orientation includes 2-1/2 hours of language/cultural training, introduction to the work of the Academy and review of financial and logistical arrangements for those going.

DELIVERY ORDER #4

Software systems development continues by The Little Computer That Could. Agreement with Eric Eno was reached for him to provide support on systems and software development in Harare as a short-term consultant. Mr. Eno will be going to Harare in early June.

DELIVERY ORDER #5

Ms. Margaret Winkler, selected to be a short-term librarian consultant on vocational education, had to withdraw as a job shift made it impossible to be available. Ms. Sharon Feen, previously identified as a strong candidate for the position, was contacted and agreed to take the position. Because of delays in completing the NVTDC, the consultancy will probably take place in January 1986.

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ZIMMAN

A few more applications for positions at the University came in during the month and were reviewed. The University has indicated decisions on a few of those sent out for action and has sent questions from the Department of Medical Microbiology. The questions will be used by the interview panels which should be convened in mid-June.

Approval by the Academy and the University of a personnel contract took place late in the month. The contract was then sent to USAID's office for approval. The contract's acceptance allows for planning of the interview panels and negotiation of salaries.

RECRUITMENT

Few new vocational and technical applications needed to be processed this month. John Hatch was active in assisting in the development and administration of a training program for technical personnel who will be working abroad. The exercise was useful in pointing out where technically trained Americans have the greatest difficulties in being effective in other cultures and how to help them increase that effectiveness.

ADMINISTRATIVE

The Computers in Education course for four members of the Ministry of Education was completed in the first part of the month. This office provided evaluative support at the mid-point and ending the course as well as monitored the various appointments and visits which constituted the course.

An intern, Ms. Almena Ryan, was selected to work with the Project for three months. She will divide her time between the BEST Project and another Academy project providing technical assistance to Lesotho.

Quarterly and half yearly reports, delayed by the work of getting OPEXers to the field as quickly as possible and the designing of the Computers in Education Course, were written. They should be printed and distributed in the first part of June.

A meeting was held with Dr. Deborah Smith who had recently returned from working at the University of Zimbabwe under the J.F. Kapnek Charitable Trust. The Trust is supporting medical education in Zimbabwe and Dr. Smith was interested that the two projects not compete. To that end, John Hatch will be meeting in early June with the Foundation's director, Dr. Rebecca Pollard.

FUTURE

The next months will include sending out three more OPEXers and interviewing candidates for positions at the University of Zimbabwe. Initial preparations will also begin for John Hatch's visit to Zimbabwe in late July.

It is expected that up to three delivery orders may be signed during the next month, not including one for the University. These delivery orders should generate both purchasing and recruitment or interviewing activities for the month. The arrival of the intern will require some time for orientation but her assistance will be welcomed for the expected tasks.

Academy for Educational Development

AED
International Division

ZIMBABWE BASIC EDUCATION AND SKILLS TRAINING PROJECT

Monthly Progress Report No. 14

June 1, 1985 - June 30, 1985

AID Contract No. 613-K-606-C-00-4010

DELIVERY ORDER #3

Orientation was carried out at AED/Washington this month for three OPEXers, two spouses and two dependents, who were en route to placements at technical institutes in Zimbabwe. Arrangements were made for the interview of a computer curriculum developer by Ambassador Garwe of Zimbabwe, which took place at the end of the month. A second OPEXer will also be interviewed by the Ambassador. Both interviews were needed as the candidates were not interviewed by the visiting team during their March visit.

DELIVERY ORDER #4

Eric Eno went to Harare June 1 and returned June 21. During that time his work included: installing some of the software developed by The Little Computer That Could under this work order, training the Ministry of Education's Examination Branch personnel in the use of software and equipment, and testing procedures for the handling of the Grade 7 and ZJC examinations. There will be both more software development and trips by Mr. Eno to Zimbabwe on this Delivery Order.

An amendment to this Delivery Order was signed on June 21 for the purchase of NCS answer sheets, ink and paper for the Examinations Branch.

DELIVERY ORDER #5

The conference on vocational and technical training which was scheduled for mid-June in Harare was postponed due to preparations for the national elections. This meant that Dr. Redfield's planned presentation at the conference has also been delayed, probably until August. Dr. William Reynolds, the Academy's Director of Vocational and Technical Programs, had also planned to attend the conference as part of his consultancy on vocational training equipment needs. Dr. Reynolds departed June 27 for a month's consultancy under this Delivery Order on equipment needs.

ZIMMAN

Occasional applications continue to arrive for the University of Zimbabwe positions and are processed. More decisions were made by the University on the candidates under review. The personnel contract was approved and Delivery Order #8 was signed for the selection and support of eight faculty members. A planned interview panel for the Business and Accountancy candidates was cancelled when it was discovered that only one candidate could attend. This panel and others will be convened late in the summer or early Fall.

A panel was convened on June 28 to interview four candidates for positions in Medical Microbiology. The panel was headed by Dr. Samuel Tswana, Chairman of the University of Zimbabwe's Medical Microbiology Department, who was assisted by Dr. T. Sreevalsan of Georgetown University and Dr. Louis Affronti of George Washington University. John Hatch served as Recording Secretary for the panel.

RECRUITMENT

Work in this area involved an intensive effort at the first of the month to identify and ascertain the interest of practicing engineers. The purpose of this effort was to provide information to the GOZ which was contemplating the establishment of a Bachelors in Technology degree program in the very near future for which they would have to recruit faculty in the United States, Canada and the United Kingdom.

ADMINISTRATIVE

Much time this month was spent in developing and reviewing proposals for four new delivery orders, three of which were signed by the end of the month. Delivery Order #8 is for the recruitment and support of eight faculty for the University of Zimbabwe; Delivery Order #9 will provide recruitment and support for 12 faculty for the newly developed Bachelor degree programs in technology and business which will be offered through the Technical Colleges; and Delivery Order #10 for short-term technical assistance and equipment to assist the Ministry of Labour, Manpower Planning and Social Welfare with computerizing program administration and development processes.

Almena Ryans began work as an intern on the Project in the middle of the month. She will be assisting with the increased recruitment and personnel support needs of the Project. Among the things on which she has already assisted was a revision of the **OPEX Handbook** based on experiences to date.

Two guests from Zimbabwe were hosted during the month. Dr. Phineas Mahkurane, Pro-Vice Chancellor of the University of Zimbabwe spent most of June 21 at AED learning about the Academy and discussing the needs and procedures of the University. Dr. Samuel Tswana, Chairman of the University's Department of Medical Microbiology visited the Academy on Friday, June 28, to chair a selection panel for the University.

FUTURE

Major efforts will include interviewing candidates for the University of Zimbabwe, completing a Handbook for those going to the University, interviewing and orienting three OPEXers for the technical institutes, and preparing the quarterly report. Initial work will be done on an overview of work and expenses in preparation for the visits of Richard Shorlidge and Rudi Klauss in early August.

John Hatch will be departing for Zimbabwe for a month in late July. The purpose of the trip will be to become familiar with recent developments in technical assistance needs, visit possible new placement sites (including the University of Zimbabwe), and debriefing OPEXers on their orientation program.

The newly signed delivery orders, plus the expected signing of the long-awaited MOE computerization of regional offices will keep this office busy finding people and material and sending them to the field. These activities will also mean a great increase in administrative support work.

Academy for Educational Development

AED

International Division

ZIMBABWE BASIC EDUCATION AND SKILLS TRAINING PROJECT

Monthly Progress Report No 15

July 1, 1985 - July 31, 1985

AID Contract No. 613-K-606-C-00-4010

DELIVERY ORDER #3

Orientation was provided to Mrs. Ron Michaels and daughter on July 26th. Some time was spent in preparation for her trip and in providing support to a few OPEXers in the field in the way of processing forms, and arranging for a few items not yet shipped. Preparations were also begun for Ross Duncan's departure in August as a Computer Curriculum Developer.

DELIVERY ORDER #4

Time was spent in support of Eric Eno, whose organization, The Little Computer That Could, has been working on software development. Mr. Eno departed July 21 for Harare where he will be until August 17. He will be installing and testing the newly developed software and supervising a "dry run" on registration and packaging of examinations.

At the end of June, D.O. #4 was amended to allow for the purchase and shipping of NCS paper, forms and ink needed for the examinations. Contact was made with NCS and the materials were ordered and will be shipped directly to Zimbabwe.

DELIVERY ORDER #5

Dr. Bill Reynolds, the Academy's Director of Vocational and Technical Training, departed for Harare on June 27 and returned July 22. While the initial purpose of the trip was to provide advice on equipment needs for the technical schools, Dr. Reynolds' task became much broader. His final report touched on curriculum, staffing, facilities, National Vocational Training Development Center, as well as equipment. Since his return he has been helpful in briefing potential OPEXers on vocational education in Zimbabwe.

DELIVERY ORDER #8

Candidates previously selected by the University were invited to meet an interview panel. The panel was chaired by Dean Appiah, Department of Engineering, University of Zimbabwe, who was here as part of the interview team for D.O. #9, and included Dr. Joseph Knight of Virginia Polytechnic Institute, Dr. James Dally of the University of Maryland, and John Hatch as Recording Secretary. Five candidates had been identified by the University but when called for interviews only three were still interested or available for consideration on July 16. Approval was given for Dr. Young, a candidate for Ophthalmology, to be interviewed.

1255 23rd Street, N.W.
Washington, D.C. 20037
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Telex 197601 ACATED WSH

DELIVERY ORDER #9

Major activity for the month took place within Delivery Order #9. The office was notified on July 2 that an interview/selection team would arrive July 6 for a two week visit. Many calls were made to potential candidates, most previously identified and initially received by the Ministry of Labour for the new Bachelor of Technology and Bachelor of Science in Business program. Twenty-two interviews were arranged and Dr. Myron Lewis from the State University College at Buffalo enlisted to assist with the interviewing process. The late notice, Fourth of July weekend and summer vacations made it difficult to reach some we had hoped to have interviewed.

The team: Mr. Muringi, Deputy Secretary, Ministry of Labour, Mr. Mufuka, Deputy Secretary, Public Service Commission and Dr. Appiah, Dean of Engineering, University of Zimbabwe completed the interviews on July 15, spent the 16th on follow up matters and departed to Buffalo and Rochester, with John Hatch, to visit Bachelor of Technology programs and recruit technical assistance. Dr. Lewis and his colleague, Dr. Pawlik hosted the team at Buffalo on the 17th and Dr. Baker provided an introduction to Rochester Institute of Technology on the morning of the 18th. That afternoon the team flew to New York City, visited Fairleigh-Dickinson University, Teaneck's technology program, and settled into New York City for two days of meetings with Zimbabwean students who might be interested in becoming instructors in the Bachelor of Technology program.

Letters and follow-up materials have been sent to the candidates interviewed in Washington. Nine were initially identified as appointable, three we put on hold, one selected for the technician training program, and the remainder let go. These letters and reimbursements provided tasks for the remainder of the month.

DELIVERY ORDER #10

The long-discussed delivery order for assisting the Ministry of Education with the development of a regional management information system was reopened July 15. This will be a three year project involving technical and material assistance to develop a hard and software system for the Ministry. Mr. Kurt Moses, Director of the Academy's division of Management Services will serve as the major consultant/coordinator of this effort.

ADMINISTRATION

Major work was in support of the visit of the team from the Government of Zimbabwe to interview people for positions in the new Bachelor of Technology project. Because of those activities and preparation for John Hatch's departure on July 26 for Zimbabwe, work on the University Handbook was not completed. Mr. Hatch's trip will be used to become more familiar with teaching sites, the University of Zimbabwe and to cover the field office while Rudi Klauss is on leave and at the home office.

FUTURE

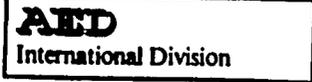
The next month will see two OPEXers going out to the field. A lot of support work for processing paper work for the B.Technology candidates will also have to be done. By mid-month there may be a need for a consultant to be recruited and sent to the field in support of the B.Technology program development work. The beginning of D.O. #10 will also be an activity for hiring people and ordering supplies.

Rudi Klauss and Richard Shortlidge, HRO USAID/Harare will be meeting at the Academy in mid-month to discuss the project and do a preliminary review of the core budget needs in preparation for the 18-24 month review. Dr. Klauss will be in the office for about a week and may get involved in interviewing candidates for the University of Zimbabwe.

An IBM-PC arrived at the end of the month. Its arrival signaled the need for a fair amount of time for training and the development of accounting programs. All delivery orders, as well as core budget and individual OPEXer accounts will be transferred to the computer to allow the office to remain on top of expenses and committed funds.

Recruitment for both the Bachelor of Technology and the apprentice/technician training programs will begin in late August or early September. Selection teams will be expected in October and November. In general, the immediate future looks busy with recruitment, selection, orientation, support of OPEXers and the management of those projects and the long range regionalization of the Ministry of Educations computers network.

Academy for Educational Development



Trip Report: 16-18 July 1985 of John Hatch

Visit to Bachelor of Technology Programs,
Buffalo, N.Y.; Rochester, N.Y.; N.Y.C., N.Y.

The purpose of the trip was to accompany a team from the Government of Zimbabwe in their visit to institutions offering Bachelors in Engineering Technology degree programs. As Dr. Myron Lewis of the State University College at Buffalo had served with the team in the interviewing of candidates, Buffalo was a natural place to visit. Rochester Institute of Technology, being nearby and with a different program, was included in the trip. Fairleigh-Dickinson University at Teaneck was added as it offered a variety of courses and wasn't far from Newark where the plane from Rochester landed.

Besides providing logistical support such as car rentals and driving, making hotel and plane reservations, the trip allowed me a chance to become acquainted with the variety of U.S. Engineering Technology programs and to participate in the team's discussions about the issues/problems of developing a similar program in Zimbabwe.

At Buffalo Dr. Lewis, with the assistance of Dr. Peter Pawlik, put together a dozen faculty members who answered many questions and took us on a tour of their laboratories. They were also extremely generous in providing manuals and materials on their programs and courses. The Buffalo programs are basically "2+" programs, add ons to AS degrees. Instructions are in the labs so the faculty have some flexibility in their teaching/demonstrations. Faculty are allowed one day off per week for consulting and keeping up with industry. (Faculty review is based on laboratory development, teaching and some publications). The program is very practically oriented.

Dr. Lewis proved to be an outstanding host - driving us to and from the hotel, answering questions, hosting us for two meals and showing us the sights. He was also the one who made the initial contact with R.I.T., to which he drove us at the end of the day. The visit with Dean Dave Baker at R.I.T. was also very profitable as their program was, (though basically a "2+"), also a coop program, and thus took three years to complete. Dean Baker explained that most Engineering Technology programs are BSc. rather than B. Technology, and that Southern Tech, U. of Houston, Purdue, Arizona State all had good four year programs.

R.I.T. also has an engineering degree, though the two are very separate in their operations, they do occasionally share lab space. Dean Baker explained that Clemson, Penn State and Georgia Tech had all decided not to offer the technology programs, finding it difficult to have them under the same roof for conceptual reasons.

Fairleigh Dickinson was on vacation so Dr. Melvin Long, Chariman of the Department of Engineering Technology, showed us around and answered our questions. Because of the holiday the labs could only be seen in terms of layout, including a new computer lab. Their labs have a design rather than an analysis orientation. Construction technology is their largest major, a four year program and they are located in the Engineering College with whom they have little interaction. Staff have thirteen hours of work, students carry up to twenty-four credit hours. Like Buffalo and R.I.T., the program also runs in the evening for those who work full time. F.D.U. will also give up to six hours for relevant documented useful work experience and requires a one credit senior year project.

7/23/85

A handwritten signature in black ink, appearing to be 'JLH', located on the right side of the page.

Academy for Educational Development

AED

International Division

ZIMBABWE BASIC EDUCATION AND SKILLS TRAINING PROJECT

Monthly Progress Report No. 16

August 1, 1985 - September 30, 1985

AID Contract No. 613-K-606-C-00-4010

DELIVERY ORDER #3

Work has continued on processing papers for two candidates selected during D.O. #9 selection process. It is expected that contracts will come shortly.

DELIVERY ORDER #4

Much energy was spent trying to get labels needed for the examinations process. The size of the order meant shipment from a distance, requested express shipment did not take place, expected arrival dates turned out to be hoped for shipping dates, etc. Labels finally got off, about a week after they were needed.

Albon Mundangepfufu of the TCB visited the office to talk with Kurt Moses about upcoming regionalization plans for computer services and fit with Examination Branch informational needs. It was a very useful meeting.

DELIVERY ORDER #5

Prof. Redfield returned at the first of the month from his week in Harare participating in a G0Z conference on vocational education. His report is attached.

DELIVERY ORDER #8

Word has been received that Mr. Howell will be offered a contract with the University for 1986-7 in Mechanical Engineering. Plans are being made for October 19th interview of candidates for positions in Accounting and Business, and for a single interview in Ophthalmology, perhaps on the same day.

DELIVERY ORDER #9

Dr. Lahib Eldoky, the first of the candidates chosen as instructor for the new Bachelor of Applied Technology (B. Tech.) project went to Zimbabwe on September 9, via Cairo where he picked up his family. Dr. Eldoky will be teaching in the mechanical engineering field.

DELIVERY ORDER #10

Efforts in this area were spent on recruiting appropriate candidates for the positions of Automation Specialist for the M.O.E. computer regionalization effort as the original candidates, proposed first in late 1984, were no longer available. Resumes of candidates were sent to the field. Some time was also spent in adapting the approved budget to an operational form for better Project accounting of expenses.

NEW DELIVERY ORDERS

New Delivery Orders 11, 12, 13 were signed this month. D.O. #11 is to assist the Ministry of Labor, Manpower Planning and Social Welfare in planning and implementing micro-computer applications to support program administration and development. D.O. #12 will support a librarian, Ms. Honono, who will be assisting the same Ministry with staff training for one year. D.O. #13 will provide the Ministry with assistance in the development and establishment of a student teaching system for those studying abroad. D.O. #11 and #13 will involve short-term technical assistance.

ADMINISTRATIVE

A revised core budget was worked out this month and submitted to USAID/REDSO - Nairobi for approval. Basic changes included adding to the Home Office staff a secretary, provisions for costs of providing for a replacement of the Field Office Coordinator at the end of his contract, and adjustments to various administrative cost based on experience and realistic costing factors.

Almena Ryans, who served as an intern in the Home Office for three months, returned home to Michigan after putting in a great deal of hard and much appreciated work. We hope to have Almena back full-time, when the core budget ammendment is approved, as Project Secretary. Joan Parker, Administrative Assistant, will be moving to a new project in mid-October so her position has been advertised as Logistics Coordinator and seven in-house candidates are being interviewed.

September 17th's morning was spent observing and learning about CARINET, a computer based telecommunications system. The system makes it possible for micro-computers to send messages, hold conferences, edit working papers, etc. worldwide via satellite in a very cost effective method by using message "compressors" and a mainframe for central storage. The system would be far less expensive then DHL for transmitting word-processed information. It will be used by three or four of the Academy's projects.

A major effort of this month was the advertisement for technicians and engineers for the technical institutes' regular program and the B. Tech. program. A 3x4 inch ad was run in Sunday papers September 22 in New York City, Chicago, Detroit, Denver, Seattle, San Francisco, Dallas, Houston and Washington, D.C., as well as submitted to Electrical, Mechanical, and Civil Engineering professional journals, the Chronical of Higher Education, and a specialized military newspaper. On Monday the 23, the office received about 250 phone calls and over 100 resumes! By the end of the week over 500 resumes had been received and the total is expected to reach 900. Telephone calls continued strongly during the week. A quick culling of resumes was done, the selected were copied and sent to Zimbabwe. Responses from the professional journals will not begin until November.

FUTURE

The major effort for the next quarter will be the selection, orientation and placement of twenty candidates in teaching positions in Zimbabwe. This activity includes interviewing in late October/early November and recruiting and interviewing at the American Vocational Association (AVA) annual convention in Atlanta in early December. At the convention the Project will establish and maintain a booth for informational and recruitment purposes. There are nine selected candidates who will be sent to Zimbabwe as soon as word is received on their contracts and they are ready to go.

During this period a new Logistics Coordinator will be learning the ropes. A special task that she/he will have will be the preparation of the third half-yearly report for the period April-September 1985. Equipment needed in support of the Examinations Branch (D.O. #4) will have to be ordered and shipped by mid-November.

Activities for D.O.s #10, 11, 13, those involving computers in the Ministries of Education and Culture, and Labor, Manpower and Planning and Social Welfare, will begin during this next period. These efforts will involve both long and short-term personnel as well as the purchase of equipment. A major concern will be the coordination of efforts, reports and accountings as these delivery orders will involve the Academy's Specialist for Information Services, Kurt Moses.

Attachment

Academy for Educational Development

AED
International Division

Trip Report

of John Hatch to Zimbabwe

July 27-August 23, 1985

Purpose: The purpose of the trip was five fold: to understand the needs and experiences of the Project Field Office, to cover that office during the Field Coordinator's annual leave, to meet with OPEXer's about orientation and settling in needs, to meet with GOZ officials about project progress and future needs, and to visit the various technical institutions. Some personal vacation time was also planned.

Week 1 28 July-3 August

Most of this week was spent with Dr. Rudi Klauss, BEST Project Field Coordinator, learning office procedures and project developments. Meetings were held with Dr. Richard Shortlidge, USAID HRO; Mr. Muringi, Dr. Manyuchi and Mr. Shahadat of the Ministry of Labor, Manpower Planning and Social Welfare and Mr. Rob Blair, Registrar of the University of Zimbabwe. Meetings with the members of the Ministry of Labor followed a morning long monthly meeting of the BEST Advisory Board meeting and were designed to learn more of the needs of the Ministry and points to focus on during visits with OPEXer's and vocational institutes.

The meeting with Mr. Blair provided an opportunity to review selection and interview procedures. Based on these discussions, interviews were arranged with members of the departments of Accounting, Business Studies and Surgery to gather background for future interviews. Following the meeting, a tour was made with the Head Housekeeper to the flats, chalets and houses that will be available to OPEXer's. The meeting with Mr. Shortlidge served to provide an overview of USAID's interest and concerns with the progress and future developments of the BEST Project.

Meetings, both formal and informal, were held with various OPEXer's and Eric Eno. Mr. Eno brought me up to date on the problems and developments in the Examinations Branch. He also conducted a session of an on going D-Base II programming workshop which I attended. Meetings with the OPEXer's began a process of photographing their housing - to use for orientation - and collecting information on how the orientation in the States provided for their realities as they arrived and settled in. This process continued during the whole trip.

The week ended with last minute meetings and preparations for the departures of Rudi Klauss and Richard Shortlidge for vacation and meetings in Washington, D.C.

Week 2

4 August-10 August

Most of this week was spent in visits to various vocational institutes. A long drive on Sunday brought me to Bulawayo in time for a luncheon with the OPEXer's there, visits to their homes and a trip to Matopos and neighboring game park. The next day was spent at the Bulawayo Technical College visiting and photographing the various workshops, sitting in on OPEXer classes, and meeting with Mr. Crutchley the Principal. On the following day, Mr. Kulinga, Principal of the new Gweru Technical Institute, provided a tour of his institution. At Kwe Kwe, Mr. Mambo welcomed me and turned me over to Mr. Leonard Chisango, who will be Acting-Principal while Mr. Mambo is on leave studying for an advanced degree. A tour of the Institute included visits to the hostel, staff housing and the cafeteria for lunch.

Harare Polytechnic Institute was visited on Wednesday morning. The trip provided an opportunity to see more OPEXers at work as well as to take photographs. Besides the various workshops, visits were also made to the new and current computer laboratories and to the building which had been designated as a major workshop for the new Bachelor of Applied Technology (B. Tech) program. Dr. Don Neff, an OPEXer who has been working on curriculum development, provided introductions and background on the B. Tech. program developments.

Thursday was filled mostly with welcoming and orienting Mr. James Cech, an automechanic OPEXer designated for Kwe Kwe. The following day started with an extensive tour of the offices and computer rooms where the Project has been working with the Ministry of Education (MOE) for the past year and a half. Eric Eno provided both introduction to his fellow workers and a good explanation of what was being done in the Grade Seven and ZJC examination process. The day ended with more orientation meetings with Mr. Cech and officials of the Ministry of Labor. The weekend provided an opportunity to see and photograph more of Harare, especially OPEXer housing.

Week 3

11 August-16 August

Hero's Day provided an opportunity to learn more of Zimbabwean history through a trip to Masvingo and The Great Zimbabwe. Most of the following day was taken up with final processing of James Cech's entrance to Zimbabwe and driving him down to Kwe Kwe where he will be teaching. In the evening a meeting was held with Eric Eno as he was to depart the next day.

Wednesday, the day of Mr. Eno's departure, was also the day that Dr. Myron Lewis arrived for a ten day consultation on the B. Tech program. Dr. Lewis's time was to be filled with meetings with the B. Tech. planning committee and representatives of the Ministry of Labor. Dr. Neff provided orientation and support to his efforts. I departed that afternoon for a visit to Mutare and the technical college there. Mr. Mandimeka, the Principal, gave a tour of buildings under construction and told of the colleges training plans. The return from Mutare was via the Inyanga Mountains. Friday was spent in the office and at the University in interviews with members of the departments of Accounting and Business Studies, and again with Mr. Blair.

Week 4

18 August-24 August

The week began with vacation at Wankie National Park and Victoria Falls - a chance to see more of the natural resources of Zimbabwe. Wednesday morning was spent at Belvedere Teachers College where Mr. Peter Dzvimbo, Assistant Principal, provided an excellent guided tour and answered many questions about educational planning and development in the school system. Part of the afternoon was spent at the Medical School interviewing Dr. Harid and learning more about the University's training program. At least one candidate will be recruited for the Medical School by the Project.

The next morning was spent in a roundtrip visit to Kushinga - Phikalele Vocational Institute just west of Marondera with Dr. Neff. The Principal, Mr. Mwadiwa, gave us a tour of the construction site, explained plans for curriculum and listened to advice on equipment and wiring for computer studies needs. The next two days were spent in preparation for departure on Friday night. That included not only office activities but meetings with Mr. Muringi and Dr. Lewis and a dinner/reunion of the B. Tech. instructor interviewing team: Lewis, Hatch, Mufuka, Appiah and Muringi (host) and available spouses.

Comment:

Four weeks in Harare provided a good glimpse of the routines and processes of the Field Office and of the interactions that office has with Government of Zimbabwe (GOZ) officials. In addition to a difference in pace of life and of business, the difference that the time between the States and Zimbabwe makes in when things get done was also apparent. The experience of working in Harare was very beneficial in understanding that milieu and getting to know better the people and places that memos and conversations mention.

Meetings with GOZ officials and those associated with the University provided invaluable first hand understandings of their needs and operating constraints. Visits to the University, technical colleges and OPEXer homes provided a familiarity with the physical settings in which the OPEXers work or will be working. This knowledge, plus information gained through interviews, will make the Project more knowledgeable in speaking with candidates about their conditions of service. Slides taken during the trip will be made into an orientation/recruitment visual presentation.

9/5/85

APPENDIX C
FIELD OFFICE MONTHLY REPORTS

Zimbabwe/BEST Monthly Activity Report

April, 1985

Rudi Klauss

Field Coordinator, Harare

I. Program

A. Ministry of Education Dr. Hugh Gloster completed his visit to Zimbabwe on April 1. On his last day in Harare, he met with Vice Chancellor Walter Kamba at the University of Zimbabwe and also met with faculty and students at Belvedere Teachers College.

Final arrangements were made for a Ministry team to undertake a study tour funded under ZIMMAN to study the use of computers in education. The program is being carried out by AED/Washington during the period April 22-May 10, and includes Deputy Secretary Sam Mumbengeqwi, P. Dzvimbo (vice principal of Belvedere Teachers College), J.C. Bwerazuva (principal of Mkoba Teachers College), and H.V. Moyana (principal of Morgan Zintech College).

Work continued under Delivery Order 4, with several communications involving the Exams Branch, TCB and Eric Eno who is developing the software in North Carolina. Four computer tapes including key data needed in designing the software were forwarded to Eno as part of this effort.

Preparation of a new delivery order (7) was initiated under which Mr. I.A. Mzava, Director of Teacher Education in the Ministry of Education in Tanzania, will participate in a teacher education conference in Gweru, May 2-4.

The MOE computer users group held its monthly meeting at the AED office on April 29. The subject of the discussions was the Psychological Services Unit's beginning effort to develop a computerized data bank of test questions for use in the Grade 7 exams.

Further discussions were held within the Ministry regarding the project through which microcomputers will be installed in the regional education offices. Final revisions and approval of the project are anticipated in May.

B. Ministry of Labour, Manpower Planning, and Social Welfare
Remaining documentation for the 9 persons selected for long-term positions with the Ministry were forwarded to Dr. Manyuchi. The Public Service Commission approved 5 of the persons and letters of appointment were forwarded to AED/Washington by DHL. so

66

that final arrangements could be made for travel. The first two persons are now scheduled to arrive May 5 in time for them to take up teaching responsibilities in the new term which begins May 7.

Twenty-nine new resumes were forwarded to the Ministry for review and screening. Some of these candidates appear to be suitable for teaching positions in the proposed BSC applied technology program to be introduced at Harare Polytech in the near future. Graduates of this program are expected to provide a resource pool from which future lecturers at the technician and technologist level of instruction in the technical college system could be drawn. Involvement of BEST funded instructional staff would be very consistent with the program's goals and would address two important grant criteria: building long-term institutional capacity, and having a multiplier effect.

We (Tobia Boka from the Ministry, Golden Chekenyere from USAID and myself) continued our collaborative effort to revise and improve the draft project activity statements for the NVTDC and Mutare Technical College. These documents are to be made available to the BEST Working Group for their review at a meeting to be held in May.

I attended the NVTDC site meeting on April 24 at which time construction progress was reviewed by the various contractors involved in the project. After the meeting we made a brief tour of the facility which is now scheduled to open later this year.

C. University of Zimbabwe Comments were received from the University, USAID, and AED/Washington on the draft Letter of Agreement for ZIMMAN sponsored faculty to be recruited by AED for various departments at the University of Zimbabwe. These comments are to be incorporated into a final version which is expected to be approved in May. Further clarification was also obtained as to how the panel selection process is to be handled by AED/Washington.

During Dr. Gloster's meeting at the University on April 1, he indicated to Vice Chancellor Kamba that he would be happy to assist informally in identifying faculty from the U. S. for the University. Such faculty could be funded under the ZIMMAN project.

II. Administrative matters

Administrative arrangements for the arrival of the long-term contract personnel were finalized, including the preparation of an orientation packet which will be distributed to individuals as they arrive.

III. Plans for May

During the month of May the following activities will be addressed:

1. assisting in the settling-in of long-term contract personnel who begin arriving May 5;
2. finalizing the University of Zimbabwe Letter of Agreement;
3. refinement of the project activity statements for the NVTDC and Mutare Technical College;
4. beginning the development of a dBase II program to facilitate preparation of the AED/Harare monthly imprest funds report.
5. finalization of the new delivery order for the Ministry of Education's regional computers project.

Zimbabwe/BEST Monthly Activity Report

May, 1985

Rudi Klaus

Field Coordinator, Harare

I. Program

A. Ministry of Labour, Manpower Planning and Social Welfare. The major activity with this ministry during May involved the arrival of the first group of long-term contractor personnel to be assigned to the vocational/technical education system. The initial group arrived on May 5 and included three persons who have been assigned to teaching positions at Harare Polytech. They are: Ron Cox (and spouse); Ed De Santo (and spouse) and Ron Michaels (whose spouse and two year old child will arrive in July). A fourth person arrived on May 21 (Bill Gifford) and he has been assigned to The Technical College, Bulawayo. Initial entry formalities with Immigration and Customs went smoothly. However, as of the end of the month their applications for residence had still not been approved by Immigration authorities. This process will hopefully be completed during June.

Discussions were also held with the Ministry concerning the proposed BSC degree program in practical engineering to be offered initially at Harare Polytech. At the request of the Ministry, John Hatch in AED/Washington undertook a crash effort to identify potential instructors for this program. Some 16 resumes were submitted in late May to the Ministry for review.

We also discussed with the Ministry the possibility of providing some short-term technical assistance to help strengthen the program administration and development functions in the Directorate concerned with vocational and technical education. Such assistance would entail the introduction of microcomputers and software so that the Directorate could more effectively plan and monitor its extensive program of activities. This activity is expected to be formalized through a new delivery order to be developed in the coming weeks.

B. Ministry of Education. During May further discussions were held regarding the proposed project to introduce microcomputers and decentralize administrative procedures to the regional education offices. Final revisions on the project are expected in June with implementation to begin shortly thereafter.

Another MOE computer users group meeting was held at the AED/Harare office on May 27. Discussion centered on the use of DBASE II, including a presentation by Rudi Klaus.

C. University of Zimbabwe. The Letter of Agreement to be signed by faculty recruited for the University of Zimbabwe by AED was approved by the University and USAID/Harare, and was forwarded to AED/Washington and USAID/Nairobi for their approval. Once this document has been approved, the panel interview process can begin in AED/Washington for those applicants who have been approved by the University for such interviews.

D. Management training. Discussions were held with Professor Rukudzo Murapa and members of his department (Political and Administrative Studies) at the University of Zimbabwe regarding management training/management improvement priorities within the Government of Zimbabwe which might be addressed through the BEST program. Several preliminary ideas were put forward, but will require further definition and elaboration in the coming weeks.

II. Plans for June

During June a major preoccupation will be working with the Ministry of Labour, Manpower Planning and Social Welfare on staff development plans for the technical college system and head office. In addition, two more long-term contractor personnel are scheduled to arrive. Initial orientation and assistance in settling into housing will take a fair amount of time. Additional work in developing delivery orders will also take place. One delivery order to be developed concerns the establishment of a scholarship tracking system in the Ministry of Labour, Manpower Planning and Social Welfare. The second delivery order concerns strengthening the planning and administrative functions in vocational and technical education. It is also expected that the Ministry of Education's regional decentralization effort will be formally approved in June so that this large scale effort can get under way.

ZIMBABWE/BEST Monthly Activity Report

June, 1985

Rudi Klauss
Field Coordinator, Harare

I. PROGRAM

A. Ministry of Labour, Manpower Planning, and Social Welfare. During June considerable time was spent in preparing for, orienting, and helping newly arrived AED long-term contractor personnel settle-in to their assignments and housing. Three contractors arrived at various times: Dr. Robert Illinik (June 6) who has been assigned to the Mechanical Engineering Division at the Technical College, Bulawayo; Dr. Donald Neff and spouse (June 21) who has been assigned to Head Office in the Curriculum Development Unit; Richard Omoruyi and spouse (June 22) who has been assigned to Harare Polytech in the Computer Studies Department. In addition, Bill Gifford's spouse, Amey Lee arrived on June 2. All have found housing in their respective communities within a few weeks, although it has become increasingly difficult to find reasonably priced accommodations - especially in Harare.

I also made a three day field trip (June 10 - 12) to Bulawayo with a stop in Kwe Kwe on my return. The trip permitted me to drive Dr. Illinik to the Technical College, Bulawayo and to introduce him to the principal. It also afforded the opportunity to assist Bob in some initial settling-in, see how Bill Gifford and wife were getting along, and to learn more about the program of instruction at the technical college. On my return to Harare, I stopped in Kwe Kwe to meet with the principal, Mike Mambo, to discuss staff development ideas. My trip report expands on the visit to Bulawayo and Kwe Kwe.

The AED/Harare office also had several contacts with the administrative section of the Ministry to sort out employment papers of the newly arrived contractor personnel. Some of the papers had not been completed by the Ministry, while certain other documents of some of the contractors which had been misplaced or not received had to be added to the Ministry's files. Lack of complete files has held up the processing of temporary employment permits by Immigration and in one case is delaying the clearance of personal effects through Customs.

On June 30 Dr. William Reynolds, AED/Washington vocational education expert, arrived in Harare under D.O. 5. His task includes helping to define the equipment requirements for Masvingo Technical College, equipment needs at other institutions, and provide suggestions in areas such as strategy planning for the national vocational/technical education system, staffing and staff development, and related concerns with which

the BEST program may become involved. This visit will also enable him to be an additional technical resource to John Hatch on other matters which may come up in Washington during the course of the project.

Preparations were also made for a special recruiting trip to take place in July to identify up to 12 lecturers for the new BSC program to be established at Harare Polytech. This work is to be carried out under Delivery Order 9 which was signed in late June. In addition another delivery order was drafted which would provide resources to assist the Directorate in strengthening its planning and administrative capacity. Approval of this delivery order may come during July.

Other meetings during the month included discussions with Swedish SIDA and the West German GTZ programs to learn more about their activities in the Education sector.

B. Ministry of Education. AED consultant Eric Eno arrived on June 3 to continue work under Delivery Order 4. He brought with him customized software programs to be installed at TCB. These programs will streamline the processing of the Grade 7 exams. During a meeting just before his departure on June 20, he briefed MOE personnel on the status of the effort and next steps with the Exams Branch.

Additional discussions were also held regarding the draft regional computerization and management improvement delivery order. It is anticipated that this delivery order will be finalized in July.

C. University of Zimbabwe. Four new applications for teaching positions were forwarded to the University in early June for review and consideration: Dr. Charles Finch (Community Medicine), whose candidacy had been forwarded by Dr. Hugh Gloster from Morehouse College; Norma Barratt (microbiology); Billie Ann Brotman (Business administration/Accounting); Dr. Peter Young (ophthamology).

A delivery order was also prepared and signed during June (D.O. 8) which will cover the overall costs of up to 8 professors selected by the University. Panel interviews were to begin in Washington during June for those being considered for medical microbiology.

II. Administrative Matters

Administrative processes in the office are proceeding quite smoothly. Because of the increasing administrative burden experienced with long-term contractor personnel and the gradual increase in short-term consultants who will be coming here under the various delivery orders recently signed or in process, we have decided to convert our half-time administrative position to a full-time assignment.

III. Plans for July.

During July considerable time will be spent with the Ministry of Labour, Manpower Planning, and Social Welfare on the staff development plan for the vocational/technical education system and with Bill Reynolds in support of his consultancy. In addition, we expect to begin startup activities for the pending delivery order with the Ministry of Education. Beginning this month, Grace Ruredzo will become a full-time administrative assistant in support of the project.

Bulawayo Trip Report

June 10-12, 1985

Rudi Klauss
Field Coordinator

During the period June 10-12, I took a field trip to Bulawayo with a stop in Kwe Kwe. The reasons for the trip were to: drive Dr. Robert Illinik to the Technical College, Bulawayo; to learn more about the instructional program at the college; to see how Bill Gifford was getting along; and to gather views from the personnel at Bulawayo and Kwe Kwe concerning staff development for the technical college system.

Upon our arrival we met with the principal, Mr. Crutchley, and Bob was then introduced to the Division Head for Mechanical Engineering and to other instructional staff in that division. Given Bob's extensive practical skills as well as teaching experience he was assigned to teach initially in the workshops where the teacher shortage is especially critical. This assignment may evolve and expand depending on the situation over time.

I also met with Bill Gifford who has also been assigned to the same division. He is teaching mathematics and thermodynamics at present and appears to be settled in quite well. He has found a house within biking distance of the college. His wife, Amey, may teach part time at the college and is looking at additional options which may exist in the community.

During the course of my stay in Bulawayo, I also met with the other Division Heads to learn more about the various programs at the college. The following is a brief summary of information gathered during these discussions.

The mechanical division includes three program areas: production (craft level instruction, basic and advanced); motor mechanics (craft level, basic and advanced); technician training (2 year and 3 year national diploma programs). The production program is all done on a block release format. Current enrolment includes: 14 students in refrigeration; 9 in foundry; 15 instructor trainees; 43 fitter and turner apprentices at the basic craft level; 22 apprentices at the advanced craft level. The unit currently has 13 instructors, including Illinik. At the craft level, instructors normally teach 24-25 one hour periods per week. At the technician level of instruction, the teaching load is 20 hours per week, and for those teaching second year technician level courses, the teaching load is 16 hours per week. Working hours are from 8:00 to 4:50 Monday through Thursday, and 8:00 to 4:00 on Fridays.

In the motor mechanics area the current enrolment includes 42 fulltime students taking part in a 39 week program, and 10

instructor trainees. The existing faculty includes 10 instructors of whom 3 are expatriates, 2 are permanent officers, 2 are probationers, and 3 are employees (local contract personnel who are over the age of 50). There are 9 vacancies at present.

The technician program includes 23 fulltime students and 47 block release participants. Currently, there are 9 instructors in this department.

In the Division of Electrical Engineering, courses are offered at the craft and diploma level, as well as instructor training. Currently the Division has 35 lecturer positions of which 16 are filled. Seven of the 16 are expatriate/contractor instructors.

In the Division of Civil Engineering, Mining and Building there are 42 positions of which half are vacant. Eight of the 21 instructors are expatriate/contractor personnel. Student enrolment in the civil engineering area currently stands at 30. Twenty-seven of the students are government sponsored while the remaining three are unsponsored. In mining, there are 24 students at present at the technician level. No craft level course is currently being offered. In building engineering, the craft level course includes 15 students. Fourteen are government sponsored and one is otherwise sponsored.

The Division of Commerce includes courses in secretarial and commercial studies, and business management. The secretarial/commercial enrolment includes 316 fulltime and 212 parttime students. Most people in the program have 5 0 levels. The business management studies program includes 210 fulltime and 305 parttime students and most have 5 0 levels. Courses in business management are in the areas of accounting (which includes coverage of taxation) and higher national diplomas in management. Currently, there are 36 fulltime faculty in the division of whom 4 are expatriates. There are eight vacancies. Staffing shortages exist in the area of accounting and taxation. The division would like to extend its program to make courses available to more students, perhaps taking courses to the high density suburbs in a parttime instructional format.

The Division of Arts and Science includes 6 art lecturers who teach 3 year diploma courses in commercial art and textile art. Currently there are 20 fulltime students in these two areas and there is a good demand for graduates. Attracting students is somewhat of a problem, which may partly be explained by the fact that students must pay \$200 per year for supplies, and perhaps because art subjects have not been emphasized historically in the high density suburb schools. In the science section there are 13 fulltime instructors, as well as several parttime instructors to cover specialized topics offered in various courses. Programs offered in this area include: industrial metallurgy; medical lab technology; lab technician training; environmental health (health inspection training); horticulture. They also service other divisions and departments through courses in basic maths, etc.

The environmental health program has 59 fulltime students taking part in a 3 year diploma. At present there is a shortage of about 60 inspectors in the country to inspect meat processing, food preparation, general health, and hotels. Thus there is a clear demand for graduates of this program.

The medical lab technician program includes 21 block release students. Participants in this program spend 18 weeks per year (for two years) at the college and the rest of the time they work at hospital labs. The size of the program is limited by the number of hospitals that can take students on a supervised basis. After completing two years, students obtain their Part I diploma. If they continue on for two additional years on the same basis they can get the Part II diploma. Two more years leads to the Part III diploma which involves specialization. All but two of the current students are employees of hospitals.

The lab technology program takes 3 years, 1 1/2 days per week throughout each year. After the first year students branch out into biology or chemistry. Currently there are 20 students in the program, 10 in the first year, 8 in the second year, and 2 in the third year. There is a good demand for graduates in industry, secondary schools and for labs at the University of Zimbabwe. There is also an advanced lab technology course in chemistry which goes two years beyond the initial 3 year program. It is also taught on a 1 1/2 day per week basis. Currently, 7 students are enrolled in this program.

The horticulture program is run jointly with the the Municipality of Bulawayo and has 15 students. This program takes municipality employees with grade 7 level educational backgrounds who work in the parks and offers the training on the 1 1/2 day per week basis over a two year period. All other courses in the horticulture area require full O level passes with C or above in maths and English .

The industrial metallurgy program is 2 years fulltime. Students come mainly from the steel industry and a few foundries. There are 7 students currently enrolled in the program.

Overall, the division is presently reasonably well-staffed, though they rely heavily on parttime lecturers from industry or retired people in the community. One new area that is being considered is a dispensing technician course. This would be a pharmaceutical course to train people to be attached to rural health clinics. They also anticipate greatly expanding the teaching of computer courses for application to business and scientific work.

During the course of discussions with various faculty, we touched on the question of staff development. The general feeling was that because of the severe shortage of lecturers, it would be very difficult to release people for extended periods of time for staff development activities. One approach would be to lighten teaching loads for selected staff and offer special

courses locally (such as the introduction to computers curriculum/course design, new teaching techniques, etc.) at the colleges. Other options could include structured industrial attachments where lecturers could spend time working on relevant industrial projects. In addition, short courses for heads of divisions and departments in various areas (curriculum development, administrative management, etc.) within Zimbabwe and/or overseas would also be beneficial.

Discussions with Mike Mambo at Kwe Kwe also led to the suggestion that a few persons might be selected for long-term training in critical areas such as curriculum development, instructional systems design, and educational administration for assignment to the head office as well as at the college level.

ZIMBABWE/BEST Monthly Activity Report

July-August, 1985

Rudi Klauss
Field Coordinator, Harare

INTRODUCTION This activity statement covers July and August, 1985. During August I took personal leave in the U.S. and also worked in the AED/Washington office (August 14-22). During most of August, John Hatch was in Zimbabwe, covering many of the field activities in Zimbabwe.

I. PROGRAM

A. Ministry of Labour, Manpower Planning, and Social Welfare. During July and August, the second recruiting trip to the U.S. was carried out (under Delivery Order 9) at which time the Ministry team interviewed candidates for teaching positions in the applied engineering areas for the technical college system, as well as for the new Bachelors in Technology program to begin at Harare Polytechnic in October, 1985. The Government of Zimbabwe recruiting team consisted of Mr. Robson Muringi (Deputy Secretary, Ministry of Labour, Manpower Planning, and Social Welfare), Mr. Elias Mufuka (Deputy Secretary, Public Service Commission), and Dean Robert Appiah (Faculty of Engineering, University of Zimbabwe). The team was in the United States from July 7 to July 19. Most of the interviews were conducted during the first week of their stay, after which they visited the State University College at Buffalo, New York, Rochester Institute of Technology, and Fairleigh Dickenson. Dr. Myron Lewis (State University College at Buffalo) participated in the interviews in Washington D.C. and accompanied the team to visit the above three institutions which have programs relevant to the new Bachelors of Technology being established at Harare Polytechnic. Several potential candidates for long term teaching positions were identified during the interview process, and the necessary paperwork on these individuals was initiated following the interviews.

Dr. Lewis' participation with the team in the U.S. was followed by a two week consultation to Zimbabwe (August 13-23) where he worked with the Ministry to develop further the curriculum design for the new Bachelors of Technology program.

AED consultant Dr. William Reynolds completed his assignment in Zimbabwe during July (under Delivery Order 5) which involved working with the Ministry on a number of matters pertaining to the technical college system (including equipment procurement, planning for Masvingo Technical College, and other vocational matters relevant to the BEST technical assistance effort in Zimbabwe). Dr. Reynolds completed his assignment on July 20 after

submitting a written report to the Ministry and having a final debriefing meeting with Dr. Manyuchi.

During July, I also worked with the Ministry to pull together elements of a draft staff development plan for the Ministry's vocational/technical education system. This draft is to be revised and finalized during the coming several weeks and once completed will provide the basis for allocating USAID funds for staff development purposes.

Two more long-term contractor personnel arrived during August. James Cech, recruited under Delivery Order 3, arrived on August 8 and was assigned to KweKwe Technical College to teach in the automotive engineering area. Dr. Ross Duncan (and spouse) arrived on August 31. Dr. Duncan is a computer education specialist and has been assigned to Bulawayo Technical College to help develop the final plan for procuring computer equipment for the technical college and to help develop appropriate computer curriculum for the college system.

During the last part of August (August 22-31), AED consultant Dr. David Redfield was in Harare participating in a Ministry sponsored seminar on vocational and technical education. Dr. Redfield presented a paper on competency-based vocational education during the seminar which was attended by officials of the Ministry, the private sector, and representatives from other countries. Dr. Don Neff, AED long-term contractor working in the Ministry's curriculum development unit, also participated in the seminar and made a presentation on critical elements of successful vocational training programs.

B. Ministry of Education. AED consultant Eric Eno was in Harare during this period (July 23 -August 14) to work with the Exams Branch (D.O. 4) in preparing for the Grade 7 and ZJC exams which take place in October and November. An amendment to Delivery Order 4 was also processed to cover the purchase of NCS paper, labels, and other supplies necessary for the overall exams processing effort. The NCS answer sheets were received during August, along with other paper which will be used on an experimental basis to see if the printing of the Grade 7 exams answer sheets can be done in Zimbabwe.

Arrangements were also made to have two of the TCB programming staff visit Eric Eno in North Carolina during September to work with the software team developing programs for the exams processing.

Delivery Order 10 was signed in mid July and sets in motion the effort concerning computerization of MOE regional education offices and related management improvements. Resumes of potential long-term personnel to work on this project were forwarded to the Ministry for consideration. Identifying a suitable person to work with the Ministry in implementing the project is one of the first major tasks to be accomplished.

C. University of Zimbabwe. During his July visit to Washington D.C., Dean Appiah (Faculty of Engineering) participated in a panel to interview candidates for teaching positions in the University of Zimbabwe's Faculty of Engineering. Three candidates were interviewed, of whom two were considered appointable pending a subsequent final review by the University's Academic Appointments Board.

II. ADMINISTRATIVE MATTERS

Given the increasing administrative workload associated with long-term contractor personnel for the Ministry of Labour, Manpower Planning, and Social Welfare, we have had to convert our half-time administrative assistant position to a full-time assignment. In addition, the project continues to maintain a half-time receptionist/typist for the office.

During this period, the AED Harare and Washington offices have also been looking at the administrative budget requirements for the remainder of the project. As spelled out in the project agreement, a budget for the duration of the AED contract is to be finalized 18-24 months after the start of the project. This budget should be available for review by October.

III. PLANS FOR SEPTEMBER

September will see continuing work in processing the arrival of newly recruited long-term contractor personnel for the Ministry of Labour, Manpower Planning, and Social Welfare. Also anticipated is additional activity in developing further the staff development plans for the Ministry's vocational/technical education system. In addition, we expect to begin some of the startup activities for Delivery Order 10 for the Ministry of Education.

ZIMBABWE/BEST Monthly Activity Report

September, 1985

Rudi Klauss
Field Coordinator, Harare

I. Ministry of Labour, Manpower Planning and Social Welfare.

During the month of September three new delivery orders were signed. Delivery Order 11 involves strengthening the Ministry's capacity in the area of planning and administration of vocational and technical education. This activity will involve two short-term technical assistance experts to help install two microcomputers, appropriate software, and work with Ministry personnel to establish appropriate data bases and supporting programs/software. This assignment will also entail providing initial training for Ministry personnel to enable them to use the system effectively and efficiently.

Delivery Order 12 provides for the services of a Librarian expert to assist the technical colleges and ZIDS. Mrs. Esi Honono will be fulfilling this position.

Delivery Order 13 entails an initial short-term consultancy to assess the requirements for developing a scholarship tracking system for the Ministry. This will be a computerized system to enable the Ministry to monitor the status of individuals involved in various donor sponsored participant training programs overseas.

Two new delivery orders were also developed to cover the recruiting and selection of 17 additional long-term personnel to work in the technical/vocational education system. These delivery orders build on two previous ones (DO 3 and 9). An initial batch of some 20 resumes were forwarded to the Ministry for review in anticipation of a recruiting trip to the U.S. tentatively scheduled to take place in late October.

On September 17, Dr. Labib Eldoky arrived with his family in Harare to begin a two year contract to teach in the new Bachelors of Technology program scheduled to begin in October at Harare Polytechnic. Considerable time was spent finding housing for him and his family in an increasingly tight housing market in Harare.

I. Ministry of Education. During September, additional resumes for the long-term technical assistance position under DO 10 were forwarded to the Ministry for review and consideration. In addition, communication between AED consultant Eric Eno in North Carolina and the Ministry was funnelled through the AED/Harare office on various issues pertaining to work under Delivery Order

4. This work involves the processing of Grade 7 and ZJC examinations which take place in October and November.

III. University of Zimbabwe. Continuing discussions were held with the University regarding the status of pending candidates for teaching positions funded under the ZIMMAN project. Decisions on candidates for several positions are expected in October.

IV. Other activities and meetings. Other activities during September included a meeting with the new resident director of the International Executive Service Corps, Mr. Ramond Catsman. We explored possible ways in which our two programs, both of which involve the provision of human resources to Zimbabwe, might mutually reinforce in informal ways the various BEST program efforts of concern to the Government of Zimbabwe. I also participated in several discussions with Dr. Victor Levine who recently arrived in Harare as the IEES resident representative. His work with the University of Zimbabwe and the ministries pertain very directly to a number of BEST project activities with which AED is involved. I also visited Delta Corporation's technical training center to learn more about the nature of technical training provided to apprentices from various companies at that center.

V. Administration During September a revised budget to cover core contract expenses for the remainder of the 5 year contract period was prepared by AED/Washington and submitted to REDSO/Nairobi and USAID/Harare for review and consideration. The submission of this revised budget is specified in the prime contract which guides AED activities under the Zimbabwe/BEST program.

VI. Anticipated activities for October During October, considerable time will be spent in preparing for the next Ministry of Labour, Manpower Planning and Social Welfare recruiting trip to the U.S. (DO 14 and 15) scheduled to begin about October 28. This will involve getting Ministry comment on resumes of individuals who might be interviewed in the U.S. as well as travel preparations for the recruiting team. Discussions will also proceed with the two ministries regarding their presentation at the AVA convention in Atlanta which takes place in early December. Also expected is the arrival of Kurt Moses and the long-term technical assistance expert to begin working on the implementation of Delivery Order 10. AED consultant Eric Eno will also be returning to Harare in late October to continue working with the Ministry of Education on DO 4.

TRIP REPORT

GOVERNMENT OF ZIMBABWE MINISTRY OF EDUCATION, EXAMINATIONS BRANCH

Submitted by Eric Eng, Academy for Educational Development
For the period 3-20 June 1985

This visit was performed mainly in support of the examinations automation project which was begun in May, 1985. This report will focus primarily on the progress to date in the automation project, but will also cover plans and recommendations for the 1985 local examinations, and suggestions for long term improvements in the examinations function.

1. Examinations Automation.

The principal activity performed during this visit was the installation of the initial phase of the examinations software for use with the 1985 local examinations. The installed software covers the establishment of examination parameters, registration of examination centres, and registration of candidates for examinations. This entire module has been installed, and although needs for modifications have been identified, the system has performed well during this phase.

In support of the installation of the software, I converted and loaded Grade 7 test centre and candidate registration data and ZJC Centre registration data. The system currently holds nearly 5,000 Grade 7 test centre records and 226,000 Grade 7 candidate records. Despite the enormous size of these files, the system will retrieve any record requested without any noticeable wait. In this regard it has performed beyond expectations. A spinoff benefit of this exercise has been the realization of the capability to convert microcomputer disk files to tape files which are readable by TCB's Data General computer. Prior to this exercise, such conversion had never been accomplished.

To enable Exams branch to make optimal use of this software, I have trained all appropriate staff in the operation of the terminals and the software system. Thus, Grade 7 clerks and ZJC clerks are currently engaged in updating centre and candidate records from exams branch terminals.

Also in support of the software installation, I coordinated the installation of 5 terminals in the Exams Branch offices, and trained Exams Branch staff in the use of the terminals and examinations processing system. Lines have been installed from TCB to Exams Branch for a total of 10 terminals, which will be installed when they are delivered in November. The firm of C.F. Tulley has been extremely helpful with regard to the acquisition of terminals and equipment for this system, and it should be noted that the Tulley firm has loaned Examinations Branch 5 terminals for use until the terminals to be purchased will

arrive.

In coordination with Exams Branch, Planning, and TCB, we have concluded the definition of the remaining phases of the software to be installed. A comprehensive set of 31 sample reports has been produced and reviewed by examinations officials. In this regard, the design phase of this project can be considered complete.

In coordination with the staff of TCB we have reviewed the design of the Dossier language programmes to input marks data for 1985 examinations. A limited test of a new marks entry form will be conducted in 1985 to capture marks from one ZJC marking centre. The Grade 7 answer sheet design has been generalized to allow its use for ZJC examinations as well, and for examinations of any year. Previously these forms were examination and year specific, which meant that any surplus forms had to be destroyed after the exam was held. The new forms will be useable in subsequent years.

I have met with a representative of Typocrafters, the local printer which has the potential capacity to print optical mark forms, and I have delivered sample forms for that firm to set proofs for review prior to printing. Upon the arrival of the optical mark paper which is being imported from the US, Typocrafters will be ready to test their printing capability immediately using these forms. The local printing of forms is potentially important to the expanded use of the OMR machines for functions other than examinations. Successful printing of local forms could also provide a source of export earnings for Zimbabwe, in that several neighboring countries have expressed an interest in this technology and are potential customers for forms produced in Zimbabwe.

To facilitate the despatch of Grade 7 answer sheets to test centres, I wrote a programme for use on the exams branch microcomputer which will produce registered mailing labels and a postal registration form for shipments to these centres. Additionally, to facilitate organization of shelf filing space for marked Grade 7 scripts, I wrote a second programme to assign shelf space to centres based on the numbers of candidates registered.

As a prelude to incorporating Cambridge examinations in the new examinations system, TCB is attempting to produce a dummy tape using the format supplied by Cambridge. This tape will be sent to Cambridge within a few days for testing on the computer there. It is hoped that next June's Cambridge examination will be registered on the Zimbabwe system, with a registration tape sent to England. This should save considerable foreign currency for the Ministry.

2. Current Examinations.

Local examinations appear to be better organized than at this point last year, although several potential problems exist. As has already been mentioned, all initial Grade 7 registration data are already in the computer and are being updated by the Grade 7 staff. A considerable amount of data entry remains to be accomplished for ZJC, but that does not mean that the section is behind schedule. Moreover, this year a positive plan of action for processing examinations is in place, and virtually all staff have remained in place from last year's exams. A copy of the pre-examination processing schedule is attached to this report.

Potential problem areas can be found in packing and despatch, printing of question papers, and possible delays in receipt of Grade 7 answer sheets.

Packing and despatch is the most serious potential problem. The only space currently available for this exercise is the long room of the old examinations branch at Causeway Post Office. Last year, with the remainder of the building available (and used) for storage of completed mailing sacks and unopened question paper packages, ZJC was only able to process one region at a time in this space. This year, less space is available with more candidates and the available space must be shared with Grade 7 and Cambridge sections. If suitable additional space cannot be found before August, it may be advisable to delay the ZJC exam for one or two weeks. Exams branch has been seeking space for several months without success.

The second most serious potential problem deals with the printing of ZJC question papers. The processing schedule assumes that question papers will be available for packing by the final week in August. It is questionable at this point whether these question papers will be available from Printing and Stationery by that time. In fact, they may not be available until late September according to one estimate I was given. If such were the case, it is doubtful that it would be possible to pack and ship the question papers to the examination centres before the scheduled examination dates.

Grade 7 answer sheets are only now being ordered. It is possible that they will not be delivered until mid-August with this late order date. Such delay will not be critical to Grade 7 section, but it will make packing and despatch much more urgent than would otherwise be the case.

3. Accounts.

In consultation with Mr. Rope, Accounts Section, I have learned that it would be feasible and desirable to incorporate exams fees receipting and accounting into the examinations software system. If such an enhancement is desired, I would suggest an initial study and preliminary design for this system be done before embarking on actual system development. Such a

study would probably require up to two weeks on-site investigation by an external systems consultant. Such an approach would give the Ministry the most complete information possible and I would strongly recommend it. Planning for such a study could begin now so that the study could be carried out late in 1985 or early in 1986.

4. Other Activities.

During this visit I was privileged to lead a teaching session for the MOE computer users group, dealing with using the dBase II programming language. In addition, I liased with Head Office Accounts Branch concerning the ZINTEC loans monitoring system written earlier this year.

5. Appreciation.

The support which I received from the MOE staff, as usual, was excellent. I want to give special thanks to Mr. Masango and Mr. Chouhan for making themselves, their staff and facilities available to me. I also want to express a special note of thanks to the staff of Treasury Computer Bureau, who worked closely with me throughout my visit, despite the fact that they had urgent business supporting elections registration and a monthly payroll that fell during my visit. Mr. Mundangepfupfu provided extensive help in installing and debugging the examinations software. Without his help it is doubtful that Phase I of the software would be operational today.

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GOVERNMENT OF ZIMBABWE
 MINISTRY OF EDUCATION
 PRELIMINARY SCHEDULE OF EVENTS - INTERNAL EXAMINATIONS, 1985

| PRE-EXAMINATION EVENTS | GRADE 7 | ZJC |
|---|----------|----------|
| <u>Initialize Examination</u> | | |
| 1. Establish Examination Parameters | 01/06 | 01/06 |
| <u>Develop Test Centre Files</u> | | |
| 2. Enter Test Centre Records in Computer | 14/06 | 28/06 |
| 3. Print Test Centre Trial List | 14/06 | 28/06 |
| 4. Enter Revisions to Test Centre File | July | July |
| 5. Print Test Centre Registration List and Test Centre Certificates | 25/07 | 25/07 |
| <u>Develop Candidate Files</u> | | |
| 6. Initial Candidate Data Entry (TCB) | 14/06 | 19/07 |
| 7. Print Preliminary Candidate Entry Schedules | 26/07 | 29/07 |
| 8. Enter Revisions to Candidate Files | Aug/Sep | Aug/Sep |
| 9. Print Final Candidate Entry Schedules | 27/09 | 06/10 |
| <u>Packing and Mailing</u> | | |
| 10. Print Mailing Labels and Postal Registration Forms for Stationery and Answer Sheets (Microcomputer) | 17/06 | 01/07 |
| 11. Print Black Bag Labels & Picking Lists For Question Papers | 30/07 | 31/07 |
| 12. Packing & Despatch of Answer Sheets and Stationery | 19-30/08 | 12-23/08 |
| 13. Packing & Despatch of Question Papers | | |
| A. Region 1 | 06/09 | 28/08 |
| B. Region 2 | 11/09 | 06/09 |
| C. Region 3 | 16/09 | 13/09 |
| D. Region 4 | 19/09 | 20/09 |
| E. Region 5 | 24/09 | 27/09 |
| F. Region 6 | 27/09 | 04/10 |
| 14. Despatch Final Candidate Entry Schedules | 27/09 | 06/10 |
| 15. Examination Dates | 16-17/10 | 1-12/11 |

7 June 85

Notes on pre-examination schedule of events:

In a meeting held on 6 June 85 between representatives of Examinations Branch (Mr. Masango, Mr. Kachale and Mr. Chouhan) and Treasury Computer Bureau (Mr. Chinyanga), the schedule of events was reviewed and agreed upon. Further points of agreement regarding processing of internal examinations were as follow.

1. The data capture phases (pre-examination) of both Grade 7 and ZJC examinations will be processed using new examinations programs developed for the Data General Computer. Subsequent marks merging and results reporting phases will be processed using both the new software and the programs used in prior years. This arrangement will provide maximum assurance that examinations processing will not be disrupted due to unforeseen problems with the new software.

2. Initial data capture for test centres and candidates will be carried out by TCB's data entry unit for both examinations. TCB data entry clerks will be available for entering test centre addresses in the master file of the new program should this prove necessary. Mr. Eno will first attempt to convert test centre address data already entered on microcomputer disks to tape formats which would be readable by the Data General Computer.

3. Corrections to test centre files will be entered in the computer by Examinations Branch clerks once the initial files are entered.

4. TCB will install cables and computer terminals in Examinations Branch offices. Terminals will be on loan with the understanding that they may have to be recalled by TCB on short notice. Mr. Eno will attempt to obtain USAID authorization for local purchase of the Examinations Branch terminals, which would expedite the acquisition of these terminals.

5. The schedule for distribution of Grade 7 answer sheets assumes delivery of answer sheets not later than 16 August.

APPENDIX D
CONTRACTOR REPORTS

REPUBLIC OF ZIMBABWE

Division of Vocational and Technical Training
Ministry of Labour, Manpower Planning & Social Welfare

Development Planning Suggestions
for
Vocational and Technical Education

prepared by

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USAID - BEST Contract

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INTRODUCTION

Initial orientation meetings were held with Dr. Richard Shortlidge, USAID HRD Officer, and Rudi Klauss, AED's Harare Project coordinator on July 1, and with Deputy Secretary Muringi and Dr. Manyuchi, Director of Institutional Training, on July 2 to review the scope of the consultancy under Delivery Order 5. As set forth in these discussions, the assignment was to review the over-all direction of vocational and technical education in Zimbabwe in the areas of planning, staffing, curriculum, facilities and equipment, and to provide recommendations on ways in which USAID's current and future technical assistance efforts can effectively assist in the Ministry's development program.

In order to become acquainted with the current status of vocational and technical education six of the seven technical colleges were visited. In addition visits were made to the Delta Corporation Apprenticeship Training Centre, the Railroad Training office in Bulawayo, Belvedere Teacher's College and the Msasa upgrade vocational training centre.

The report that follows is organized around major topical areas rather than as a status report on each college in order to present a general overview. It should be kept in mind that given the limitations of time and lack of previous knowledge of the culture and the vocational-technical training system, only some of the more significant challenges could be identified. My observations and recommendations are made in the spirit of being helpful and with full knowledge of the limitations noted above. Of special note is the excellent spirit of co-operation and professional enthusiasm each of the principals evidenced during our visit. It was obvious that the Ministry has selected a group of dedicated administrators to manage the technical school programs.

II SCHEDULE OF VISITS The schedule was developed in coordination with Mr. Muringi, Drs Manyuchi, Shortlidge, and Klauss. The visitation team consisted of Dr. Golden Chikenyere, Assistant to Dr. Shortlidge, Dr. Donald Neff, Curriculum Consultant to the Ministry of Labour, Manpower Planning and Social Welfare and the author.

Technical Colleges and Institutions Principal

| | | |
|--------|---|----------------|
| July 4 | Mutare | Mr. Mandimika |
| July 5 | Kushinga Pikelela (Marondera) | Mr. Mwadiwa |
| July 8 | Bulawayo | Mr. Crutchley |
| July 8 | National Railway of Zimbabwe Personnel Training Office | Mr. Bangandadi |

| | | |
|---------|--------------------------------------|--------------|
| July 9 | Gweru | Mr. Kalenga |
| July 10 | Kwe-Kwe | Mr. Mambo |
| July 12 | Delta Vocational Training | Mr. Wadhams |
| July 12 | Belvedere Teacher Training Centre | Mr. Youds |
| July 15 | Harare | Mr. Naidu |
| July 16 | Msasa | Mr. Chanaiwa |

III TECHNICAL COLLEGE OBSERVATIONS

A) Curriculum Status

In general the colleges offer the same basic curricula, i.e. electrical, mechanical, automotive and woodwork, with additional subjects based on local needs. The basis for all courses is the City and Guilds examinations which place heavy emphasis on theoretical knowledge. Because of the high cost of these examinations the Ministry has been moving to replace them with exams prepared by FEEB (Further Education Examination Board). Currently FEEB has made available examinations in most all areas except electricity and this is under development. We were told that the national exams replicate the City and Guilds format.

It was very difficult to locate sample curricula in order to examine their format and content. The few we were able to see appeared to be primarily of a syllabus outline type and lacked the depth usually associated with a complete competency based curriculum.

The technician courses appear to lack sufficient time to provide in-depth practical training since the schedules provide for only a third of the class time in the shops. Heavy emphasis is placed on passing either City and Guild or the national exams, rather than achieving competences needed by industry.

B) Suggestions For Curriculum Enhancement

1. All curricula should be based on job analysis as there is no other internationally recognized source of instructional content. Since detailed job analyses have already been accomplished and are published and available from a variety of sources in the U.S., U.K. and the International Labor Office, the Ministry need not go through this laborious task. It should, however, ensure that a standard job analysis is used as a basis for reviewing the skills required by local industries, and that the addition and deletion of tasks are carried out appropriate to local needs.

2. Curricula should be sufficiently detailed to ensure a reasonable uniformity of content coverage by instructors who have a wide range of experience and preparation. It would seem essential to standardize the curriculum format to include the following elements:

- course, unit and task objectives - stated in performance terms;
- standards by which achievement of task will be measured;
- tools and materials required;
- outline of instructional content and time required for demonstrations and theory lessons;
- audio and visual materials needed for instruction.

3. Students should know in advance of instruction what competences they are required to achieve, what tools and materials will be needed and by what standards their competency will be measured. This information should be published and given to all students so that they will know exactly what is expected of them and when they have reached an acceptable level of skill.

4. Increased emphasis should be given to practical application in the technician programs since sophisticated theoretical technical competence will not be in high demand at this stage of the country's industrialization and development.

C) Staffing

There seem to be two major problems in this area, the critical shortage of instructors to meet the country's needs and the lack of a comprehensive teacher training program. The shortages are caused by the lack of trained skilled African instructors due to past discrimination, the departure of many white instructors, and most critical, a significantly lower salary by about 50% in comparison to industry.

The lack of teacher training, except through the Further Education Teacher Training Certificate program, is being remedied by the courses currently being designed for the new teacher training program at Gweru.

D) Suggestions For Staff Development

1. Numerous schemes have been tried to relieve the critical shortage of instructors. It is not difficult to devise programs for the intensive preparation of new instructors, but none will provide sufficient staff in the long run since there is no economic reason for a new instructor to remain in teaching when he or she can earn about double an instructor's salary in

industry. It is clear, therefore, that a means must be found to substantially increase instructor salaries by at least 25%. (This would be in addition to the 15% critical skill increase.) There seems to be no other means at hand to resolve this problem and until it is resolved, there will continue to be a critical shortage of instructors and a significant variation in the quality of instruction.

The Ministry could explore two options to bring this about. One of the donor countries could be asked to provide a grant for topping up the salaries of Zimbabwean instructors over a period of years in concert with the Ministry along the following lines:

Note: Numbers represent percentage of salary contributions

| | <u>Donor.Country Input</u> | <u>Ministry Input</u> |
|--------|----------------------------|-----------------------|
| Year 1 | 20 | 5 |
| Year 2 | 15 | 10 |
| Year 3 | 10 | 15 |
| Year 4 | 5 | 20 |
| Year 5 | 0 | 25 |

A second option would be to consider a tax deduction for critical skill teachers which would in effect produce 25% more take-home salary. This would perhaps be the less difficult of the options.

2. The new teacher training program should in addition to the skill component, include a comprehensive education component with all the necessary courses to prepare fully qualified instructors including: curriculum development, psychology of learning, instructional materials, shop organization and management, methods of teaching, practice teaching and evaluation of instruction. Each of these is important to ensuring that instructors have the required educational skills and knowledge to become an effective teacher.

3. In-service upgrading programs could be provided to enhance the teaching capabilities of current instructors. There appears to be a substantial need for seminars in several areas such as competency based curriculum development, shop organization and management and the development and use of instructional materials. Seminars could be offered at each college by a roving technical consultant on a continuing basis.

4. Since teachers enter the system with a variety of backgrounds in terms of education and work experience, it is important to ensure the quality of teachers in terms of both technical skills and teaching skills and knowledge.

epf

Currently technical levels are verified by examinations in which skill is demonstrated. Teaching skills should be verified by using a competency based curriculum in which the candidate demonstrates the required skills and knowledge before being certified.

E) Facilities

The facilities in all the colleges visited seem very adequate with few exceptions. Compared to many developing nations the facilities area outstanding. In several cases there appeared to be more than the standard amount of space generally called for in shop planning guides. In new construction this results in excessive initial cost and may then make it impossible to complete the facilities in one phase. Additionally, the long-term maintenance of excessive space results in a less than cost-effective facility. Funds used up in over building could better be spend for equipment, supplies or instructional materials.

A discussion with the architect of one of the new colleges disclosed that he had used no formula for space per pupil as is common throughout the industrial nations and that he had great difficulty in obtaining sufficient information for determining appropriate space in relation to utility machines and other equipment. He also lacked information on the type, size and location of the equipment which is normally provided to the architect.

The use of open floor plans in which several classes and instructions are housed in one large room has some serious drawbacks. Since instruction should be given to small groups at the time of need, instructors find themselves trying to speak above the noise from the other classes. This is especially difficult in the automechanics, machine and wood shops.

None of the shops, corridors or reception areas had built in exhibit cases to provide motivation through the display of student projects and industry related exhibits. There was a complete lack of picture and display materials on the walls of corridors and reception areas and to some extent the shops.

The overall maintenance and cleanliness of the buildings was outstanding in most all cases. It is obvious that both students, instructors and administrators have pride in their colleges. They are to be commended for their efforts.

A major problem at most colleges is the lack of sufficient student hostels. This is a serious concern for it prevents all students from having equal access to the education the government has promised. At Harare, for example, the principal reports that a follow-up study of students who applied for admission but did not start college showed that the majority dropped out due to lack of housing.

There is a general lack of library, audio visual and learning centre space. Libraries in general lack sufficient books, periodicals and references materials. Although there was some discussion about establishing learning centres this relatively new concept has yet to take root. Essentially the learning centre includes the library and a variety of learning materials and media for individual student and faculty use.

F) Suggestions for Facility Development

1. The development of cost effective, quality facilities starts with establishing the list of requirements based on the specific curricula to be presented and the supporting areas. The curriculum determines both the equipment required and the floor space per pupil. This information is transmitted to the architect who translates the educational requirements into an appropriate physical structure. The development of the rural vocational schools projected for the future should follow standard facility planning procedures to secure maximum value for the funds invested and to ensure that the plan produces the best possible learning environment for the student.

2. Since the evidence seems to indicate a lack of use of internationally accepted planning procedures, it is suggested that a technical consultant be secured to conduct facility planning seminars for chief administrators, department heads, architects and others directly responsible for this function. This should be accomplished prior to any more new construction.

3. An assessment of the status and needs of current libraries and instructional materials (including audio-visuals) should be conducted by a technical consultant with a view to establishing learning centres. Recommendations and plans could then be prepared for integrated learning centres for each college. This centre would provide learning resources for both students and staff as noted earlier.

G) Equipment

-Generally the colleges were very well equipped with quite modern machines and tools equal to or better than local industry according to the college principals. There were, as might be expected, some shortages in the areas of accessories and replacement parts. Some major machine items were in-operative due to lack of parts. For example, several dynamometers had never been used because they lacked major parts or accessories.

There was some evidence of the purchase of high cost equipment not frequently found in industry such as engine dynamometers. The car test type dynamometer requires an expensive separate facility pushing total cost for the equipment and facility to as much as \$100,000 U.S.. Multiplied by 7 technical colleges this represents a substantial amount of money.

All of the colleges felt the need for computers and word processing equipment, both as part of the technology programs and as management tools. Since there is an ever-increasing use of this equipment in industry it is important that plans be developed to add this element.

H) Suggestions For Equipping Shops

1. The commonly accepted basis for equipment selection is the curriculum - which dictates the equipment, tools and materials needed to teach the subject. Secondly, it is important to assess the type of equipment commonly used across the industry. The trade advisory councils can make a major input in this area and ensure that equipment choice reflects actual industrial use and variety. The third consideration is cost. Since vocational and technical training is the most expensive type of education, with the exception of a few university programs, it is critical that every piece of equipment and each tool be justified. The purchase of equipment not found in the majority of industrial enterprises should be avoided unless it is a new item which will ultimately be used in most enterprises. A second means of restraining cost is to purchase a more modest size machine since the functions of smaller machines are usually identical to their big brothers. Additionally each machine could be assigned a priority number on a scale of 1 to 3 so that if cuts are to be made due to budget restrictions the lowest priority items can be eliminated. Following the development of the equipment list a review committee with representation from experienced subject teachers, the advisory committee, the school principal and a finance office should review the list for final approval.

The development of the equipment list at the Msasa training centre followed many of these principles. The German technical team, together with Zimbabwean counterparts, actually surveyed industry to be sure that the equipment selected actually reflected Zimbabwe's needs.

A means should be developed to circumvent the usual bureaucracy for schools to order verified critical machine parts and supplies on an emergency basis.

I) Advisory Councils

The college principals all reported that each department had an industrial advisory council. The activity of these councils varied considerably. Many meet once a year, but others are more active. Kwe-Kwe reported that some of its advisory councils meet every two weeks. The actual impact these councils have in ensuring relevant curriculum, feed back on the quality of graduates and the updating of instructors is unknown. There was no evidence of standard procedures in selecting and organizing councils, or of training programs for either the councils or the faculty in effective use of the councils.

J) Suggestions For Improving Advisory Council Effectiveness

Advisory councils can be an effective means of maintaining close contact with the industrial community. Since the prime purpose of vocational and technical schools is to equip youth and adults with appropriate knowledge and skills so that they will be able to obtain and keep a productive job and thus contribute to society and their own well being, it is critical that the schools and industry maintain a close working relationship. Advisory councils can facilitate this relationship at the craft or technical subject level, the college level and the national level. Each level of councils can make significant contributions to the total program. The National Advisory Council can provide advice and guidance on policy matters relating to the over-all development of training programs in line with current and projected manpower needs. The college Advisory Council can provide guidance on the overall college program as it relates to national and community needs. The Craft or Technical Advisory Council provides advice and guidance on specific curriculum to ensure that the content is relevant and current. In order to make it possible for each of these groups to function effectively it is important that careful attention be given to developing and publishing information that describes:

- the purpose of each council;
- how the council members should be selected;
- how to organize and operate the councils;
- recommendations for activities;
- how to assess council effectiveness.

Additionally there is a need for nation-wide seminars for college administrators, department heads, faculty and national leaders in vocational and technical training to orient them to the elements noted above.

After the councils are established it is equally important to provide them with similar training seminars. Consideration should be given to mandating meetings of these councils on a periodic basis to ensure that they are active and do make significant inputs to maintain quality and relevance of the training programs and systems.

IV THE NATIONAL VOCATIONAL TRAINING DEVELOPMENT CENTRE

The construction of the USAID funded facility is well underway and general guidelines for the purpose and function of the Centre have been outlined. Essentially it is charged with:

- co-ordination of all vocational and technical training activities in Zimbabwe;
- development of job specifications;

- development of a trade testing system;
- establishing new certification standard;
- training and upgrading workers;
- operating a model skills training centre;
- instructor training in conjunction with Gweru (assignment of this function still to be determined).

A) Establishing A National Plan

Since the Centre at Belvedere is to be completed by the end of this year it is urgent that a nationwide vocational and technical training plan be designed before the construction is completed. The author has asked about such plans but has been unable to find anything in writing except the functional outline noted above.

There is of course already in place a well developed training system, but what seems to be lacking is a an overall, articulated plan on which to base future development and direction. Currently there are some eight countries plus the EEC providing assistance of various kinds for vocational and technical education. There is some evidence of overlap, a lack of co-ordination and a need to establish priorities to guide both external assistance and the Ministry's own development efforts. There also appears to be a need for articulation with the Ministry of Education's vocational orientation program.

B) Developing A Philosophy

It would seem that the appropriate place to start the development of a national plan is with a statement of philosophy. This statement should indicate what the leaders believe is the purpose of vocational and technical training for Zimbabweans - who is it addressing, what should do, why is it important. - This statement is the umbrella under which all related programs are developed and provides policy directions for implementation.

C) Establishing Objectives

Overall country objectives should be established specifying what needs to be done to carry out the philosophy with a clear definition of responsibility for achieving these objectives. The agencies of the Ministry responsible for specific areas should establish departmental objectives and operational plans with targeted time lines for carrying out the objective. These departmental objectives should reflect the national philosophy and the overall national objectives for vocational and technical training.

D) Technical Assistance

Since the task of developing a national plan is substantial and there seems to be limited experience in carrying out this critical task, I would propose an intensive short study and orientation fellowship program for the key leaders responsible for planning the overall Ministry training system and those responsible for particular departments. This program would include:

- a short seminar on vocational and technical education planning presented at an appropriate university in an industrialized country by an expert in this field.
- visits to states in the U.S. of somewhat similar size to study their central planning operations including how the plans are developed, the format used, the assignment of responsibilities, and the assessment of results.
- field trips in these states to observe how their central plan is carried out.

Following the study observation tour the group would return to Zimbabwe and with the assistance of an experienced expert planner develop a national plan appropriate to the unique needs and national goals of the country.

E) Need For Research

There is a need to establish a research department at the National Centre to conduct applied action oriented research. A technical consultant in research could work with the centre in defining the needs, organizing and training a staff, and implementing the first research projects. Some of needs are :

- follow up studies of both apprentices and direct admission students;
- studies of satisfaction of employers with graduates;
- identification of specialized training to increase productivity;
- analysis of curriculum system designs in relation to country needs;
- identification of trade areas and skills for which there is little or no training offered;
- study of the organization and impact of advisory councils;

- analysis of equipment use in school shops;
- analysis of safety programs in school shops.

MASVINGO COLLEGE EQUIPMENT SELECTION INSTALLATION

Establishing The Technical Team

Since USAID has technicians in-country in automotive, mechanical and civil engineering fields it is recommended that some of these specialists be involved in assisting in the preparation of equipment lists for Masvingo Technical College. As there is no specialist in the electrical area on the USAID sponsored team it would seem appropriate to recruit a short-term qualified electrical specialist through the BEST program to fill this need. Since USAID is to purchase the equipment it is important that US technicians participate in its selection. If at all possible, it would be valuable for local counterparts to participate in the process. It would also be helpful if provisional craft advisory councils could be formed and a representative from these councils included on each shop equipment team.

B) Gathering Required Data

1. The criteria for selecting equipment starts with the curriculum. Copies of the curriculum guides used on similar programs at other technical colleges should be obtained and reviewed.
2. Another key factor is how the shop will be arranged, the number of instructors in one large room, how the instruction will be divided and of course the number of students per instructor. Current loading is about 12 students per instructor.
3. Equipment lists from the existing programs and other international sources should be obtained for review.
4. Visits to industry should be conducted and a checklist made of equipment being used. Note: Since the German consultant team at the Msasa Centre has been visiting industry for this purpose, discussions should be held with them to learn from their experience and avoid duplication.
5. Equipment and supplier catalogs from US companies should be obtained. Comprehensive catalogs such as Broadhead & Garrett or McCory are especially helpful but individual manufacturers catalogs are also valuable. It is important to have catalogs with prices for comparison purposes.

6. School shop planning publications should also be consulted such as Modern School Shop Planning from Frakken Publications, the ILO Facilities Planning Guide and state department of education publications available from many states.

C) Criteria In Selecting Equipment

Although, as noted earlier, the curriculum content and current use in industry are the prime determinants in selecting equipment, there are other criteria such as:

1. does the equipment provide all the safety features required by inexperienced learners;
2. does it reflect the type most commonly used in industry;
3. are accessories and spare parts available for at least 10 years;
4. is it of the heavy type which will withstand considerable abuse;
5. does it come completely assembled with all appropriate accessories;
6. can a medium size machine fulfill curriculum needs in place of a large machine;
7. will the company provide installation and a run in check out, and;
8. does the equipment have an appropriate warranty?

Each item of equipment should be coded with a priority number or letter indicating first those items that are absolutely necessary; second, those that are important to a well rounded program and; third, those that are only used occasionally in industry and fall in the "nice to have if we can afford it" category. The latter would be the first to be cut out if funds are insufficient to cover all items.

D) Preparing Specifications

USAID guidelines should be reviewed before starting to write any specifications. Generally, name brands cannot be required. If an item is made by only one company such as a specialized teaching aid one may then specify the name of the company. The dimensions, capacity, speed, gauge of metal, motor size, controls, safety devices and other specifications should be written as broad as possible to ensure maximum opportunity for a number of companies to bid on items that are approximately equal in quality, size and operating features.

E) Location Coding

It is likely that the tender document will be offered in packages, i.e., an individual set of tenders for each of the four shops areas. As a result, the location coding can be a letter in first of each item number indicating that the item is for the arts shop. If the shop is to be divided into 2 or more discrete areas an additional code letter would facilitate assembling equipment in each area when it is received.

F) Developing Floor Plans

1. Establish a Shop Planning Seminar:

This is an ideal time to implement a training program concerned with planning the location of all machines, equipment, storage cabinets, etc. The Zimbabwean instructors, expatriate instructors, school administrators and others as recommended by the Ministry should participate in the seminar. An experienced shop planning consultant could be supplied under the USAID-BEST contract.

2. Develop Floor Plans:

Floor plans would be developed for each of the four shops with complete architectural layouts based on the architect's drawings. Additionally the school administration should be involved in planning layouts for all other areas.

3. Cross-check With Equipment:

It is important that the floor plans be completed and cross checked with the equipment specifications before bids are let to be sure that the equipment will fit the space. It may be necessary to modify the equipment list in relation to size or quality to fit in the space available.

G) Receiving and Installation

Plans should be made for receiving, installation and run in of power equipment. Contingency storage plans should be made in case the buildings are not completed. The Ministry would handle the equipment through Customs and delivery to the college. The assigned instructors for each shop would be responsible for unpacking, checking and locating equipment according to the floor plan. Power installations should be completed by a local electrician. All equipment should be checked through complete operational cycles, and large power machines "run-in" by factory representatives where possible.

H) Equipment Selection and Installation Schedule

The schedule below is tentative and can be adjusted to suit the situation determined in part by the completion date of the buildings.

(13)

ActionDate

1. establish Technical Equipment Team including technical consultant;
2. gather data - curriculum, industry information, other resources;
3. identify equipment, accessories, tools, etc and prepare specifications sheets;
4. implement planning seminar;
5. complete floor plans; cross check with equipment lists;
6. Submit equipment list for bid;
7. Receive, check and install equipment.

TRIP REPORT

GOVERNMENT OF ZIMBABWE MINISTRY OF EDUCATION, EXAMINATIONS BRANCH

Submitted by Eric Eno, Academy for Educational Development
For the period 23 July - 14 August 1985

This trip, which was performed in support of the examinations automation project has been fraught with problems. As a result the success of the trip was less than optimal. Although most objectives have been met, there has been no time left for user training and coordination of next steps in the system development.

Setbacks were caused by problems with the computer used for examinations processing, uncertainty about our ability to comply with postal regulations, and the inability to effectively coordinate plans with Government Printing and Stationary. As a result of the computer problems, we have been unable to produce complete sets of Candidate Entry Schedules and Packing and Mailing materials for the local examinations. While the programmes to perform these tasks have been installed and run with live data, there has not been sufficient time for all data to be processed for both Grade 7 and ZJC Examinations.

By far the most serious problems which we have faced are those concerning the reliability of the Data General Computer used for examinations processing. Early in the visit, the first of a series of computer hardware maintenance problems was experienced. These problems which persisted throughout the length of my visit seriously impeded progress toward installation of additional software modules and have caused delays in the schedule of events for the 1985 local examinations. It should be noted that the staff of Treasury Computer Bureau have made valiant efforts to mitigate the consequences of these mechanical failures, and should not be blamed in any way for the problems encountered. All maintenance on the computer in question is the responsibility of Datronics Division of C.F. Tulley.

This report contains an analysis of the current state of critical elements in the examination processing cycle and it highlights aspects of the examinations system which may require additional attention from ministry officers.

1. Preliminary Candidate Entry Schedules

Printing of Grade 7 Candidate Entry Schedules was begun on 31 July, but was not completed before the computer failed. This failure required us to discard the schedule begun on 31 July and start anew when the computer was repaired. These difficulties have resulted in the delay of receipt of entry schedules at Grade 7 schools until the final week of August. This delay makes it much more difficult to correct the candidate files and produce

the final candidate entry schedule in sufficient time for its delivery to schools before the scheduled examination dates. To allow two weeks for entry of corrections to candidate files and an additional two weeks for distribution of final candidate entry schedules to schools would require that corrected entry schedules be returned to examinations branch by mid September.

Printing of ZJC entry schedules is currently in progress. Since the ZJC exam is not scheduled to begin until 1 November, there should be little difficulty in correcting errors on this schedule and producing and distributing the final entry schedule to ZJC examination centres before scheduled examination dates.

2. Data Capture

ZJC candidate registration data and centre subject registration data have been entered in the computer and adapted for use with the new examinations system. All remaining data entry between now and the time of marks entry will consist of corrections to candidate and centre records and will be performed by clerks for the respective examination.

It should be noted that much of the data capture this year has employed interim measures which are not expected to be followed in future years. Candidate data has initially been keyed in by TCB's data entry division and converted to file layouts used by the new software system on a one-time basis. Future data entry has been planned using the optical mark reader which will be programmed to write files compatible with the new software. Should the TCB data capture group be used in future years, data capture programmes should be revised for compatibility of output with new file structures.

3. Materials Distribution

On my arrival in Zimbabwe, I was informed by exams branch staff that PTC would not approve the use of self-adhesive mailing labels which are printed by the computer for the mailing of examinations materials. Throughout my visit, first I, and later officers of the Ministry negotiated with PTC officials to find ways of overcoming Postal objections to the computerized mailing system. Formal agreement has been reached whereby PTC will permit the use of mailing labels and canvas mailing sacks up to 10KG in weight provided that an embossed seal is placed over the mailing label to facilitate the identification of any labels which may have been tampered with. Resolution of this problem assumed a high priority, since the conditions insisted upon by PTC initially would have delayed distribution of examinations by months.

Grade 7 Answer Sheets have been shipped from the US and should arrive in Zimbabwe during the week of 12-16 August. Envelopes and postal registration forms have been prepared so that the Grade 7 section is ready to begin packing answer sheets, upon their arrival. If packing can be started by 19 August, it

should be completed by 30 August, leaving sufficient time to complete dispatch of question papers as scheduled on 27 September.

Grade 7 question papers were delivered to GP&S for printing during the last two weeks of July. While GP&S has asked for four months to complete a task as large as this, they have assured us that they will make every effort to deliver question papers as required. With packing scheduled to begin 2 September, delivery of at least an initial allotment of each paper should be sought by 30 August. An officer of examinations branch should maintain a close watch on the production of these papers to assure their delivery is not delayed.

Dispatch of ZJC stationery to examination centres has been completed. All question papers have been delivered to GP&S for printing, and as with Grade 7, GP&S has assured us of their maximum effort to deliver question papers as soon as possible. Several of the smaller subjects have been delivered already, but the concern is for the compulsory and major subjects in the examination. With packing scheduled to begin 26 August, we still have no anticipated delivery schedule from GP&S. During my visit, Mr. McKenzie paid several visits to GP&S and made numerous phone calls attempting to arrange a delivery schedule for each paper. To date no such schedule has been received.

The current plan is to pack all subjects for a single region together, so that we will require partial lots of all subjects when packing commences. As with Grade 7, this problem deserves careful watching.

Packing labels for black bags and mailing labels for parcel tags are currently being printed for both examinations. Since we will be packing only one region at a time, we are printing only partial lots of these labels as they are required. We are reluctant to print all labels for either exam for the entire country as we anticipate that this would exhaust the supply of labels. Additional labels have been requested in an amendment to DO #4, and their delivery is anticipated in the week of 2 September.

4. Post-Examination Schedules

I have attached a copy of the anticipated post-examination processing schedule to this report. It can be seen from this report that we anticipate completion of the initial results to the Grade 7 exam by 13 December and ZJC results by 7 February.

5. Localization of Optical Mark Forms

Paper and ink for the next round of testing local capacity for production of optical mark forms has arrived in Zimbabwe, and is presently being cleared through customs. Proofs of the form to be used in the test have not yet been received from Typocrafters, but are expected to be available soon. After the

proofs have been approved, Exams Branch should authorize a limited run of 1,000 forms for testing purposes. Test forms should be shaded by Exams Branch staff for about 200 test candidates, and results read by the scanner should be compared to the scores that have been compiled manually. This testing could be done as soon as forms have been printed by Typocrafters.

In addition to the on-site testing, 10 copies of the form should be given to the AED field office for shipment to NCS for professional analysis of the forms suitability.

6. Next Steps

At this point it appears that the schedule of pre-examination events can still be achieved. However, the timely receipt of examination question papers and mailing labels, and the ability to get corrected candidate entry schedules back from schools in sufficient time to enter corrections and print final entry schedules are critical to this achievement.

Arrangements have been made for two programmers to attend a training and coordination session in the US in September. In the course of this session they will receive training in maintenance of the programmes, and will participate in the design of machine specific interfaces for the system. These programmers will return to Zimbabwe with the marks entry and marks merging modules of the software system for installation and testing on the local computer system in early October.

I plan to return to Zimbabwe during the last two weeks of October to observe the processing of Grade 7 answer sheets and to deliver the results processing and reporting modules. Following that, my next trip will be during the first two weeks of December when I will observe results processing for Grade 7 and marks entry for ZJC. During this time we will also test the feasibility of ZJC marks entry using the specially designed optical mark form for marks entry.

7. Ongoing Planning

Beyond the need for careful planning for this year's examinations, I recommend that the Ministry consider three additional aspects of examinations administration and processing for future examinations.

a) First, it is clear from this year's experience that the computing capacity allocated to examinations is not adequate for timely processing of these examinations. Further negotiations with TCB should be initiated very soon to plan the computer allocation for future years' examinations. Specific problems to be addressed are the slow response time experienced for data entry systems, the limitations of the fastest available printer, and the inadequate disk space available for examinations data files, work files and temporary print files.

b) During the meeting held to discuss my trip report of my June visit, it was suggested that expediting localization of Cambridge Examinations was an activity that held a high priority for the ministry. In support of localization, I suggest that discussions be held soon between representatives of the Ministry of Education, Cambridge Examinations Syndicate, USAID, and the Academy for Educational Development to formulate a specific approach to the question of what enhancements to the examinations computer system are required and what parties should design and implement them.

c) If accounting for fees collection is to be incorporated into the examination processing system next year, steps must be taken shortly to analyze system requirements and design system specifications. I suggest that a request for two week's of technical assistance under the BEST project be initiated now for the analysis to be performed early in 1986.

B. Appreciation.

The magnificent support which I have received from the MOE staff seems to have become commonplace. All officers have made themselves readily available to me despite their busy schedules, and the clerical staff of examinations branch has performed admirably in their data entry task. Once again, I want to single out Mr. Mundangepfupfu of TCB, who spent many weekend and late night hours assisting in sorting out computer, software and data problems. Without his assistance many objectives of this visit would not have been met.

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GOVERNMENT OF ZIMBABWE
MINISTRY OF EDUCATION
PRELIMINARY SCHEDULE OF EVENTS - INTERNAL EXAMINATIONS, 1985

| POST-EXAMINATION EVENTS | GRADE 7 | ZJC |
|----------------------------|------------------|-------------------|
| 1. Examination Dates | 16-17/10 | 1-12/11 |
| 2. Marking | 18-10/ 6-12 | 13-11/ 6-12 |
| 3. Marks Entry | | 16-12/ 3-2-86 |
| 4. Report Results | 13-12 | 10-2-86 |
| 5. Resolution of Problems | 16-12/ 3-3-86 | 10-2-86 5-5-86 |
| 6. Final Results/Close Exa | 31-3-86 | 6-6-86 |

**RECOMMENDATIONS ON
BACHELOR OF TECHNOLOGY DEGREE DEVELOPMENT
AT
HARARE POLYTECHNIC
HARARE, ZIMBABWE**

prepared by

**Dr. Myron E. Lewis
State University College
Buffalo, New York**

August 23rd, 1985

INTRODUCTION

A limited review of the physical facilities and equipment at Harare Polytechnic and discussions with the chairmen of the Departments of Civil, Electrical, Mechanical, Science and Business Technology has produced evidence of some strengths that should be capitalized on and some weaknesses that need to be corrected. This report will delineate these findings and make corrective suggestions where appropriate. It will be concluded by a list of recommendations.

It appears abundantly clear that manpower in the technologies is critical if Zimbabwe is to continue to develop in the industrial and service sectors, and as a result, in economic independence. The attitude of the people is positive and the world economy is improving. These factors necessitate establishment of these B.T. Degree programs with all haste. This will require strong leadership at Harare Polytechnic and cooperation of government, the University, present faculty at the Polytechnic, business and industry and outside sources.

Goals and Objectives

The major goal of Harare Polytechnic should be stated clearly and briefly. An example of this might be:

"The primary goal of Harare Polytechnic is to offer applications oriented diploma and degree programs in the engineering, business, computer and science disciplines to satisfy the technological employment needs of Zimbabwe."

Specific program recommendations are made in the concluding section of this paper. Caution should be taken not to offer so many programs and so many options that graduates becomes so specialized that they are unemployable and the Institution becomes a financial burden.

After determination has been made as to exactly what programs will be offered a clear and concise objective should be written for each one. A program objective for the BT Degree program in Industrial Technology might be:

"To prepare graduates to solve problems involving production, manufacturing and industrial marketing and the organization, management and supervision of the personnel involved."

The program objective should be the starting point for determining what courses should make up the program. Programs should share courses as much as possible. From the goal for Industrial Technology it is clear that a general marketing course will be needed. The Business Technologies will be offering a marketing major and there is no reason why the Industrial Technology majors could not take an appropriate offering from this area.

Administrative Organization

The first step in forming a strong and reputable institution is to secure the proper chief administrative officer. In this case, the Principal should have a working knowledge of technology and business, good organizational and leadership qualities, experience in curriculum development and be an effective communicator. The Principal should be assisted by a Coordinator of Instructional Facilities who will supervise laboratory development and operation, assign all instructional space and coordinate scheduling.

Each department should be headed by a chairperson who will be the first line supervisor of all faculty and programs in a given area. (i.e., craft, technical and B.T.) The Chair will do all faculty and course scheduling in his area in co-operation with the Co-ordinator of Instructional Facilities. The Chair will also co-ordinate supply and equipment requests, curriculum development and student advisement in his department. He should teach a reduced load in order to effectively handle his administrative assignments.

Curriculum Development

A common format should be developed for all courses at the Polytechnic. It should include:

- (1) Course number and title
- (2) Course objectives
- (3) Topical outline
- (4) Text and bibliography
- (5) Method of presentation and evaluation, and
- (6) pre-requisites

As previously stated the program objectives should determine what courses are offered. An institution wide core of general education courses should be developed and required of all BT majors. A common structure must be developed specifying the number of courses required in this general education core and the number of major courses required. All common courses must be taught by the appropriate discipline. (ex. - all math courses by the math department, one materials processing lab, one common drawing instructor, etc.)

Student evaluation in all technology courses should be on a continuing basis. This can be done through quizzes, projects, group participation, attitude evaluation and final exams. A weighting should be placed on each technique used and the students informed. (ex. quizzes - 25%, projects 35%, ability to work creatively and with others - 15%, final exam - 25%).

Great care should be taken in the selection of required courses for the major. After the courses of study have been developed the entire package should be reviewed to be certain that they prepare the graduates for the entry level professional positions that the goals have indicated. They then should be presented to the advisory committee for study and comment.

Faculty Development

Faculty development is an ongoing process. Care should be taken to choose faculty who can teach several courses in a major so that there will be more flexibility in scheduling. The faculty in the engineering technologies should have had industrial experience and be hands-on oriented.

It is critical that seminars and workshops be set up as soon as possible for the BT faculty. This could be done in several ways. One might be to have a program for new U.S. hires at Buffalo State College before they depart for Zimbabwe; another could be to have present faculty come to Buffalo for workshops before the BT programs commence; still another might be to have a faculty member, or members, come from Buffalo to offer programs for faculty on site at Harare Polytechnic.

A faculty evaluation program should be established so that strengths and weaknesses in performance can be identified. Where a faculty member is found to be strong in a particular area, (ex-laboratory organization, student evaluation, machine demonstration technique) he could be asked to present this to other faculty. Where weaknesses are identified, a corrective program should be set up. If these deficiencies are not corrected in a given period of time, the faculty could be considered for an assignment where he might have better possibilities, or he should be released.

Laboratories and Classrooms

Specific recommendations cannot be made for individual rooms at Harare Polytechnic. This would necessitate floor plans, access to all rooms and hours of careful study. Room designations should be made by the Co-ordinator of Facilities, working with Department Chairmen. However some general guidelines should be followed.

The 600 seat testing hall should be converted to instructional space because the concept of only final testing is not appropriate in technology. One or two materials processing labs and technical drawing labs should be set-up to handle all majors. The number of labs will be determined by enrollment projections. Some additional tools and equipment may be needed but most is available in rooms scattered throughout the school. An inventory should be made of all tools and equipment and items should be appropriately re-assigned. All labs should be set up for 24 work stations. This does not mean that there should be 24 lathes in a material processing lab, but there may be 8 lathes, 2 mills,

2 shapers, 2 grinders, 4 sheet metal stations, 2 casting and 4 metal fusion stations.

Lecture rooms should be set up for a minimum of 35 students and have blackboards, projection screens and overhead projectors. Scheduling of all instructional facilities should be carefully co-ordinated, as previously stated, for most efficient utilization.

Industry\Commerce Relations Program

An advisory committee should be appointed as soon as the programs and courses of study are developed. This committee may consist of approximately 15 members and would include the Principal of Harare Polytechnic, a member from the office of the minister of Labour, Manpower Planning & Social Welfare, the Dean of Engineering from the University of Zimbabwe and 12 members from industry and commerce. The College Head should chair the committee and the 12 members should be from diverse fields and highly placed in their companies.

The committee should review curriculum proposals, make recommendations concerning courses and programs, be canvassed for laboratory equipment recommendations and be the first line of communication between the Polytechnic and the community. The committee should be advisory in nature and listened to carefully.

A Director of Placement should be appointed the year before the first graduating class. This person would develop resume formats, placement procedure materials, brochures explaining the programs to employers, a potential list of employers and work closely with the Advisory committee.

Student Recruitment and Advisement

Harare Polytechnic will be judged by the quality of its graduates. The first classes must receive special attention because both students and faculty will be learning. For these reasons students should be carefully screened and well advised.

A public relations program should be initiated through both publicity and advertising. Contacts should be made with the newspaper to encourage them to do news stories on what the Polytechnic is becoming. This might be done through human interest stories released by the Polytechnic and/or inviting reporters in to see program and facilities development.

An attractive brochure should be developed that briefly describes all of the Polytechnics offerings. Program brochures can then be developed explaining what the individual programs are, who should apply, course requirements and what jobs they are qualified for upon graduation. These should be distributed to all of the high schools, counselors and libraries.

Open houses could also be arranged to bring to campus potential students and their parents to see the facilities and hear a program presentation. Displays could be made and located in appropriate places in the community.

After the students arrive, every effort should be made to assist them in reaching their total capabilities. This starts by a good orientation session to make them feel comfortable, followed by good instruction and supported by faculty assistance with problems and finally, competent academic advisement.

Every faculty member should be a student academic advisor. If there is 200 students in a program and 10 faculty members; each faculty should be assigned 20 advisees. All faculty should be required to have a minimum of 3 office hours per week for student consultation and advisement. These hours should be clearly posted and the faculty should be there for appointments or for drop in consultation.

The product of the institution is the student. Every effort should be made to produce a quality product. This can only be done by the total commitment of the administration and the Faculty. The operational model that the Polytechnic implements should be one of INPUT-PROCESS-OUTPUT where the input is the students, the process is the program and the output is the entry level professional graduate.

Recommendations

1. Appoint a Principal who knows technology, curriculum development, facilities and personnel management. This person should be able to plan, implement and control.
2. Appoint a Co-ordinator of instructional facilities to co-ordinate labs, classrooms and scheduling.
3. Offer the following BT Degree programs at the Harare Polytechnic:
 - a) Electrical
 - b) Mechanical
 - c) Civil
 - d) Industrial
 - e) Information Systems Management
 - f) Accounting
 - g) Management
 - h) Marketing
 - i) Applied Science
4. Offer the 2 year technician programs as work entry and 2 + 2 programs and award an AT (Associate in Technology) degree for successful completion of the 2 year program.

5. Curriculum development should be completed in all areas based upon the functional needs of the graduates by business and industry. All courses, lab and lecture, should be technology based (applications oriented).
6. Offer common courses for all programs by faculty specialists in the appropriate discipline:
 - a) Math teacher teaches all math courses
 - b) All technical drawing offered by drawing teachers
 - c) Common materials processing courses for all majors requiring it (Mech., Ind., Auto.,)
 - d) Common physics and chemistry courses for all majors.
7. All laboratory classes should be set up to handle a maximum of 24 students.
8. The size of lecture courses should be determined by course content and student need, but planning should be for not less than 35 students.
9. Students in laboratory courses should be evaluated weekly by either laboratory experiments, projects, quizzes or group participation.
10. Each major laboratory should have one laboratory assistant to assist the instructor during lab periods, maintain equipment and construct instructional materials and equipment.
11. An immediate inventory of all tools and equipment should be made, laboratory planning should be completed, hardware should be appropriately relocated and excess equipment should be made available to appropriate recipients for better utilization.
12. A realistic appraisal should be made as to what additional tools and equipment are needed and submitted to the facilities co-ordination, who should make a decision as to what should be ordered.
13. Seminars should be arranged for faculty and staff on such topics as:
 - a) Laboratory organization and management
 - b) Student evaluation
 - c) Instructional material development
 - d) Technical updating in the disciplines
 - e) Technology based curriculum development
14. An ongoing program evaluation system should be developed to include:
 - a) Evaluation of instructional facilities
 - b) Evaluation of instruction
 - c) Evaluation of program goals and objectives

15. Establish an advisor committee of approximately 15 members consisting of the college head, a member from the minister's office, the Dean of Engineering from the University of Zimbabwe and 12 members of business and industry representing a broad spectrum of the economy.

16. Accept students for an October 85 starting date and have the group take general education courses for a 12 week quarter. Starting the first week in March 1986 the Polytechnic should be on two 18 week semesters running from early March to early July, a 3 week break and then from early August to early December, and continue this schedule until good reason for change is proposed.

Suggested Curriculum Components

General Education Core - All Egn.Tech Majors

| <u>Course</u> | <u>Lecture Hrs.</u> <u>Per Wk.</u> | <u>Lab Hrs</u> | <u>No. of Semesters</u> |
|---------------------------------|---------------------------------------|----------------|-------------------------|
| Effective Communication | 2 | 1 | 1 |
| Technical Report Writing | 2 | 1 | 1 |
| Mathematics | 3 | 1 | 3 |
| Computer Science | 2 | 2 | 2 |
| Engineering Science | 2 | 2 | 2 |
| Psychology | 3 | | 1 |
| Engineering Economics | 3 | | 1 |
| Political Science | 3 | | 1 |
| Aesthetic Design(form function) | 2 | 1 | 1 |
| Safety | 3 | | 1 |
| | ----- | ----- | ----- |
| | 25 | 8 | 14 |

Common Workshops (not all majors)

| | <u>Lect. Hrs</u> | <u>Shop Hrs.</u> | <u>No. of Semesters</u> |
|-----------------------------|------------------|------------------|-------------------------|
| Technical Drawing | 2 | 4 | 1 |
| Materials Processing | 2 | 4 | 1 |
| Materials Science & Testing | 2 | 2 | 1 |
| | ----- | ----- | ----- |
| | 6 | 10 | 3 |

VOCATIONAL EDUCATION CONFERENCE

Harare, Zimbabwe

August 26-31, 1985

**THE
COMPETENCY-BASED VOCATIONAL EDUCATION
ALTERNATIVE**

A paper presented by

David D. Redfield

Center for Studies in Vocational Education
Florida State University
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Introduction:

No country, culture, academic discipline, or school has the ultimate answer to what works best in teaching. Yet all of us in this room have considerable experience, and insight relating to the subjects of teaching and learning. We also have specific expectations as to what we anticipate being accomplished as the result. The challenge undertaken in this paper is to synthesize in one single presentation the diverse amount of extant experience, knowledge, and effort relating to one alternative being considered at this conference-- Competency-Based Vocational Education.

To begin, I'll identify how I have gone about collecting, organizing and synthesizing this very presentation. In fact, in doing this, I "practice what I preach"; that is, begin by stating specific objectives I expect you to achieve before you complete this introduction.

- * You'll be able to state how this paper is organized.
- * You'll be able to state the nature of sources used to support what is presented.

In discussing the development of this paper with the conference sponsors, a structure of questions emerged which made a lot of sense to me and I have used them as the organizing themes. Consequently, this paper is developed using the following organizing questions:

- * What is Competency-Based Vocational Education?
- * What evidence is there that it works including where and how is it being used?
- * What is the collective experience regarding its use -- advantages and disadvantages?
- * How does it get developed?

To supplement materials already known to me, I ran three on-line computer searches of professional, military and industrial literature to draw together the reported research papers, journal articles, instructional materials, and the like which reflect both the developments of the past 10-12 years and the current state of the art. A synthesis of this literature and examples drawn from it form the substance and evidence of response to the four organizing questions of this paper.

Now, do you recall the two objectives of this introduction? Can you state how the paper is organized, the nature of the sources used, and for what purpose they are used? If not, you might like to glance back over the last few paragraphs. If the competency I had in mind for you to master in the introduction was to be able to answer these questions, then surely I should provide some remediation if you can't. Re-reading paragraphs may not be the most effective way to do it, but for now it will have to do.

What Competency-Based Vocational Education is:

Vocational education is often loosely defined as preparation for the world of work. To some degree this points to the one

principal difference in relation to general education which advocates believe serve the broader goal of preparation for life. Whether or not you accept these all-too-general definitions, surely you will agree that the focus of vocational education is preparing individuals for useful/gainful employment.

Strategies for providing this preparation are many and varied. One hears of apprenticeship, on-the-job training, individualized instruction, performance-based instruction, mastery learning, internship, courses, programs, workshops and, the subject of this paper, "Competency-Based" training. In fact, the methodologies underlying all these terms are by no means mutually exclusive. What then is Competency-Based Vocational Education (CBVE)?

Different authors, as is so often the case, use different definitions. Here is one which I find helpful.

"Competency-based vocational education can be defined as instruction for employment that is based on current job tasks, which are made known to each student before instruction and which, after appropriate instruction is provided, are to be performed by the student under prespecified conditions and according to prespecified standards". This statement was developed and distributed in my home state of Florida in 1983 and is the basis for programs at secondary, and post secondary levels statewide. (1)

Competency-based education differs from traditional education in that competency-based instruction prespecifies the standard of attainment expected of the student before instruction takes place. This means that both objectives and test items which

measure these items are ideally designed before the instructional materials are selected and before the instruction commences.

William Knaak who lead the development of one of my country's first model CBVE Vocational Technical Institutions, describes differences in the following way (2):

"In traditional systems of instruction, the procedure usually takes the following format:

1. A determination is made about a subject or skill that a group of students should learn.
2. Instruction on that subject or skill is presented to the group of students, usually in the form of lectures, demonstrations, audiovisual presentations, or readings. Instruction and time is usually the same for all students.
3. Finally, a test is given to all the students. They are usually graded A, B, C, D, or F according to how their test score deviates from the norm (average score).

In competency based education, the format is somewhat different:

1. A determination is made about the information or skill that needs to be learned.
2. The standard or criteria of achievement is in the form of stated behavior through which a student can demonstrate that he/she has learned the content of the instruction. These criteria are provided before instruction begins.
3. Instruction initially may be group-centered, as previously described, or it may be a series of individualized learning activities.
4. When a student feels ready to be tested on the content of the instruction, he/she may take the test. The test may be a written test on the information presented, or it may be a perform-

ance test, evaluated by an observer with a performance checklist. In CBE it is not necessary for all students to take the test at the same time because the test is criterion-referenced. This means that the mastery or passing level is prespecified so that one student's grade is not compared to any other in determining results.

5. If the student passes the test(s) at the prespecified mastery level or above, he/she goes on to the next unit of instruction. However, unlike traditional instruction, CBE students who do not meet the established criteria level must return to study and/or practice the content of the first unit of instruction until they can pass at the pre-stated criteria level. At this point, alternative and individualized methods of presenting instruction become critical to the success of the student with less aptitude for learning this particular unit of instruction. Experiments reported by Block (3) and Bloom (4) indicate that, with added time and good learning conditions, 75 percent - 95 percent of students can learn most instructional content. This compares favorably with the 25 percent achieving the criteria level in traditional instruction."

At the very core of CBVE is **competency**. Competency reflects the ability to do something in contrast with the more traditional ability to demonstrate knowledge. In CBVE the worker should find the competency to be a critical aspect of employability in his or her occupation. Furthermore, the instructor must have available specific criteria that allow assessment of the student's mastery of the competency. Demonstration of competency, not grading, provides the primary evidence of achievement.

Evidence that CBVE Works:

What evidence is there that the CBVE alternative approach to vocational training works? One approach to the question might be

that if CBVE is effective, one should observe a rapid growth curve in its adoption by centers of vocational training. Secondly, if CBVE is useful, one should find research data that deals with questions of cost, time, and learning efficiency. Or possibly one might logically analyse CBVE considering its advantages and disadvantages. I'll address all three viewpoints in this paper - the first two in this section, and the last in a section by itself.

The literature on CBVE is abundant, particularly since 1970. I have examined several hundred reports, articles, books, etc. in preparation for this presentation. Most deal with philosophical and procedural issues; catalogs of competencies; and CBVE instructional materials. Relatively little provided definitive results from well-designed research studies.

As of 1977, according to Spady (5) over twenty of the United States were "considering or implementing a range of Competency-based schemes for their elementary and secondary schools". In this same year, vocational-technical instructors from Saudi Arabia and Iran were preparing themselves in the US to initiate CBVE in their home countries (6); teachers colleges in Saudi Arabia, Israel and Australia were studying Competency-based Education (7); UNESCO sponsored a week-long training conference for its chief Technical Advisors; and experimental CBE projects in Technical Education were going on in Munich, Germany and in various areas of Brazil and Canada.

In 1973, US military expenditures exceeded \$6 billion annually

and involved no less than one-sixth of all military personnel at any one time. With such a huge investment in manpower training, a task force was convened in 1974 and given the responsibility of evaluating the effectiveness of Defence training. The competency-based Instructional Systems Development (ISD) model was adopted by all US Armed Services by 1975 and involved :

- * rigorous derivation of training objectives from job requirements,
- * selection of instructional strategies to maximize the efficiency of training, and
- * iterative trial and revision of instruction during development until objectives were met.

Currently, the degree of commitment of American education institutions to competency-based approaches has grown considerably beyond that of 1977. Most States use CBVE in some schools, if not most. Teacher education programs at the University are developing and utilizing performance-based methodologies. Teacher certification procedures based on defined competencies are being considered in several states and are already legislatively mandated in other states including my own. Published research and journal articles concerning CBVE pre-service and in-service teacher education programs were found relating to the following states: Alabama, California, Florida, Georgia, Indiana, Kentucky, Michigan, Minnesota, Montana, New York, Ohio, Pennsylvania, Texas, and Virginia. Additionally, eight states reported offering workshops and other training programs to prepare Vocational Administrators using competency-based methodologies.

Vocational programs don't develop and work without supporting services and materials. No one area of reporting appears more prevalent in the literature than instructional materials themselves. These include catalogs of vocational competencies for virtually all areas of secondary and post-secondary education, instructional guides and materials for most vocational areas including considerable resources for basic skills training, special needs groups such as the handicapped, the sex stereotyped, etc. In order to develop such materials, many school districts and states have proceeded on their own. Of special note, however, is that several states have pooled their resources, sharing both expense and expertise in selected materials development efforts. Four examples of these cooperative efforts are:

CORD -- The Center for Occupational Research and Development -- which claims to have produced more than 36,000 pages of material in cooperation with 42 states and national organizations working with 64 employing industries. Materials have been developed for such areas as heating and airconditioning, electronics, laser/electro-optics, and numerous nuclear technology technician trades.

National Center for Research in Vocational Education at Ohio State University has been Federally funded to provide products and services to aid local school districts in planning and implementing CBVE. These include instructor and administrator training modules, annual conferences, and on-site workshops.

CSVE -- The Center for Studies in Vocational Education -- provides services to all 68 counties in Florida as well as industry and other states including materials adoption/adaption/development services; information services for gathering and synthesizing previously developed instructional materials, research findings, and validated task

listings; and publishes the quarterly OPEN ENTRIES, a national Competency Based Vocational Education Information Exchange.

V-TECS -- Vocational-Technical Education Consortium of States -- is a cooperative effort of eighteen states and the US Armed Services to develop and disseminate to member states catalogs of performance objectives and matching criterion-referenced measures for them. Of over 114 projects to develop these catalogs, about half are now complete and available, including auto mechanics, electronics and several catalogs at the journeyman to technician/technologist level relating to applied engineering subjects.

If one defines outcomes of CBVE broadly to include such consequences as products, outputs, and inputs, the aforementioned evidence of degree of adaption and adoption is extensive -- vocational schools both public and private, all four US Armed Services, teacher training and certification procedures, and interest in and applications of CBVE in other countries. Yet as suggested earlier, published research and evaluation efforts have not yet produced a clear, credible, documented body of knowledge concerning the overall outcomes of competency-based vocational education. As suggested by Darcy (8), "..... while outcomes could be the most important thing in evaluating vocational education, they certainly are not the only thing."

However, there is research evidence as to the value of CBVE worthy of note and I will selectively report here samples of it.

An independent management contractor (9) reported in March 1984 a comprehensive study of CBVE implementation in Florida. Their summary and conclusions indicate:

- * At least \$15 million of federal funds went into activities promoting CBVE in Florida since 1978.
- * In this time the state, thru CSVE, has acquired about 75 of the approximately 330 different kinds of vocational programs offered throughout the state.
- * About 75% of the programs at area vo-tech centers have implemented CBVE to some degree.
- * Open entry into and exit from CBVE programs based on attainment of competencies was practiced only at area vocational-technical centers.
- * The cost per pupil resulting from open-entry open-exit was less than conventional time-locked programs.

From a March 1984 release of the Florida Division of Vocational Education (10), the following excerpts are quite revealing:

"Students and trainees typically learn more in the competency-based approach than they do in the traditional approach.

Mager (1980): CBVE trained workers for Federal Express were at 99 percent of standard productivity after 3 weeks of training and 1 1/2 days on the job compared with 85 to 99 percent of productivity for workers after a 4-week traditional course and a month on the job.

Markle (1967): A competency-based program in first aid yielded an average score of 270 compared with 145 for the previous standard version of the program.

Business Week (1976): Xerox reported that its competency-based trained service technicians were handling a weekly workload 20 percent greater than conventionally trained service personnel.

Students can learn more efficiently using the competency- approach, thereby saving a significant amount of training time.

Mager (1979): Scandinavian Airlines reported reduction in training time by 94 percent when shifting to a competency-based approach.

Business Week (1976): Xerox reported a 7-week conventional program was reduced to an average of 5 weeks when implementing CBVE.

Mager (1978): American Airlines reported reducing the length of pilot training programs 50 percent using the competency-based approach.

Although sometimes more expensive to set up initially, competency-based programs become more cost effective because of better results.

Brennan, et al. (1975): The US Army is saving \$500,000 per 1,000 trainees in a competency-based Crawler tractor program.

Shoemaker (1972): AT&T spent \$350,000 developing a competency-based maintenance program that resulted in a savings in training costs of \$37 million from 1968-1973.

Business Week (1976): Xerox invested \$50,000 to convert a conventional program to a competency-based format but expected to recover that investment in 6 months through faster training.

Students overwhelmingly prefer self-paced, mastery learning, individualized programs over traditional group-paced, fixed-time programs.

McCullom (1973): When students completed an individualized engineering program, they were asked if they would take such a course again, 82 percent responded 'yes'."

Advantages and Disadvantages:

If you believe that vocational educators have responsibility for helping students attain minimum occupational competencies, then you are concerned with how this can best be done. Mager and Beach (11) put it this way:

"The plumber fails if he cannot stop a leak. The machinist is useless if he shapes metal but does not shape it according to the blueprint ... and the surgeon fails if he operates but removes the wrong part. So too, the instructor fails if he goes through all the motions but can't (or will not) demonstrate that his students can perform according to course objectives."

An advantage of CBVE is its emphasis on program measurement of achievement. In the 1980 Yearbook of the American Vocational Association, Carl Schaefer (12) comments that CBVE

"..... starts with certain available and required competencies and then measures them to see if they have been acquired. Many maintain we have been doing this all along in vocational education. Yet our critics appear less than convinced that we are producing program graduates who can demonstrate mastery of a body of competencies (even the most basic) that places them at an advantage in their quest for jobs."

Schaefer goes on to draw an analogy to the process of product development in industry where the best minds are brought to bear on developing specifications before production. Yet even then, manufacturers declared bankruptcy because the cost was too high, or the product didn't last, or the design wasn't attractive enough. In this regard, he cites the difficulties for CBVE of:

1. reaching agreement on what competencies ought to be taught;

2. specifications of CBVE are difficult to construct;
3. target populations must be identified and may not be uniform.

As experience, validated catalogs of competencies such as those available from V-TECS, and methodologies evolve, these difficulties, though real, become less of a problem.

A predictably uniform disadvantage of CBVE is commitment to it before adequate funds, policies, resources and instructor preparation occurs. Such problems were reported in a 1982 study of Hawaii's Community Colleges (13) and a 1978 survey of selected Florida open-entry open-exit programs for high-school students (14). CBVE does require considerable "front-end" planning and development before its fruits can be reaped.

With CBVE's current emphasis on achieving explicit outcomes, it is no surprise that CBE implementation has become extremely important. The literature suggests that during the early and mid-1970's conceptualizers dealt with the concepts and principles while educators at the local level attempted to try out the ideas. This trial and error approach often lead to disappointing "no significant differences" results. As pointed out by Horne (15) more recent publications reveal that more systematic means to implementation have been devised resulting in an increase in CBE program success.

One important additional thought I'd like to leave you with before summarizing the advantages of CBVE. It concerns the learner. As is continually observed in the individualized

learning literature , the degree to which the learner is willing and able to take responsibility for his/her own learning is a significant factor relating to success with CBVE. On the one hand CBVE promotes and encourages employability skills, personal responsibility for learning and self-actualization. On the other, the success rate of CBVE with the learner may be somewhat retarded until these factors begin to develop. To the extent that most previous educational experience of the learner has been traditional, time and effort will likely have to be spent on making the transition.

To summarize the advantages of CBVE, there have been many demonstrations of impressive gains in learning effectiveness, time-efficiency, and cost savings. However, achievement of such gains includes substantial initial investment in "front-end" analysis and implementation support.

Developing CBVE:

Thinking back to the introduction of this paper, recall the definition of CBVE offered. Notice the key words (underlined) which reflect important factors which CBVE development strategies must attend to.

"CBVE can be defined as instruction for employment that is based on current job tasks which are made known to each student before instruction and which, after appropriate instruction is provided, are to be

performed by the student under prespecified conditions and according to prespecified standards."

One of the simplest models to describe is the Instructional Systems Development model (16) used by the US Armed Services. The model consists of five phases as shown below:

ANALYZE: Inputs, processes, and outputs in Phase I are all based on job information. An inventory of job tasks is compiled and divided into two groups: tasks not selected for instruction and tasks selected for instruction. Performance standards for tasks selected for instruction are determined by interview or observation at job sites and verified by subject matter experts. The analysis of existing course documentation is done to determine if all or portions of the analysis phase and other phases have already been done by someone else following the ISD guidelines. As a final analysis phase step, the list of tasks selected for instruction is analyzed for the most suitable instructional setting for each task.

DESIGN: Beginning with Phase II, the ISD model is concerned with designing instruction using the job analysis information from Phase I. The first step is the conversion of each task selected for training into a terminal learning objective. Each terminal learning objective is then analyzed to determine learning objectives and learning steps necessary for mastery of the terminal learning objective. Tests are designed to match the learning objectives. A sample of students is tested to insure that their entry behaviors match the level of learning analysis. Finally, a sequence of instruction is designed for the learning objectives.

DEVELOP: the instructional development phase begins with the classification of learning objectives by learning category so as to identify learning guidelines necessary for optimum learning to take place. Determining how instruction is to be packaged and presented to the student is accomplished through a media selection process which takes into account such factors as learning category and guideline, media characteristics,

training setting criteria, and costs. Instructional management plans are developed to allocate and manage all resources for conducting instruction. Instructional materials are selected or developed and tried out. When materials have been validated on the basis of empirical data obtained from groups of typical students, the course is ready for implementation.

IMPLEMENT: Staff training is required for the implementation of the instructional management plan and the instruction. Some key personnel must be trained to be managers in the specified management plan. The instructional staff must be trained to conduct the instruction and collect evaluative data on all of the instructional components. At the completion of each instructional cycle, management staff should be able to use the collected information to improve the instructional system.

CONTROL: Evaluation and revision of instruction are carried out by personnel who preferably are neither the instructional designers nor the managers of the course under study. The first activity (internal evaluation) is the analysis of learner performance in the course to determine instances of deficient or irrelevant instruction. The evaluation team then suggests solutions for the problems. In the external evaluation, personnel assess job task performance on the job to determine the actual performance of course graduates and other job incumbents. All collected data, internal and external, can be used as quality control on instruction and as input to any phase of the system for revision.

You can immediately see how the terms of the CBVE definition relate to the ISD model.

"instruction for employment" and current job tasks are dealt with in the ANALYZE phase, and serve as a basis for the DESIGN phase.

"performed" "under prespecified conditions" to "prespecified standards" impacts upon each of the DESIGN, DEVELOPMENT, IMPLEMENT, and CONTROL phases.

Such a development strategy is costly, but shown to be very effective. Yet there are less expensive and less time consuming strategies worthy of considering for many vocational areas used at the high school or vocational-technical school level. The approach that we have used at the Center for Studies in Vocational Education is what we call "Vocational Instructional Materials Acquisition System (VIMAS). Our experience is that it is often possible to adapt already available materials to effective CBVE applications. In a study by Massey (17) of 5 development projects in comparison to 12 multi-option VIMAS projects, the well-supported conclusion was that the VIMAS model was more efficient than the development model in terms of percentage of process costs and in the number of projects that could be undertaken per year.

The VIMAS approach consists of seven components. The Florida State Department of Education Division of Vocational Education is the central decision-making component, and initiates VIMAS procedures by selecting programs to be surveyed. (Florida has over 300 operating vocational programs at any point in time.)

The other six components serve to:

- * assess needs and set priorities;
- * locate existing competency based materials;
- * review, select and, if necessary, adapt the materials that already exist;
- * buy materials, or prepare materials for reproduction;
- * disseminate and diffuse final products to teachers and students;
- * ongoing evaluation of the effectiveness of all these activities.

Using this multi-option approach Massey reported the VIMAS staff have been able to produce the instructional materials for over 10 programs per year compared with 4 using a standard development model. The average cost for the twelve VIMAS projects was 18% of the cost for the five development projects. Although product quality increased, average time required reduced, and cost efficiencies found, Massey and Kromhout (18) report "This has not been accomplished without some reductions in the comprehensiveness and continuity of the instructional materials." The Florida Division of Vocational Education accepts this trade-off as a pragmatic compromise for increasing the impact of its scarce resources to assist more schools in acquiring competency-based instructional materials.

Whether or not a full-scale development model or VIMAS model is used to produce and deliver competency-based material to the teacher and learner, there are common basic elements which should be considered when designing any instructional system. Gagne and Briggs (19) list the following twelve steps.

1. Analysis and identification of needs.
2. Definition of goals and objectives.
3. Identification of alternative ways to meet needs.
4. Design of system components.
5. Analysis of (a) resource required, (b) resources available, (c) constraints.
6. Action to remove or modify constraints.
7. Selection or development of instructional materials.

8. Design of student assessment procedures.
9. Field testing, formative evaluation and teacher training.
10. Adjustments, revisions, and further evaluation.
11. Summative evaluation.
12. Operational installation.

Regrettably, in practice, steps 9, 10 and 11 are often underbudgeted in time and cost. Pressure to produce a product or move on to the development of needed additional or different products is the reason.

Business-Industry partnership is critical in vocational education for development and implementation of CBVE. In setting needs and goals, relevance of CBVE to the workplace, validation of particular competencies, and assurance of productive employment of CBVE graduates can be assured. In these changing times, continuation of out dated programs is all too easy a mistake for a vocational school to make. The use of craft and advisory committees has been found to be most helpful in many ways including reducing program obsolescence.

An interesting reference "Sharing Resources - Post secondary Education and Industry Corporation" (20) describes 219 exemplary programs of such collaboration. Reports of those exemplary programs and practices of industry and education collaboration were analyzed to ascertain what made them successful, what the common elements shared by the programs were, and any distinct qualities of successful programs. From this the following eleven guidelines for industry-education cooperation were developed.

1. **There must be good, clear communication between key persons in industry and education.** This good communication requires that the persons in industry and education understand each other's roles and responsibilities and what each can offer.
2. **Excellence in teaching is essential.** The instructor must have knowledge of the business/industry and know how to gain the respect of and relate to the worker-students.
3. **There must be institutional flexibility in meeting the needs of industry.** There must be flexibility in scheduling courses, in assigning faculty, and in designating locations where courses can be offered. Program times, length, and location must be consistent with user hours and needs. Flexibility is needed also in selecting the mode of instruction, i.e., the delivery system.
4. **Programs offered must be of high quality.** When the college provides courses for industry, the programs must be up-to-date, relevant, and of high quality. It is particularly effective when the courses are specifically tailored to the needs of the company. All parties should agree on course content.
5. **Good, active advisory committees are important.** Industry's support and guidance in developing and maintaining programs are essential. There must be willingness of key industry personnel to volunteer time and resources.
6. **Education should have a quick response time in meeting industry needs.** This requires institutional flexibility and the knowledge and skill of involved college personnel. Short-term and modular courses can help provide quick delivery and successful outcomes.
7. **There must be recognition of mutual need.** To warrant the time, effort, and resources required for collaboration, the need and benefits must be clearly perceived. The vision and persistence of interested parties is required. It takes the dedication of someone in both education and industry to make it work.
8. **The support of administrators and faculty within the college is required to successfully serve industry.** Administrators and faculty must see this as part of their institutional mission and recognize the benefits.

9. **Careful and thorough planning in each cooperative effort is essential.** A good survey of industrial needs and a realignment of educational objectives to meet those needs contribute to serving industry successfully. By careful planning, return on effort is maximized.
10. **A clearly written agreement or contract helps achieve successful completion of joint endeavor.** When the duties and responsibilities of each party are clearly delineated, misunderstandings are reduced and performance is improved.
11. **There should be continued evaluation of the program to update and improve it.** By assessing each program as it progresses and at the end of the course of study, content, procedures, and management of effort should improve.

Summary:

This paper has attempted to present a digest of background for consideration of competency-based vocational education as one viable alternative for the economic and human resource growth of Zimbabwe. In addition to providing a working definition of what CBVE is, central relevant themes of the reported literature have been presented to show how extensively and by whom CBVE has been used; and what the collective experience has been relative to how well it works and what its advantages and disadvantages are. Finally, an instructional systems view of developing, disseminating, and maintaining CBVE was offered.

The rationale for the competency based approach to Vocational Education has been presented and how it differs from the more conventional approach. Following is a summary list of the desirable characteristics of CBVE which make it a viable

alternative that has demonstrated addressing positively many of the shortcomings of traditional training programs. (21)

- * The focus is on learning -- not teaching.
- * Students are provided with a list of the specific competencies they must master to be successful.
- * Instruction is individualized and personalized.
- * Students are evaluated by comparing their performance to a fixed criterion level -- not compared to each other.
- * Theory is usually integrated into the instruction for skills.
- * Students receive immediate and continuous feedback on their learning progress.
- * Students are allowed sufficient time for practice before being tested.
- * Students can enter training programs when vacancies occur and exit when competent.
- * Students can test out of competencies they have already learned.
- * A student can work alone, with another student, or within a small group, as he or she chooses.
- * A wide variety of learning materials and media are used rather than relying heavily on a single textbook.
- * The emphasis is on mastery of job skills backed up by essential knowledge and attitudes.
- * Where feasible, students can select which task they wish to work on next.
- * Instructors have more time for one-on-one contact with students who need help.

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APPENDIX E
UNIVERSITY OF ZIMBABWE PERSONNEL AGREEMENT

LETTER OF AGREEMENT
BETWEEN
THE ACADEMY FOR EDUCATIONAL DEVELOPMENT
AND

Article I - General

This Letter of Agreement is entered into between the Academy for Educational Development (hereinafter referred to as "the Academy"), and _____, with a permanent address at _____ (hereinafter referred to as the "Contractor"), and confirms the terms and conditions of salary supplement and other financial and administrative support of the Contractor, who has been appointed to the following position by the _____ of the University of Zimbabwe (hereinafter referred to as the "Employer").

Position: _____
Location in Zimbabwe: _____
Assignment: _____
Term of Service: _____

Article II - Definitions

Throughout this Letter of Agreement, the following definitions shall apply:

- A. "Employer" shall mean the University of Zimbabwe, which provides the basic in-country salary payment and executes the Employment Agreement.
- B. "Employment Agreement" shall mean the employment contract between the University of Zimbabwe and the Contractor.
- C. "Contractor" shall refer to the person executing the Employment Agreement with the University of Zimbabwe and signing this Letter of Agreement.
- D. "The Academy" shall refer to the Academy for Educational Development, Inc., a nonprofit organization located at 1255 23rd Street, N.W., Washington, D.C. 20037.
- E. "AID" shall refer to the United States Agency for International Development.

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- F. "Dependents" shall refer to the Contractor's spouse, children under 21 years of age, parents who are 51 percent dependent on the Contractor for support, and sisters and brothers who are under 21 years of age and incapable of self-support and 51 percent dependent on the Contractor for support.
- G. "Annual base salary" shall refer to all compensation earned on an annualized basis including salary, wages and other benefits in the U.S. or country of domicile and work. Supporting documentation on such earnings will be required.

Article III - Employment Agreement

The terms and conditions of service for the position described above are set forth in a separate agreement of appointment between the Contractor and the Employer dated _____ (hereinafter referred to as the "Employment Agreement"). The Contractor shall perform all duties required in and pursuant to the Employment Agreement. In performing services thereunder and under this Letter of Agreement, the Contractor shall be an employee of the Employer and not of the Agency for International Development (AID) or the Academy. Notwithstanding any condition, direction, or provision contained within this Letter of Agreement to the contrary, the Contractor's performance under this Letter of Agreement is not to interfere with or be deemed to take precedence over the performance of duties as an employee of the Employer pursuant to the Employment Agreement. This Letter of Agreement is subject to Contractor's receipt of the employment permit, visas if necessary, and any other documents necessary for him/her to be employed in and remain in the country of Zimbabwe.

Article IV - Salary Supplement

The intent of this Article IV is to provide a fair and equitable salary supplement, taking into account changes that may occur during the term of this Letter of Agreement. Salary Supplement shall begin and end concurrently with the salary paid by the Employer.

- A. The annual rate of Salary Supplement for the Contractor under this Letter of Agreement is generally determined by establishing the Contractor's annual base salary and subtracting therefrom the total salary paid to the Contractor by the Employer. To this amount has been added a percentage of the Contractor's annual base salary as a recruitment incentive, plus 7 percent of the annual base salary to cover retirement contributions to arrive at the total salary supplement. Based on this calculation the total Salary Supplement for the first year will be at an annual rate of U.S. \$ _____. If the Employer adjusts the total salary paid to the Contractor upward by 5 percent or more other than regular annual increments during the term of the Agreement, the Academy, at the direction of AID, may reduce the Salary Supplement accordingly, effective at any time on or after the effective date of the Employer's adjustment. Should the exchange rate between U.S. dollars and Zimbabwe dollars fluctuate by more than 10 percent during a 12-month period, there may be an adjustment in the amount of Salary Supplement. Such an adjustment shall be subject to review and written authorization by AID. For the purposes of this Agreement, the initial exchange rate for the 12-month period shall be that in effect of the first full day of the first full month under the

concurrent terms of this Letter of Agreement and the Employment Agreement. The Contractor is responsible for notifying the Academy in writing of the exchange rate in force on that date.

The Contractor must immediately notify the Academy in writing of any change in Contractor's payments from the Employer and the effective date thereof. The Academy shall notify the Contractor in writing of any change in the Salary Supplement and the effective date thereof.

If the Letter of Agreement is for two years, the Contractor will receive a 5 percent increase in his/her annual base salary at the beginning of Year Two of the Agreement. Any adjustments to the Contractor's Salary Supplement due to changes in the Contractor's host country salary will be made following the terms set forth in Article IV. If the Contractor renews his/her Agreement at the end of this term of service, he/she will receive a 5 percent increase to the base salary at the beginning of the third and fourth years of the Agreement in the same manner as in Year Two of this Agreement.

- B. The Academy shall pay the Salary Supplement to the Contractor at a monthly rate of \$ _____ and shall mail salary payments by the 15th day of each month of the U.S. calendar for the preceding calendar month. Payments shall be deposited by the Academy in the U.S. bank account of the Contractor. Payments for the partial months in which services begin and end and for any month in which the Employer notifies the Academy that less than a full month was worked shall be calculated at a rate per work day of 1/260 of the annual rate.
- C. Payments of Salary Supplement shall be made for a period not to exceed _____ and shall have a term that is concurrent with the Employment Agreement. The Academy will receive a statement from the Employer as to the effective dates of the Employment Agreement. It is also the responsibility of the Contractor to inform the Academy in writing of the start or effective dates of the Employment Agreement. However, payment of the Salary Supplement is contingent upon funding by AID. Upon lapse of funding, the Contractor's Term of Service under this Letter of Agreement shall automatically terminate. No Salary Supplement shall accrue for any period for which AID does not fund the Academy. The Academy shall use its best efforts to obtain the funding necessary to complete this Agreement but shall not, under any circumstances, be liable for a failure of AID to continue funds.

Article V - Taxes

Payment under this Letter of Agreement and the Employment Agreement may be subject to taxation by the U.S. Government in accordance with the Internal Revenue Code now and as it may be from time to time amended. The Academy assumes no responsibility for determining to what extent, if any, U.S. or Zimbabwe taxes may be payable. Since the Contractor is, in relation to the Academy, an independent contractor and not an employee, the Academy shall not deduct from Salary Supplements paid to the Contractor federal, state, or local income or Social Security taxes or any other type of withholding. However, the Academy may report to the Internal Revenue Service any or all payments to the Contractor.

Article IV - Allowances and Reimbursable Expenses

- A. The Contractor shall receive the Allowances and Reimbursable Expenses and be subject to the restrictions and limitations set forth in Schedule A and the Employment Agreement attached hereto and incorporated herein as part of this Letter of Agreement. However, the Allowances and Reimbursable Expenses are contingent upon funding by AID. Upon lapse of funding, the Contractor's Term of Service under this Letter of Agreement shall automatically terminate. No Allowances or Reimbursable Expenses shall accrue for any period for which AID does not fund the Academy. The Academy shall use its best efforts to obtain the funding necessary to complete this Letter of Agreement but shall not, under any circumstances, be liable for a failure of AID to continue funds.
- B. There shall be no adjustments in the amounts of Allowances and Reimbursable Expenses because of any changes which may occur in the exchange rates between the currencies of the host country and the United States or for any other reasons.

Article VII - The Employer's Undertakings

The Employer is expected to provide or reimburse the Contractor for items set forth in the Employment Agreement. The Academy, however, is not responsible for or a guarantor of the Employer's undertakings in this regard, and such undertakings are entirely independent of this Letter of Agreement.

Article VIII - Work Week, Vacation, Holidays, Sick Leave

- A. The work week, vacation, holidays and sick leave shall be in accordance with the practices of the Employer as provided pursuant to the Employment Agreement.
- B. No overtime shall be reimbursable hereunder.
- C. The Academy shall not make payments to the Contractor of Salary Supplement and Allowances for portions of vacation and sick leave not taken during the Term of Service of the Agreement, except as follows: If the Contractor has accumulated official vacation leave which he or she has not been able to use for valid official reasons, the Academy, at the instruction of the Employer, shall make a lump-sum payment to the Contractor of Salary Supplement at the end of the Term of Service. The number of days for which such payment may be made shall be limited to the number of days earned by the Contractor during a six-month period per year. In other words, no more than half the vacation earned in the Contractor's total Term of Service may be paid as a lump-sum payment at the end of the Term of Service unless the employer's established policy prohibits the Contractor from using leave in excess of this amount. It is the responsibility of the Contractor to provide a quarterly statement to the Academy's Field Coordinator of all vacation leave accumulated and taken to date under the Employment Agreement.
- D. If the Employer authorizes leave (other than vacation or sick leave referred to above) between Terms of Service, the Academy may make Salary Supplement payments only for the portions of such leave, not to exceed 42 calendar days, for which the Employer makes its usual contribution in cash or in kind.

Article IX - Limitations on Benefits

Role of the Academy during Appointment

This Letter of Appointment is issued pursuant to the terms, conditions, and requirements of the Academy's contract with AID, Contract No. 613-K-606-C-00-4010 including the General Provisions, Form AID 1420-41C (10-82), and the Additional General Provisions, Form AID 1420-41D (10-82). The Contractor will comply with all terms and conditions of the General Provisions and Additional General Provisions as they relate to this Letter of Appointment. Thereunder, the Academy has the following responsibilities in relation to the Contractor's appointment.

1. To provide a predeparture and initial arrival orientation for the Contractor and his or her dependents;
2. To provide prompt and required payments as specified herein;
3. To maintain leave records;
4. To provide a Field Coordinator in Zimbabwe who will maintain general liaison with personnel under the Academy's contract with AID and the officials of the University of Zimbabwe, and, where appropriate, help to facilitate the orderly conduct of the terms and conditions of this Letter of Agreement. The Coordinator shall be the point of contact with the Contractor with regard to any payments, authorizations, and other matters with AID/Zimbabwe and the Academy's home office. From time to time the Coordinator shall issue articles or otherwise bring information about this Letter of Agreement and the Academy's contract with AID to the attention of the Contractor.

Whenever required and/or appropriate, and while not in any way interfering with the direct employment relationship between the Contractor and the Employer, the Academy's representatives in Zimbabwe shall be available to facilitate the Contractor pursuant to the terms and conditions of the Letter of Agreement.

In line with the above statement, the Contractor and his/her dependents recognize that:

- A. They may encounter other U.S. citizens and citizens of other nations who are employed by the Employer and otherwise in the host country under agreements which are substantially different from the Contractor's agreement;
- B. It is not intended or expected that all aliens employed in the host country whether or not financed in whole or in part by the host country government and/or those receiving USAID-related payments, should have the same compensation, allowances or privileges;
- C. The employment, compensation, allowances and privileges of the Contractor shall be determined solely by his or her agreements with the Employer and Academy;

- D. All questions and disputes concerning the conditions and terms of employment shall be matters between the Employer and Contractor. The Academy may not intervene in such matters.
- E. Once the Contractor arrives in the host country, the Academy's responsibility for administrative support of the Contractor shall be limited to the administration of payment of Salary Supplement and Reimbursable Expenses.

Article X - Termination

- A. If the Contractor resigns prior to the completion of services required during the Term of Service as a result of medical or health considerations pertaining to the Contractor or his or her dependents for reasons which the Academy, in its sole and unreviewable discretion, considers to be sufficient, the Contractor shall be reimbursed to the extent not covered by the University of Zimbabwe for return travel and transportation to the United States. Salary Supplement and Allowances shall cease to accrue effective as of the date of resignation.
- B. If the Contractor has served in the country of assignment for less than one year (calendar or academic, whichever is applicable), the Academy may decline payment or, if payment has already been made, require reimbursement from the Contractor of all Academy expenses related to travel and the host country. No reimbursement shall be made by the Academy for such travel and transportation expenses for the Contractor's and his or her dependents return to the United States. If the Contractor has served in the country of assignment for more than one year (calendar or academic, whichever is applicable) but less than the complete Term of Service, the Academy may require the Contractor to bear the costs related to return travel and transportation to the United States for the Contractor and for dependents not covered by the Employer, but the Contractor shall not be required to refund travel and transportation costs which may have been paid by the Academy. Salary Supplement and Allowances shall cease to accrue effective as of the date of resignation.
- C. If the Contractor is terminated by the Employer for misconduct, incompetence, failure to provide contracted services or other cause, the Contractor shall be reimbursed for return travel and transportation to the United States for the Contractor and dependents in the same way as if he or she had completed the Term of Service but only to the extent not covered by the Employer. Salary Supplement and Allowances shall cease to accrue effective of the date of termination.
- D. If the Contractor is terminated by the Employer for any reason other than misconduct, incompetence, or failure to perform contracted services, including death, the Contractor shall be reimbursed for return travel and transportation to the United States for the Contractor and dependents in the same way as if he or she had completed the Term of Service but only to the extent not covered by the Employer, and the Academy may, in its sole and unreviewable discretion, pay the Contractor his or her base salary for a period not to exceed six months from date of termination, or until the Term of Service would have expired but for termination, whichever is earlier. If the Contractor is gainfully employed at a compensation during the period specified above less the Academy's Base Salary, the Academy shall not pay a greater amount than the difference between the Contractor's Base Salary and his or her compensation for such employment. The

Contractor agrees actively to seek, find and accept gainful employment to minimize costs under this provision.

- E. This Letter of Agreement terminates automatically upon the termination of the Employment Agreement.

Article XI - Refunds

If the Contractor is required to pay any amounts to the Academy pursuant to this Agreement, the Academy may, in its sole and unreviewable discretion, deduct any such amounts from the Salary Supplement or other payments which are due or may become due from the Contractor.

Article XII - Assignment of the Academy's Obligations

The Academy may, with the approval of AID, assign this Letter of Agreement or any portion thereof to any other organization or entity, by delivery to the Contractor of written notice of such assignments and a written undertaking by the assignee to assume and perform all of the Academy's obligations to the Contractor hereunder which are so assigned, and thereafter the Academy shall have no further obligation with respect to the obligations so assigned.

Article XIII - Force Majeure

The Academy shall not be liable to the Contractor by reason of any failure in performance of this Agreement in accordance with its terms if such failure arises out of causes beyond the control and without the fault or negligence of the Academy. Such causes may include, but not be restricted to: acts of God, restraint of a sovereign state, fires, floods, hurricanes, cyclones, epidemics, war declared or undeclared, civil disturbances, showdowns or subversive activities, strikes, or quarantine restrictions which delay or interfere with or prevent the effective performance of the terms of the Agreement. If performance of the contract becomes impossible due to the aforementioned causes beyond the control and without fault or negligence of the Academy, the Contractor may be terminated by the Academy and be subject to the conditions set forth in Article X - Terminations, subject to approval and reimbursement from AID.

Article XIV - Maximum Obligation of the Academy

Notwithstanding any other provisions to the contrary in this Letter of Agreement (including attached schedules), the maximum obligation of the Academy under this Letter of Agreement or Salary Supplement shall be _____ for the Term of Service set forth in Article I of this Agreement. Maximum obligation of the Academy for Allowances and Reimbursable Expenses shall be limited to amounts and limitations set forth in Schedule A attached. Should additional funds be required to meet or increase said maximum obligation, the Academy shall request such funds from AID. If for any reason such additional funds are not made available, the Academy may at its discretion reduce the Term of Service of this Agreement as necessary to limit expenditures to an amount not exceeding funds actually provided by AID to the Academy.

Article XV - Governing Law

This Agreement shall be construed and enforced in accordance with the laws of the District of Columbia.

Article XVI - Effective Date

This Letter of Agreement shall become effective on the date the Employment Agreement becomes effective.

Article XVII - Termination and Changes in the AID/Academy Contract

This Letter of Agreement is entered into pursuant and subject to Agency for International Development Cost Reimbursement Contract No. 613-K-606-C-00-4010 between AID and the Academy as it may be amended from time to time. In general, all provisions of the aforesaid Contract shall apply to the relationship between the Contractor and the Academy.

Article XVIII - Reports

The Contractor shall provide the Academy and his or her Employer with periodic reports and such other reports as may be required by the Employer upon completion of the Contractor's first six months of service and again upon completion of every six month period thereafter, with a final report due upon completion of the Contractor's Term of Service.

Article XIX - Outside Employment

The Contractor agrees to devote all of his or her working hours to the performance of the obligations and duties to his or her Employer. The Contractor agrees that he or she shall not engage, for profit or otherwise, in any other business or occupation during working hours, including the making of loans under or investments in any business or profession in Zimbabwe directly or indirectly, in accordance with laws of the country of assignment. The Contractor is prohibited from engaging in any political activity in Zimbabwe. The Contractor shall comply with all laws, norms and regulations of Zimbabwe.

Article XX - Correspondence

The Contractor acknowledges that the Academy may be required to disclose copies of correspondence and any other communications between the Contractor and itself to Contractor's Employer and/or AID.

Article XXI - Assumption of Risk

The Contractor acknowledges that he or she accepts for himself, his or her heirs, assigns, and legal representatives, any and all risks and hazards connected with his or her employment with the Employer or connected with travel provided by the Academy. The Contractor agrees that the Academy shall in no way be liable for any injury to person or property of Contractor or of his or her dependents that may result from any cause whatever during the Term of Service.

Article XXII - Notices

Any notice given by any of the parties hereunder shall be sufficient only if in writing and delivered in person or sent by telegraph, cable, registered or regular mail as follows:

To the Academy:

Home Office Coordinator
Zimbabwe/BEST Project
Academy for Educational Development
1255 23rd Street, N.W., Suite 400
Washington, D.C. 20037

Or

Dr. Rudi Klauss
Field Coordinator
Academy for Educational Development
Southern Life Building, 5th Floor
69 Stanley Avenue
Harare, Zimbabwe.

All notices are to be delivered to the Academy's Washington address while the Contractor is in the United States. When the Contractor is in Zimbabwe, all notices are to be given to the Academy's Field Coordinator.

To the Contractor:

All notices are to be delivered to the Contractor's U.S. address as shown on the cover page of this Agreement. It is the Contractor's responsibility to keep the Academy's Field Coordinator informed at all times of his or her address in Zimbabwe.

Article XXIII - Insurance

The Contractor shall maintain the medical insurance and automobile insurance for any personal vehicle operated while in Zimbabwe. Written evidence of both kinds of insurance shall be furnished to the Academy's Field Coordinator.

In witness whereof, the parties hereto have executed this Agreement on the date indicate below:

The Academy for Educational
Development, Inc.

Contractor

By: _____

By: _____

Title: _____

Title: _____

Date: _____

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ALLOWANCES AND
OTHER REQUIREMENTS

Subject to the initial "Agreement," the Academy will pay the Contractor the following Allowances and Reimbursable Expenses.

1. Settling-in Housing Allowance: A non-accountable allowance of \$8,400 is provided for insurance, furnishings, housing, car rental, professional books and other incidental expenses for a Contractor with dependents (\$5,000 for a Contractor without dependents). This allowance is provided in lieu of an allowance for shipment of household goods and is payable at the beginning of the Contractor's tour. This figure is subject to reduction by any amount already paid to the Contractor under a previous agreement that the Contractor may have had under another AID-sponsored project in Zimbabwe if the Contractor had directly transferred from that agreement to this one.
2. Education Allowance: An allowance will be paid to assist in meeting the extraordinary and necessary expenses in providing adequate elementary and secondary education in Zimbabwe for the children of the Contractor. This would include extra territorial fees (if payable) and other required educational fees (not including uniforms) that would not normally be paid in the United States. The amount reimbursable is subject to the maximum permitted under U.S. Government regulations for in-country education. No reimbursement will be allowed for nonaccompanying dependent children who elect to continue studies in the U.S. or country of permanent domicile.
3. Education Travel: This allowance is available to cover the cost of travel for authorized secondary school-level dependent children and for college-level unmarried dependents up to the dependents' twenty-third birthday. This allowance is available only if children remain at post with parents at least fourteen consecutive days and covers one roundtrip per contract year using the lowest cost economy fare available from the post to the school in the U.S. and return. American carriers must be used as in 5.a. below.
4. Per Diem: Will be payable to the Contractor and family during orientation period at the Academy's office in Washington, D.C. Per diem will also be paid during medical evacuation travel to the extent not covered by the Employer. Per diem rates during travel status will be in accordance with rates prescribed by the Federal Travel Regulations.
5. Travel from U.S. to Post and Return: Travel to the host country at the beginning of the Contractor's tour and return to the United States at the end of the Contractor's tour will be paid by the University of Zimbabwe. The Academy will reimburse travel expenses only for dependents (as defined in Article II F) not paid by the University. Any Academy reimbursements will be subject to the following limitations and restrictions:
 - a. Travel between U.S. and Zimbabwe must make maximum use of American flag carriers. In all instances the first leg of a journey from the U.S. or the last leg of a journey to the U.S. must be made on an American flag carrier.

Connecting flights on non-American carriers to Zimbabwe shall be on Air Zimbabwe to the maximum extent possible.

- b. Travel must be performed using a direct, usually travelled route.
 - c. Travel must be made by the lowest cost economy class airfare available consistent with (a) and (b) above.
 - d. Travel itineraries other than those above must be approved in advance by the Academy Director of Contract Management.
 - e. Medical evacuation and emergency visitation travel will be authorized, if necessary, in accordance with AID regulations.
7. Storage: The cost of storage charges (including packing, crating, and draying costs but not including insurance) in the U.S. of household goods shipped and stored may not exceed 7,500 lbs. net weight for contractors with dependents and 4,500 lbs. net weight for contractors without dependents.
 8. Medical, Disability, and Life Insurance: Medical, disability and life insurance coverage for the Contractor and his or her dependents is mandatory. The Contractor must show proof that he or she and dependents have adequate insurance coverage for the entire duration of the assignment overseas, and will look exclusively to the benefits afforded by these policies to satisfy any and all claims on account of accident, illness, or death incident to the Contractor's employment.
 9. Medical Evacuation: The costs of evacuation for medical emergency for the Contractor or dependents when reasonably considered necessary as approved by the Academy and AID will be a reimbursable expense under the terms of this Letter of Agreement to the not covered by the Employer. Such costs are limited to travel only and do not include the cost of doctors or hospital services.
 10. Medical Certificate: Departure to the Contractor's post of assignment is conditional on certification by a licensed medical doctor that, in the doctor's opinion, the Contractor and his or her dependents are physically qualified to reside in the country of assignment.
 11. Orientation and Miscellaneous Expenses: During the Contractor's Washington, D.C., orientation, reimbursement will be made for local travel subject to submission of an appropriately documented and approved request for reimbursement.