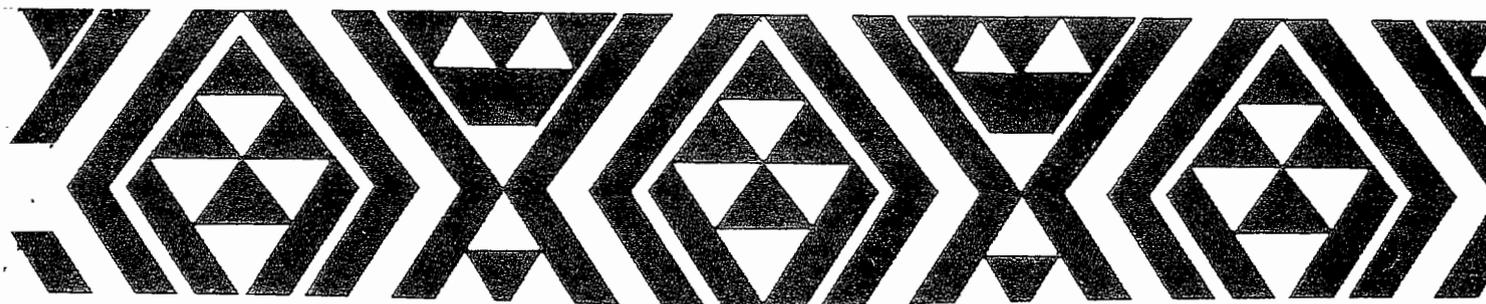


**Botswana
Basic Education Consolidation (BEC)
Project**



**Final Report
September 1992 - September 1995**



**Submitted by
The Academy for Educational Development**

Foreword

This Final Report is submitted by the Academy for Educational Development (AED) in partial fulfillment of requirements of contract Number 623-0254-C-00-2078-00 with the United States Agency for International Development (USAID).

The Academy's project staff, based in Washington, DC, and Gaborone, Botswana, wish to express appreciation to management of the USAID Mission to Botswana for cooperation and assistance throughout the life of the Basic Education Consolidation (BEC) Project. Particular gratitude is due Ray Baum, Project Development Officer, and Edward Hantel, Project Officer, for support and assistance during project implementation.

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List of Acronyms Used in this Report

AED	Academy for Educational Development
API	Assessment of Program Impact (Report)
BEC	Basic Education Consolidation
BNLS	Botswana National Library Service
CA	Continuous Assessment
CD&E	Curriculum Development and Evaluation Department
CDD	Curriculum Development Division
CEO	Chief Education Officer
COE	College of Education
CRT	Criterion referenced testing
CRTIC	Criterion Referenced Testing Implementation Committee
ERTD	Examination Research and Testing Department
GCB	Government Computer Bureau
GOB	Government of Botswana
INSET	Dutch Educational Assistance Program in Math and Science
JC	Junior Certificate
JCE	Junior Certificate Examination
JSEIP	Junior Secondary Education Improvement Project
MOE	Ministry of Education
NCTE	National Conference on Teacher Education
NGO	Non-governmental Organization
NRT	Norm referenced testing
ODA	British Overseas Development Assistance
PEIP	Primary Education Improvement Project
PEO	Principal Education Officer
PSLE	Primary School Leaving Examination
RNPE	Revised National Policy on Education
ProAg	Project Agreement
PTTC	Primary Teacher Training College
RTC	Research and Testing Centre
SEO	Senior Education Officer
TT&D	Teacher Training and Development Department
UB	University of Botswana
UNICEF	United Nations International Childrens' Education Fund
USAID	United States Agency for International Development

The Basic Education Consolidation Project Final Report

I. Introduction

A. Education in Botswana

During the past 17 years, the Government of Botswana authorized two major educational reviews, one in 1976 and one in 1994. In each case, the report of the commission studying the educational system led to a government paper that recommended reforms. Both educational reviews demonstrate Botswana's foresight and vision and awareness of the relationship of education to economic growth and to the progression from an agricultural to an industrial society. The ensuing actions demonstrate an awareness of the efficacy of creating a solid base and building upon it in succeeding years.

1. First National Policy

The first National Commission on Education, and the government paper that followed, created a framework for all educational reform since that time. The commission recommended that attention be paid to increasing enrollment and to developing a practically oriented curriculum, although the commission's report did not specifically prescribe the way in which to prepare children for the world of work. In response to the recommendations, the reforms of the 1980s stressed expansion of education, especially expanded enrollment in primary school, and quality of the instruction. The government's campaign to provide nine years of basic education, begun in the 1980s, achieved its goal of universal access in 1993.

2. Predecessor USAID Projects (PEIP and JSEIP)

The BEC Project consolidated the past achievements of two previous USAID-funded projects, the Primary Education Improvement Project (PEIP, 1981 - 1992), and the Junior Secondary Education Improvement Project (JSEIP, 1985 - 1991). These projects helped significantly in bringing about major advances in the access to and delivery of quality basic education programs in Botswana. The primary purpose of the PEIP project was to strengthen the Ministry of Education and the University of Botswana capacity to organize, revise, and implement an effective pre-service and in-service curriculum for primary teacher education. Major accomplishments of this project included the formation of a fully functioning Department of Primary Education at the University of Botswana that offers undergraduate and graduate level programs in primary education; the organization of teacher training programs at the Primary Teacher Training Colleges; and the development of an in-service education network including the construction of eight new education centers and the training of educators to carry out in-service education programs. Under its human resource development component, PEIP provided training to about 80% of the lecturers assigned to PTTCs, to 100% of the Primary Education Officers, and to approximately 75% of the education center professional staff.

Both PEIP and JSEIP assisted the GOB to make very significant progress in improving the quality, relevancy and efficiency of basic education and in expanding access to basic education. In 1982, a year after PEIP began, there were 463 primary schools with a combined enrollment of 188,218, representing a net enrollment ratio of 85%. By 1992, there were 643 primary schools with total enrollment of 301,482, yielding a net enrollment of 90%. At the same time, the quality of the teaching staff had improved significantly; e.g., the percent of trained primary school teachers increased from 65% in 1982 to 91% by 1993.

In 1983, the GOB extended universal access to junior secondary education. In response to this decision, USAID increased its assistance to the MOE with the JSEIP project. During the implementation phase of JSEIP, junior secondary (Forms 1 and 2) enrollments increased from 12,687 in 1982 to 68,996 by 1993. By 1993, the MOE was able to place all Standard 7 leavers in Form 1. JSEIP also assisted the MOE improve the quality of junior secondary school teachers, resulting in the percent of trained junior secondary school teachers increasing from 56% in 1982 to 79% by 1993. Female student enrollment remained higher than male enrollments through the school system.

The Education Training Centres which were institutionalized under JSEIP and PEIP, enabled the MOE to provide continuous in-service teacher training. Additionally, the capability of the junior secondary teacher training colleges was strengthened by providing educational materials and technical advisors to improve teacher preparedness and curriculum development.

During the JSEIP years, the curriculum of the Molepolole College of Education was expanded to include Instructional Design, Mixed Ability Teaching Strategies¹, Special Education, Criterion-referenced Testing and Continuous Assessment, Micro Teaching², Design and Technology, and an internship component of Art Education. Since 1987, the Colleges of Education have trained and graduated approximately 1,500 junior secondary school teachers. Localization of primary and junior secondary school teachers increased from 60% in 1982 to 79.9% in 1993.

3. Revised National (Policy) Commission Report

In the 1990s, the reforms continued to focus on the quality and relevance of education, in particular its relevance to the world of work for which students needed to be prepared. The work of the second commission produced another government paper in 1994, The Revised National Policy on Education. Unlike the earlier white paper, which supported vocational education but did not prescribe the process, this one elaborated on "vocalionalizing" education and preparing students for life outside the classroom. This paper recommends that information

¹ Teaching of heterogeneously-grouped students.

² Video taping pre- or in-service teaching sessions for classroom supervision.

about themes of national concern, such as population/family life education, HIV/AIDS, the environment, the world of work, and gender sensitivity, be integrated into the curriculum. The Revised National Policy on Education recognized that people are Botswana's major resource and that a certain level of education is necessary for national development, that is, for transition to an industrial economy. As a result, the new 10-year basic education program, which will be in place in 1996 and will replace the nine-year program, will provide children with decision-making and problem-solving abilities, vocational skills, and practical applications that will increase their appreciation of science and technology. The new curriculum is sufficiently diversified to offer more subjects than before at both the primary and junior secondary levels and a broader range of learning experiences. Such a curriculum, Botswana has determined, translates into education for life.

B. Development of the BEC Project

The BEC Project was conceived to strengthen and consolidate the delivery system of basic education in Botswana as a follow-on to PEIP and JSEIP, which had focused on access and quality issues, on universal primary education, and greater access to junior secondary education. The project strategy to strengthen basic education services included establishing a process which would integrate the instructional program, teacher training, and testing and evaluative delivery system to all teachers for the benefit of students.

BEC was to be integrally tied to the structure and strategy of the MOE. During the BEC period, the curriculum unit was to clarify curriculum aims, improve content, and strengthen the focus on the world of work - goals that Botswana had long sought. BEC was to address the lack of articulation and continuity between primary and junior secondary education including the curriculum, methodology, and conditions of teacher service. The project was to provide a smooth continuum of the primary-junior secondary curriculum and methodology and a smooth transition for students from Standard 7 to Form 1. In short, BEC was conceived to consolidate the basic education program into a single system marked by relevance and high-quality classroom instruction. BEC was seen as both the beneficiary of the accomplishments of the previous USAID assistance, and the catalyst for increased collaboration among and within Botswana's educational departments.

II. Goal, Purposes and Objectives of BEC

The purpose of the Basic Education Consolidation Project was to assist the Ministry of Education to plan, implement, and evaluate an integrated, consolidated, and coordinated nine years of basic education. BEC built upon the achievements of PEIP and JSEIP, which were instrumental in bringing about major advances in the access to and delivery of quality basic education programs in Botswana. The BEC project assisted the Ministry of Education to strengthen basic education services that include establishing a process which integrates curriculum development, the instructional program, teacher training, and student assessment elements into a delivery system for the benefit of teachers and students. Therefore, the BEC

project resulted in increased student competencies as a foundation for graduates to participate in the labor force and enhance their quality of life.

It was understood that the BEC project would be the last USAID-funded project in education. Since the problem of access to primary and junior secondary education has been resolved, BEC was to focus from the beginning on quality and equity issues. The project strategy was to strengthen basic education services by establishing a process that integrates the instructional program, teacher training, and student assessment elements.

A. Anticipated Time Schedule and Inputs

As designed, BEC was to run for five years, 1992 - 1997, with long- and short-term technical assistance, training, and commodity procurement directed to five key areas: curriculum development; instructional materials development; pre-service teacher education; in-service teacher training; and student assessment. The original budget to support these project inputs was \$7,550,463 designated to the institutional contractor, AED and partners, University of Massachusetts at Amherst, and Aurora Associates.

Subsequently, during the close-out phase, the budget was reduced to a total obligation of \$6,950,000, including an obligation to the AED contract of \$5,465,000. See Appendix D for a complete budget presentation.

B. Expected Outcomes

The MOE's basic education partnership program with USAID represented in the BEC Project included the following anticipated outcomes:

- a revised philosophy of education that focused more strongly on problem solving, innovations, and the world of work;
- provision of revised instructional content and methodological services in curriculum development, to meet the needs of a changing Botswana environment from pastoral to industrial;
- implementation of aforementioned services through curriculum trialing, pre-service teacher education, and in-service teacher training;
- revised student assessment systems through the replacement of norm-referenced testing (NRT) with criterion-referenced testing (CRT) and continuous assessment (CA);
- procurement of commodities which would permit the two departments responsible for BEC implementation - Curriculum Development and Evaluation (CD&E), and Teacher Training and Development (TT&D) - to work with greater efficiency and effectiveness;
- teacher training through in-country workshops (using the multiplier effect) and formal pre-service education to familiarize teachers with the new curriculum which would focus on innovations, problem solving, and the world of work;
- new and expanded curriculum including topics such as AIDS awareness, environmental education, gender issues, and the world of work;

- increased emphases on guidance services to enhance the instructional program and assist students/teachers in choosing appropriate vocational and career paths;
- provision of project advisors to assist the MOE achieve the jointly agreed-upon educational goals;
- a specific focus on identified special issues and special studies through provision of short-term consultants;
- strengthened capability of the MOE to improve educational services through both long- and short-term participant training;
- development of a Basic Education Implementation Committee as a basic education communication channel to include representatives of the Colleges of Education (COEs), University of Botswana, Department of Secondary Education, Department of Primary Education, Department of Technical Education, and the Department of Non-formal Education;
- collaboration with international donors involved in basic education such as United States Peace Corps, British Overseas Development Assistance (ODA), UNICEF, and the Dutch Educational Assistance Program in Math and Science (INSET);
- establishment and operation of standing committees to help guide project implementation, including the BEC Steering Committee (reference group), the Participant Training Committee, and the Basic Education Implementation Committee; and
- quarterly retreats for the BEC Team - advisors and MOE counterparts - to offer project units or divisions an opportunity to examine their progress in basic education and seek areas appropriate for collaboration.

C. The Role of the Ministry of Education

The principal role of the MOE was to direct project design to be consistent with Ministry goals, to monitor project adherence to Ministry needs and plans, and to implement through permanent staff the changes initiated under the project. MOE provided the philosophical context in which BEC was set, the managerial and administrative framework within which BEC activities were conducted, and continuous reality-checking to assure the project's unified direction. These roles were actualized by MOE chairing the two key BEC implementing committees: the Steering Committee; and the Participant Training Committee.

Additionally, there was a significant "Counterpart Contribution" from the GOB in behalf of the MOE. In March, 1994, MOE categorized its support to BEC to include: cost of international travel for long- and short-term training participants; salaries of officers while in training; cost of materials for in-service workshops; accommodation and transport costs for workshop participants; office accommodation provided to BEC advisors; and cost of housing accommodations for all BEC advisors.

D. Project Startup and Management Structure

The BEC Field Team initially consisted of six residential advisors to assist in specialized areas representing each of the project components; the advisors and their arrival dates were:

- Dr. Murray Simon, Chief of Party, arrived December 6, 1992;
- Dr. Johnson Odharo, Pre-service Teacher Education Advisor, arrived December 31, 1992;
- Dr. Jerald Reece, Curriculum Coordinator, arrived January 7, 1993;
- Dr. Kofi Quansah, Educational Measurement Advisor, arrived March 30, 1993;
- Dr. Donna Kay LeCzel, In-service Teacher Training Advisor, arrived July 27, 1993; and
- Mr. Barry Vogeli, Instructional Materials Development Advisor, arrived January, 1994.

In early 1995, an additional post of Close-out Administrator was added to the BEC Field Team and Mr. David Benedetti arrived March 1995 to take the role.

The Field Team received administrative support from Ms. Lizzie Goodwill, Ms. Anna Mahunga, Mr. Thaelo Kebaagetse, Mr. Douglas Ramabaaya, and Mr. Tshiamo Lebese.

The AED Home Office Team was led by Ms. Marcia Ellis, Vice President, Education Design and Sustainability, with assistance from Ms. Jennifer Dory and Ms. Nicole Papai.

Initial project design called for a Needs Assessment to be conducted immediately upon the team's arrival; this assessment was to be the basis of an overall Project Workplan and subsequent annual workplans. The intensive Needs Assessment suggested a Project Workplan in two phases:

Phase One was to cover the period from September 1993 until March 1995. During this period, the Project was to devote its efforts to unit strengthening and to deliberations on the proposed White Paper/National Education Commission Report for the Project.

During Phase One, the Project was also to focus on the curriculum demands of AIDS instruction for all grades in the educational system. For AIDS-related instruction, the Project would extend its bounds of basic education to include senior secondary education. The spread of AIDS in Botswana had grown to epidemic proportions in many parts of the nation. It was feared that one generation of Botswana might already be lost with its high rate of HIV infection and a sense of urgency permeated the MOE to offer immediate instruction and assistance.

Phase Two, to begin in April 1995 and run until the end of the Project, was to focus on major aspects of basic education consolidation and integration. April 1995 was the date planned for

Curriculum Development Unit's normal five-year review and revision of the instructional program.

Upon approval of the Needs Assessment, BEC began implementation of activities described in the Phase One workplan. To do so, the project established a Project Steering Committee with overall managerial oversight, and a Participant Training Committee to guide the training segments. Both committees were composed of MOE officials, USAID officers, and BEC staff. In addition, the project created a Basic Education Coordinating Committee composed of all units within or outside the Ministry of Education related to the offering and conduct of basic education. This body with no implementational responsibility for BEC activities, was to nurture the increasing coordination of consolidation efforts. Furthermore, BEC took the initiative to relate with other donor activities including those of ODA, UNICEF, Peace Corps and the British High Commission.

III. Truncation of the BEC Project

In October 1994, USAID announced the early termination of the BEC Project; the contract would end September 30, 1995, to coincide with the closing of the USAID bilateral Mission to Botswana. Technical assistance provided under BEC would be cut by approximately two years; the PACD was revised from March 31, 1997 to September 30, 1995.

A. Reassessment of Project Objectives

With news of project truncation, BEC advisors and their Botswana colleagues developed a prioritized close-out plan with revised project objectives consistent with the new time constraint. The plan was culled from the BEC annual work plan approved in September 1994, approved by the BEC Steering Committee and accepted by USAID. See Appendix B for the original BEC Work Plan and Appendix C for the Close-out plan.

B. Revised Timetable and Outputs

The Close-out plan accelerated implementation of several components of the project, notably short-term consultancies, additional commodity procurement, and short-term participant training. Although several activities had to be postponed or curtailed, the Close-out plan energized the BEC Team toward rapid accomplishment of the remaining achievable tasks.

IV: Activities in Various BEC Components *vis a vis* Project Truncation

A. Curriculum and Instructional Materials Development

1. Plan

The BEC ProAg called for the completion of 16 subject years of curriculum during the anticipated five-year life of the project. With slightly more than one-half of the anticipated life of the project completed, 21 subject years of curriculum were developed with another 18 years expected to be completed by early 1996. This accomplishment far exceeds all expectations during the five-year design of the project.

Due to the lack of an Instructional Materials Development Advisor during the Needs Assessment process, objectives were not identified for the important materials development area. Once the Advisor arrived in January 1994, much was achieved in terms of commodities to assist in the effective production of instructional materials, in designing and implementing a communications network with the CDD, and in training officers to make effective use of computers, software, and the network in preparing instructional materials.

2. Activities, Consultancies, and Accomplishments

The BEC project focused on expanding the CDD capabilities to develop, design, and produce educational materials. Throughout the project, the CDD Production Section designed and produced a variety of educational materials on a continuous basis, including reports, teacher materials, brochures, tests, syllabi, etc. In the final months of the project, development and production centered on the syllabi for the new three-year junior secondary program as mandated in the National Education Commission Report. Syllabi for seven core subjects (mathematics, science, social studies, English, Setswana, art, and agriculture) were developed, designed and prepared for mass production. This development effort involved all the officers of the CDD and made full use of the newly expanded production capabilities.

The project's two components directly related to curriculum and materials development were: Component #1 - developing and testing the basic education curriculum; and Component #4 - Strengthening the curriculum development, production, and implementation process.

Component #1- Developing and testing the basic education curriculum: During the life of the project, the following activities were completed:

- The Curriculum Blueprint: Ten Year Basic Education Programme was prepared with the involvement of the CDD Management Committee, the CDD staff, a Goals Analysis Retreat, input from other MOE Departments, the Interdepartmental Task Force for Implementation of the Three-Year JC Program, and the Department Heads Task Force. The Blueprint is the primary document used in developing curriculum for the basic education program, including foundation skills, vocational orientation of academic subjects, practical subjects, readiness for the world of work, and careers guidance.
- Documents were produced to assist development and evaluation of syllabi, including: chart for determining the extent to which the aims of the ten-year basic education program, subject aims, taxonomy of objectives, and emerging issues are appropriately

included in a subject syllabus; classification chart to assist in writing specific objectives; scope and sequence chart; organizations represented on various curriculum subject task forces; syllabus review chart with projected completion dates; and status of individual syllabus component completion.

- The Curriculum Coordinator and the Instructional Materials Development Advisor provided advice and assistance in the development of basic education curriculum. All core subject syllabi at the junior secondary school level identified in the BEC project were developed, adopted by the MOE, and prepared for printing and distribution to the schools. Other junior secondary subjects were assisted in various stages with completion of syllabi anticipated in early 1996. Although work in revising the primary school syllabi was put on hold due to the urgent need to change the two-year junior secondary program to a three-year program and implement other recommendations of the RNPE, a draft syllabus was prepared for primary home economics, and teachers guides and student textbooks in Agriculture Standards 1-4 were completed, trialed, and implemented.
- As noted above, while BEC called for 16 years of junior secondary school curricula to be completed, a total of 21 subject-years were developed, formatted, and prepared for printing prior to project closure. Other subject syllabi remain in various stages of completion.
- Specific objectives were designed to communicate teaching/learning methods to be used in achieving the objective. According to the policy of the CDD, teaching methods are a part of the teachers' guide which is the next step following the development of the syllabus.
- For each subject syllabus, the CDD identified in-service needs for proper implementation of the syllabus and forwarded the list of needs to TT&D as a guide to the development of appropriate in-service training.

Component #4 - Strengthening the curriculum development, production, and implementation process. Much of the activity in this component is detailed under Component #1, above; additional information includes:

- Both the Curriculum Coordinator and the Instructional Materials Development Advisor were actively involved in participant training and in-house training. Two CDD officers received master's degrees in US universities, and three officers received short-term training in the US. In-house training included formal training in terms of orientation workshops, retreats, formal instruction on computers and using software, and often in one-on-one situations. The latter was directed at officers needing assistance in designing and formatting syllabi, developing aims and coding objectives, determining content, determining assessment procedures, developing statements of rationale,

evaluating and selecting instructional materials, infusing emerging issues³, organizing and conducting task force and teacher workshops, identifying and providing self-instructional materials, and other factors implicit in keeping abreast of an ever-changing curriculum required for a dynamic society.

- Testing curriculum included trialing of syllabi and materials, providing teachers with draft syllabi and materials to review with limited trialing with students, structured classroom observation implementation of syllabi and use of materials, and in obtaining feedback through various types of tests given students.
- During BEC, CDD introduced a Management Committee composed of senior education officers to assist in more effective management of the Division. Each senior officer was assigned responsibility of two or more subject areas, and the supervision of junior officers.
- The greatly broadened curriculum task force process enhanced vital linkages with other MOE departments and divisions, other ministries, NGOs, colleges and universities, and other groups who are stakeholders in basic education.

Five consultancies were completed in the curriculum and instructional materials development initiatives: Curriculum Policy by Dr. Cream Wright; Packaging of Subjects and Time tabling, also by Dr. Wright; Computer Awareness by Dr. Peter Dublin; English Language by Dr. Janet Orr; and Setswana by Dr. Lydia Ramahobo. See Appendix E for a full list of consultants and consultant reports.

3. Constraints

There were reservations within BEC and USAID concerning the purchase of equipment for the curriculum and production units. While there were sufficient funds available, it took considerable discussion and lobbying to overcome these reservations and gain support to acquire the necessary equipment for CDD. Compounding the issue, there were, in some cases, rather lengthy delays in procuring the equipment and a few mistakes by vendors concerning equipment specifications. These problems delayed the acquisition and installation of some of the equipment and software (and, in-turn, the necessary follow-on training in its use). However, once these constraints were overcome, the CDD's capacity to design, layout, and print educational materials was greatly improved.

Throughout BEC, the Production Section of CDD experienced a shortage of staff. Two vacant posts for desktop publishing operators could not be filled during the life of the project despite

³ The environment, population/family life education, gender sensitivity, HIV/AIDS, the world of work.

numerous initiatives to do so; these vacancies continued to be a definite handicap to the production of materials to support the curriculum initiative.

Finally, due to the truncation of the project, extensive testing of the revised curriculum was not possible, nor was it possible to provide project supported teacher training required to implement the new curriculum.

B. Guidance and Counseling

While the BEC ProAg mentioned Guidance and Counseling several times - and the participant training component of BEC included two positions for Masters degree level training - the cumulative effort in Guidance and Counseling might be considered peripheral at best. However, in spite of minimal input, the long-range impact may be greater than anticipated.

A major emphasis of the National Commission on Education Report and the subsequent RNPE is on the world of work. The MOE, desirous that all students receive assistance in developing attitudes and acquiring knowledge about careers and working, committed itself to providing every child with personal, school, and social guidance.

A long-range plan, generated early in the project, suggested a collaboration between BEC, the MOE (through the Guidance and Counseling Division of CD&E), and Peace Corps. The plan aimed at a nationwide teacher training initiative in guidance and counseling. Peace Corps volunteers - mid-career school guidance specialists recruited at the annual conference of the American Counseling Association - would serve as initial trainers of trainers. The first step in the long-range plan was to seek a guidance consultant to design the overall strategy.

Dr. Wayne Maes, the chosen consultant, devised a training scheme and schedule to provide the MOE with a cadre of trained guidance counselors who would, in turn, train teachers to provide services at the individual school level. The massive plan was kicked off and training initiated at a national workshop in July 1995. Though future Peace Corps participation is now doubtful, the MOE developed several strategies to implement the training design and it is expected to proceed in a timely manner.

C. Pre-Service Teacher Education

1. Plan

Most of the activities of the Pre-Service BEC Project Workplan were the same as that of the Pre-Service Unit Annual Workplan. This is in keeping with the supportive role of the project, that is, to assist each of the project components to plan and implement its objectives. As a result, the accomplishments reported here are credited to the efforts of the Pre-service Unit Officers and their colleagues in the teacher training colleges.

Structured work did not actually begin until the project needs assessment was completed in late May 1993. Prior to the needs assessment exercise and the workplan that followed, the BEC advisor worked with the Pre-service officers on unit-building. This slow beginning resulted in three distinctive phases of work in the life of the project: Phase I was from January 1993 to June 1993, during which the needs assessment and unit-building were the focus of activities. Phase II ran from June 1993 to March 1994, and was known as pre-National Commission on Education Report of April 1994. Efforts in this phase were concentrated in implementing results of the needs assessment. In preparation for the new policy, the advisor reviewed policies and practices in the Colleges including existing curricula, staffing strengths and patterns, student performance, college resources, management systems and relationships among colleges and other stakeholders within the MOE and UB. It was a micro-needs assessment to identify gaps to be closed in preparation for the expected changes.

2. Activities and Consultancies

Major outputs were as follows:

- assisted in preparing 14 job descriptions for a new staffing structure for the department. The job descriptions redefined roles to match new posts of responsibility. Curriculum subject specialists were added to the Pre-service Unit and this brought the Unit closer to the colleges.
- prepared job rationalization document of Pre-service officers. The document classified duties of the officers into professional and administrative responsibilities and suggested that certain administrative duties be rotated to enable Pre-service officers to be more familiar with implementation of teacher training policies.
- prepared localization plan for the COEs. The plan resulted in increased number of Staff Development Fellow positions. Development of the colleges will not stabilize until there are sufficient and stable local staffs in the colleges.
- restructured and re-formatted the Tlokweng College of Education curriculum and prepared Terms of Reference for the Research Committee. Before the RNPE recommendation that all “future teachers be trained at the diploma level”, Tlokweng College of Education was a trial experience.
- revised and produced an Annual Report for the Department. The initial draft was prepared by Mr. L.G. Mothusi who was temporarily seconded to the Department. The reported provided a profile of the operations of the department and highlighted major activities.
- modified the self-study process. Self-study is a process used to monitor and assess performance and used to prepare improvement plans. The COEs adopted the self-study

from the PTTCs and prepared a guideline for its use. The review team composition was modified to include a team of subject matter experts rather than a team of department heads as was specified in the self-study guide.

- conducted a study of demand and supply of primary school teachers. The advisor worked with the Department of Primary Education to develop instruments and conduct the study. The results confirmed fears that the PTTCs output of teachers was near saturation and helped to justify the need to begin training primary teachers at the diploma level. It helped to justify the need to decrease class size, increase classrooms per school, free head teachers from teaching assignments, and release untrained and certificate teachers for further training.
- advised on policies related to Pre-service education.

In addition to the above specific contributions, the advisor was involved in all matters relating to Pre-service education. The vehicle for this role was through participation in:

- the National Council for Teacher Education: This Council is the established policy advisory body for teacher education in Botswana. One example of policy change was the establishment of the Curriculum Coordinating Committee. (BEC Advisor was a major contributor in writing its terms of reference)
- Board of Affiliated Institutions of the University of Botswana: The BEC Advisor participated in meetings of the above Board, which governs academic programs of the Colleges. Major policy changes which took place during BEC included modification of the academic regulations, curriculum standardization, and modification of Teaching Practice regulations.
- TT&D Task Forces: The BEC Advisor served as a member of the task forces of the TT&D for the Three-Year Junior Certificate Teacher Training and Phasing-in the Three-Year Diploma in Primary Education. His role in the two task forces included policy interpretation, modification, and implementation.

Following publication of the Revised National Policy on Education in April 1994, the project redirected all its activities to accommodate the implementation of the new policy. This led to the revised Pre-service workplan, in turn revised and abbreviated as the Close-Out Workplan when early closure of the project was announced. The format of the workplan objectives is used for this part of this final report. The following indicates how each objective was accomplished and the activities left to be completed at the end of the project.

Output 1.0 Curricula of the teacher training Colleges revised based on the recommendations of the National Commission of Education.

Expected to be accomplished by the end of the project but, due to early termination of the project, was not accomplished. The 10-Year Basic Education curriculum had not reached the colleges: drafts were produced and ready for distribution. Curriculum revision is typically directed by the Task Forces and the various Subject Panels. At termination of project, revision was in progress in all subjects areas both at the COEs⁴ and the PTTCs. BEC Project participation was open to invitation and limited to final review at the Curriculum Coordinating Committee level. Specific contributions to curriculum revision are reported under each activity objective.

Activity 1: Organize/conduct five curriculum review workshops to assist the colleges to revise the training curriculum.

- Three workshops were conducted for the Computer Awareness Course
- One workshop conducted for College lecturers and secretaries for BEC donated computers and new software
- Communication and Study Skills Course reviewed during the Awareness Course workshop
- In the PTTCs, Science, Mathematics, English, Education syllabi revised by the subject panels
- In the COEs, Science, Mathematics, Library Studies have been revised by the subject departments
- Curriculum of the Tlokweng College of Education reviewed and revised after three years of implementation.

Output 2.0 Pre-service officers and lecturers strengthened to develop and administer an effective system of teacher training.

Activity 2. Assist in organizing and conducting the 2nd National Conference on Teacher Education

The NCTE was successfully conducted in May 1995 as planned and was considered a big success. It represented an exemplary collaboration between BEC and the MOE, with additional contributions from the Apple Centre and the Macmillan Publishers. About 380 teacher educators drawn from all sectors participated. Representations included the University of Botswana, the Botswana Polytechnic Institute, the Botswana College of Agriculture, primary and secondary schools, and Ministry Departments of Primary, Secondary, Teaching Service Management, Curriculum Development and Evaluation, and Non-formal Education. Non-Governmental Organizations (NGOs) were also represented. Two major publications,

⁴ The list of COEs also includes the Tlokweng College of Education, formerly a Primary Training Certificate college. The PTTCs are revising their syllabi to address recommendations of the RNPE Report.

Conference Proceedings and a book on selected themes were published through the Department.

Activities yet to be completed include:

Activity 3. Organize/conduct in-country training workshops for pre-service officers and college lecturers (e.g., use of the management manual, computer skills & database systems).

- Two Computer Awareness training workshop were completed in April and August 1995. The April workshop was successfully conducted with 48 lecturers participating. The workshop was on basic skills covering keyboard skills, desktop publishing, graphics and database. A diffused course on basic computer skills for all Pre-service teachers was revised. This course will be offered as part of a subsequent Communication and Study Skills Course.
- Workshops for the Management Manual were not deemed necessary as the Manual is a self-explanatory reference document.
- In-house training for new software. A proposal was submitted to the Department to engage a consultant to provide user training for pre-service and in-service officers.
- Training for the database system. The database system was almost complete at the end of the project, given a delay foreseen prior to letting the subcontract. The Apple Centre was contracted to provide training to occur after BEC's closure.

Activity 4. Plan short-term training courses for pre-service officers and college lecturers

Participant training objectives were accomplished and the number of pre-service officers trained exceeds the allocation for this component of the project: fourteen officers completed M.ED. degrees during the contract and two remained in training after closure with MOE funding; and fourteen officers completed short-term training ranging from three weeks to three months.

In-house training manifested itself in terms of work relations. Skills transmission was mutual in many ways via day-to-day interactions with pre-service officers, such as scheduled meetings, discussions, common and individual task assignments.

Output 5: A Manual for Principals of the Teacher Training Colleges produced and training provided

The Manual was produced in August and copies distributed. There are two versions of the manual: one is a working pull-out notebook from which copies could be easily made. This version is intended for internal use. The other version is in a book form for wider

distribution. The manual will be used as a training material for new teachers and a quick reference for certain policy procedures on management of the colleges.

In addition to the above activities, the following consultancies were concluded. See Appendix for a complete list of consultants and consultant reports.

- Primary school teachers' effectiveness study: Dr. P. T. M. Marope, University of Botswana, completed this impact study. The results were reviewed and approved by the Reference Committee; recommendations will have significant impact on training future teachers.
- Database system design: A contract for the development of the database system and networking of all pre- and in-service facilities with headquarters was awarded to the Apple Centre and work was near completion at project's end, as reported above. Management of the system will be at the TT&D headquarters, managed by Mr. Chris Busang, who completed training in Educational Media.
- Formative evaluation study of the Pilot Diploma Program: Dr. George Urch, University of Massachusetts, completed this study of the Pilot Diploma. The report was presented before the college, the Reference Committee, and the MOE. The report confirmed findings of the internal evaluation committee but went on to identify administrative and management issues that should be addressed to advance the program.
- A model for offering the Primary Diploma program to serving teachers: Dr. Freddie Munger, University of Massachusetts, designed a model for offering the Diploma in Primary Education to serving teachers. Three models were suggested along with their resource cost implications and implementation time frame. The report was reviewed and approved by the Reference Committee and presented to the MOE. The model will provide a decision base for the nature and method of offering such a program, since it is now policy that future primary teachers be trained at the diploma level. There are currently some 8,800 teachers in service who do not have diploma training.
- Develop an administrative manual for the colleges: The manual was completed as previously reported, with two hundred copies produced and distributed. The Department was encouraged to produce about 1,000 copies through the government printer for wider distribution.

3. Constraints

Apart from Ministry-wide manpower shortages, the main constraint was the late start of the project. The needs assessment was not executed on schedule and led to delay in preparing workplans; the RNPE was published eight months later than expected and the early truncation

of the project resulted in accelerated activities. Project advisors and their colleagues were pressed for time due to early truncation of the project and tight schedule for implementing the recommendations of the RNPE.

4. Results

In spite of the constraints, most of the objectives of the workplan were achieved. In terms of sustainability, three major outputs stand out: the management manual, the database and networking system, and the curriculum coordination efforts. The Curriculum Coordination Committee was revived with specific guidelines developed with the assistance of the project. Teacher education is still expanding and experimenting on new directions both in curriculum orientation and management structure. Lack of local manpower in the Colleges of Education is a source of destabilization. The massive localization plan will help to stabilize the training system in the long run. Similarly, having helped the Department build a strong management base with a supportive environment should prove more beneficial than having placed emphasis on 'process skills'. Evidence is abundant from the contributions of PEIP and JSEIP that a firm operational base is sustainable, especially in the Botswana context, and it is clear that BEC's pre-service outputs will have long-term pay-off.

D. In-service Teacher Training

From the first, it was incumbent on the BEC In-service Advisor to fit into the rhythms and routines of the Unit in order to meet the goals of the project as they related to teacher in-service training. Such a fit was accomplished, while at the same time meeting the project goals; this is perhaps the major achievement of the work of the In-service Advisor.

Two major events, one anticipated and one unexpected, were the driving force in the way the work of the BEC Project proceeded. The long-awaited Revised National Policy on Education, Government White Paper #2 of April 1994, became the guide and focus of BEC work since its release. However, prior to its release, the In-service Unit of the TT&D proceeded according to plan and worked toward implementing many of the expected recommendations of RNPE as they related to providing professional development for teachers. The unanticipated early closure of the BEC Project affected the pace and prioritization of the work of the In-service Unit. Several activities, noted later, remained for the members of the Unit to complete without the support of the project.

1. Activities and Consultancies

Despite the fact that the 1994-95 workplan was abbreviated in order to comply with the need for a final closeout workplan, the objectives in the fuller workplan are used as an organizing format for this summary. These major objectives were the guide for all advisor activities throughout the two years of in-service and were developed as a result of the original project needs assessment. All of these objectives and the related activities are interconnected with each other and with the

work of the other components in the project, so that any separation into categories is somewhat arbitrary and mechanical. Activities which remained to be completed after the departure of the In-service Advisor are noted under each objective.

Objective 1.0 To coordinate the delivery of in-service activities across the nine years of Basic Education.

This objective obviously underpins all of the work of the in-service component towards the major goal of the BEC project, to consolidate teacher in-service training as it relates to the work of curriculum and evaluation in primary and community junior secondary schooling. The efforts to bring various disparate elements together started within the In-service Unit of TT&D and worked outwards. The major activities included:

- The first in-service providers' session held in November 1994 which brought together the primary and secondary sections of the In-service Unit. At that meeting a needs assessment was conducted to guide plans for professional development for the officers.
- The annual planning process for in-service which brings together officers from CD&E, the Primary Department, Secondary Department, Non-Formal, and other stakeholders, was held in April 1993 and again in 1994. In an effort to respond to the decentralization of in-service as required by RNPE, the planning process evolved into a regional activity; however, the concept and structure for projecting teacher in-service training needs in a coordinated manner became an integral part of the work of the In-service Unit and the various sections of the Ministry it serves.
- The BEC Team Retreats, bringing together members of the In-service Unit, CDD, and ERTD created the forum needed to assure that the In-service Unit responds to the training needs related to implementing curriculum revisions and changes in methods of student assessment. Leadership of both TT&D and CD&E will assure that the process is sustained and strengthened. The headquarters officers of the In-service Unit are prepared to take initiative with regard to providing the training needed to implement the requirements of RNPE, such as organizing computer literacy training for teachers while the CDD develops the curriculum to be implemented in the schools.

In addition to the above activities, the work of the In-service Advisor included participation in several committees and groups which supported the consolidation of in-service provision: the Advisory Board for the UB/INSET program, the Country Working Group (Steering Committee) for the Commonwealth Secretariat School Heads Training Programme, the National Project Implementation Committee, and other *ad hoc* committees on a variety of topics related to the implementation of RNPE. All of these groups included contact with staff from the Primary Department, the Secondary Department, UB, and various other units and divisions within the MOE, and all had as a focus the coordination and consolidation of activities related to teacher in-service training and curriculum implementation to support basic education.

Objective 2.0 To design and institute a consolidated policy for the In-service Unit.

All policies related to in-service were guided by Government White Paper #2 of April 1994. Efforts to plan activities to implement those policies in a consolidated manner were begun under BEC and will be continued via the task forces and committees established for that purpose.

Objective 3.0 Strengthen the training capabilities of In-service Officers

There are two major types of activities which supported this objective, formal training of various sorts, and informal, day-to-day exchanges between the officers of the In-service Unit and the In-service Advisor. The following activities fall into the formal category:

- Four officers from the In-service Unit participated in long-term training resulting in first or second degrees in fields directly related to their work. These officers resumed duties simultaneously with the project closing, preventing any opportunity for connecting their studies with their duties in association with the In-service Advisor. Unit leadership will integrate these officers into the work of the Department to maximize their potential and take advantage of their training.
- Six officers, including the PEO/In-service, participated in the BEC sponsored In-service Study Tour conducted in May/June of 1994. The overall goal of the study tour was to provide participants with the opportunity to experience the ways in which in-service providing institutions operate in the UK as compared with Education Centres in Botswana. The major activities of the tour related to administration of such institutions, examples of types of in-service training activities offered, and the use of computer and media technology in teachers' professional development.

The impact of the study tour was measured in both direct changes to the ways in which the Education Centres operated, and in the more subtle but equally important changes in the professional attitudes of the participants. As a result of the information gained during the tour, the CEO of TT&D became convinced of the need for a stronger administrative support structure for the officers who serve as Centre Directors in Botswana. That staff improvement is expected to start in 1996. In terms of the officers' attitudes toward their work, both the types of in-service activities they present as well as the professional level at which they operate was enhanced by their participation in the study tour. Finally, the participants presented a very stimulating panel discussion on the major activities of the study tour during the In-service Providers Professional Development Seminar held in February 1995.

- As a direct result of the November 1994 session for all primary and secondary in-service officers, a professional development seminar was planned by a committee of officers in the Unit. The overall goal of the activity was to upgrade the professional skills of all 87 primary and secondary in-service providers, the entire membership of the In-service Unit

of TT&D. Two types of activities were planned to support that overall goal: sessions planned and presented by consultants on research issues related to teachers' professional development and ways to apply the latest research in the field to the needs of Botswana, and sessions planned and presented by the officers themselves.

The second category proved to be by far the most successful aspect of the Seminar in terms of its effect on the professionalism of the cadre of officers. The topics to be covered in the Seminar came directly from the November 1994 needs assessment, and the planning committee identified specific expertise among all the officers which matched the topics. A one day session was held for all presenters to assist in the development of their session presentations. The very fact that this group of about 30 in-service providers was identified as expert in some aspect of in-service training and expected to share that expertise with their immediate colleagues contributed immeasurably to the professional growth of those officers. The variety of types of training activities, the range and level of participatory learning, and the overall high level of quality of presentations at the Seminar was unparalleled. The results of the Seminar were readily seen in the greatly increased types of training formats used in workshops, the quality of the training materials developed and used by in-service officers, and the improved level of professionalism displayed by all members of the in-service team. The final report of the seminar includes a handbook of twelve specific training sessions as well as guidelines for conducting action research on teachers' professional development.

- Several training sessions on various topics such as clinical supervision and research in language acquisition were conducted by the In-service Advisor for the Breakthrough/Project Teacher Advisors.

In the informal category of training, many activities could be listed which support the objective of strengthening the training capabilities of the officers in the Unit. A few examples include: serving on the Education Centre Directors' Report Writing Committee, which resulted in a uniform and streamlined reporting structure for the primary in-service officers; working with the various planning committees to develop seminars and training sessions; assisting with the Unit's presentation at the Minister's Briefing on TT&D; assisting in the development of the Education Centre brochure; advising and assisting in the collection and analysis of data related to in-service provision; monitoring the work of the Education Centres via regular visits and interviews with the regional and district level officers; traveling to schools with in-service officers; and other such activities which were at the heart of the daily activities of the Unit and Department.

Perhaps most important in this category was the day-to-day contact with all the members of the In-service Unit located at TT&D, as well as those who worked in decentralized locations. During the two years of the BEC In-service Advisor's work in Botswana, every Education Centre was visited at least twice and most several times for a minimum of two or three days and often longer. That regular and ongoing interaction, although perhaps not measurable as separate training activities, has been a rich and lasting aspect of the work of the BEC in-service component.

Objective 4.0. To strengthen infrastructural base for in-service program and activities

The major activities supporting this objective involved upgrading the capabilities of the Education Centres, the Regional In-service Offices, and the support structure at TT&D as headquarters for the field offices of the Unit.

- In coordination with Pre-service, TT&D officers were provided with computers, printers, and a photocopier. Some informal training by the Advisors, mostly on an *ad hoc* and as-needed basis, on the use of the equipment was part of the day-to-day work in the Department.
- Twelve computers and printers were ordered, one for each of the Education Centres and the Breakthrough/Project Office. These computers included software and networking capability to link the decentralized offices with the six teacher training institutions and with each other. Also included was a week of initial training for all users. Though the delivery and installation of equipment and software - and the training in its use - had to occur after the departure of the In-service Advisor, unit leadership is committed to harnessing the potential power of these tools in the improvement of in-service provision.
- The four month library training consultancy completed in July 1995 was a major effort at upgrading the resource potential of the Education Centres. The consultancy provided the catalyst for greater cooperation with the Botswana National Library Service (BNLS) and the UB library, and much stronger links are now forged between those institutions and the Education Centres. The major activity was a week of training at each Centre which resulted in a complete overhaul of the libraries and basic library maintenance skills for staff members; a full report is available on the consultancy. This activity was only the beginning of what is required to assure that Education Centres become rich resources for the teachers they serve. The plans of the In-service Unit of TT&D include continuing to upgrade the resource capabilities of the Education Centres.
- As a source of information about the Education Centres, the Brochure Writing Committee met sporadically and worked together on text and format for almost 18 months. The final product, a first attempt and certainly not without flaws caused by a final rush to complete before project closure, was printed with BEC funds. One thousand copies were delivered to each Centre and 5,000 for distribution from TT&D. It is to be hoped that a revised and improved version will be produced for future use.

Objective 5.0: To establish an information base for all in-service activities

The major effort supporting this objective was the round of data collection conducted during April through June of 1995; a full report of that work is available. A summary of the findings related to this objective includes:

- The In-service Unit has the manpower and infrastructure needed to deliver training on curriculum revisions, changes in student assessment procedures, improvements in teaching methodology, and other requirements of RNPE. The most powerful illustration of that capability was the round of training for all Standard 5 teachers on the implementation of criterion referenced testing.
- In-service training in the form of local teacher workshops must be enhanced and supported by regular, ongoing classroom level follow-up by in-service officers and curriculum developers.

In addition, the upgrade of Education Centres in the form of a computer networked system of communication and data collection remained the major yet-to-be-completed task related to this objective. The designed system tracks participation of all teachers in in-service, systematizes needs assessment and training responses to local needs, coordinates training efforts with the teacher training colleges, and keeps all records related to in-service provision.

Objective 6.0 To develop and implement a policy of incentives for in-service program and activities

Very early in BEC, the In-service Unit, and particularly the PEO/In-service, was charged with responsibility to develop a consolidated training policy for MOE. With only minimal and occasional advice from the In-service Advisor, that assignment was completed and the policy document forwarded to the Permanent Secretary for final approval and implementation; it will guide the ways in-service activities operate both for teachers and other officers.

Objective 7.0 To develop a system of monitoring and evaluating in-service program and activities

One of the initial activities on the in-service component was the formation of a report writing committee made up of Education Centre Directors. The committee, with the assistance of the In-service Advisor, developed a simple but effective reporting format to provide systematic information about the work of the in-service officers at field level. That reporting procedure evolved into part of the larger set of standard procedures instituted by the PEO/In-service.

As outlined above under Objective 5, the computer networking system will provide the means of monitoring and evaluating the program of the In-service Unit.

2. Results

In terms of measurable change in teacher behavior in the classroom - the "bottom line" for teacher in-service training - it is difficult to provide percentages or numbers to indicate that impact. As noted previously, the In-service Unit was well in place at the inception of the BEC In-service Advisor's work on the project. Also, the need and wish to fit into the rhythms of the work of the Unit made it difficult to isolate elements which might be directly attributed to the contributions of

BEC. However, results of work of BEC related to teacher in-service training in Botswana can be marked on the continuum of the accomplishments of the In-service Unit of TT&D. The obvious ones (e.g., four officers receiving advanced degrees; all officers participating in training sessions organized and sponsored with project support; purchase of equipment and provision of related training; specific expertise including training in research and improvement in the Education Centre library services; *et al*) have been outlined in the above description of activities and consultancies.

Much more difficult to measure and report, but perhaps equally or more important than those results enumerated above, is the way in which the daily interaction between the advisor and the officers of the Unit represents potential to improve overall performance of both officers and advisor. A term often used in planning sessions for the In-service Providers Professional Development Seminar was "stretching what we can do." The concept behind the phrase required assuring that officers completed the seminar with more knowledge and a greater professional capacity than that with which they started. Assuming that In-service Unit officers were stretched and challenged during BEC to become more effective teacher trainers than they were at the outset, the consolidation of in-service provision to support the Ministry's efforts to improve the education for Botswana's children can be said to have been achieved.

E. Student Assessment

1. Plan

Significant sections of the initial workplan were discussed at a joint meeting between CD&E and TT&D in June 1993. Ideas and impressions gathered at the meeting helped reshape the draft workplan, in turn discussed with the former Research and Testing Centre (RTC, now part of ERTD) in July 1993. The workplan was basically designed to focus on assistance in four areas:

- training of teachers and other MOE personnel in CRT and Continuous Assessment (CA) for classroom use;
- changing the national examination system at PSLE and JCE from norm-referenced testing (NRT) to a combination of criterion-referenced testing (CRT) and CA;
- providing in-house training through seminars and workshops for staff of CRTIC and ERTD; and
- providing reports to the BEC project, AED, USAID, and MOE as and when required.

2. Activities and Consultancies

Following are key activities completed throughout the life of the project in the area of **training**:

- Reviewed existing student assessment course at pre-service teacher training for primary and junior secondary schools and updated them in the area of CRT; similarly, reviewed

existing course in CA at pre-service teacher training for primary and junior secondary schools and updated them as necessary. These activities were given to TT&D for further discussion and review.

- Developed training modules for in-service program; developed in the form of modules to facilitate implementation. Developed in-service training program in CRT; this was developed as a multiplier effect training system. Conducted in-service training workshops for MOE practitioners (Education Officers, Teacher Advisors, etc.); completed at least four workshops organized by CRTIC for MOE. The major effort was in the "training of trainers" for CRT, accomplished through two workshops in 1994.

Several training activities are ongoing or partially completed, including:

- organization of in-house training sessions on CRT, CA and other test development issues for staff (begun in November 1993 and ongoing);
- development of data collection instruments for monitoring teachers' procedures in CRT and CA in schools; (partially completed, with a draft based on an original CRTIC version and a final version to be produced in 1996);
- supervision of CRT trainers, Standard 5 teachers, and primary school head teachers; (ongoing); and
- monitoring the training of resource people for the national training program, planning and conducting CRT workshops for secondary in-service trainers (to begin in 1996).

Except for one activity in the original workplan, the activities connected with changing the national **assessment** system from NRT to CRT are essentially those itemized in the Close-Out Workplan. They include:

- Developed CRT PSLE and JCE activity schedule; the PSLE schedule was completed as a model for the JCE schedule.
- Determined the types of statistics and other information needed to be generated through the scoring system. Information was provided at ERTD workshops and two papers written on the activity and used for discussion with the Government Computer Bureau (GCB). System outputs depend on a set of CRT software for which a consultant will later be selected by MOE. BEC sponsored a consultant to develop the software specifications based on needs expressed in the workshop papers and discussions with the GCB.
- Determined the grading and reporting formats of the examination results; developed the marker evaluation system.

- Determined format and content of annual technical reports to be submitted by ERTD to subject panels; updated procedures for writing school reports on examinations for distribution to teachers and TT&D.

Several assessment activities are ongoing or partially completed, including:

- selecting and developing uniform titles for learning behaviors for diagnostic CRT;
- developing test blueprints and test plans for PSLE subjects; final blueprints are to be agreed upon between ERTD and CDD in 1996;
- developing item banks from which tests will be generated; a consultant will later supply appropriate item bank software and undertake the required training. During BEC, test items were produced at an item writing workshop in May 1995; they are currently being edited and classified in preparation for the computerized item bank and test generation system; and
- reviewing manual of examination administration procedures.

Planning the acquisition and installation of software for CRT processing and the software for the computerized item bank and test generation system are two functions which remained to be undertaken by the MOE following BEC closure.

Three consultancies were completed during the BEC contract. See Appendix E for a complete list of consultancies and consultant reports.

- Criterion Referenced Testing: Dr. Anthony Nitko evaluated the Criterion-referenced testing implementation plan established by the Curriculum Development and Evaluation Department.
- Computerized Item Banking: Dr. Eric Eno defined the initial parameters of a system for ERTD and offered suggestions as to necessary hardware and software to implement it.
- Test Scoring System: Dr. Richard Johnson worked with ERTD and GCB to update the test scoring system applied to the PSLE.

3. Sustainability

Assessing program sustainability depends upon a number of factors, major of which are skill training, availability of reference materials, and the critical factor of management. The dedication of CRTIC, the In-service Unit of TT&D, and the Primary Department in the training program for teachers is strong indication that the skill training of teachers in CRT will be successfully accomplished. The update program planned by CRTIC will ensure that both trainers and teachers are constantly updated in the principles and use of CRT procedures. The Teachers' Handbook on CRT and CA is supplied to every teacher who undergoes CRT

training to ensure that teachers can read and update themselves through their own private initiative. Through in-house seminars and workshops organized by ERTD, ideas and papers on a variety of issues on CRT were generated and written for reference purposes. On the issue of management, ERTD clearly has the capability to manage and improve the system that BEC assisted to implement.

Much of the accomplishments within the project period have been purely foundation building and the sharing and acquisition of the theoretical knowledge in CRT procedures. The early project close-out made it impossible to assist in the practical aspects of setting, administering, marking, scoring, grading, interpreting CRT results through a variety of examination reports, and using examinations reports for educational improvement. That notwithstanding, significant strides were achieved within the project period.

F. Participant Training

1. Long-term Training

Twenty-four long-term training participants were selected and placed at eight universities in the United States; the University of Massachusetts at Amherst was the subcontractor with primary responsibility for participant training.. Study programs included Masters Degrees in Educational Measurement, Curriculum Development, Educational Media, Guidance and Counseling, Special Education, Environmental Education, Teacher Training, Linguistics, Art Education, Science Education, and Educational Leadership.

Of the 24 long-term participants, 17 completed their programs of study prior to September 1995 when the project terminated. The remaining seven were scheduled to complete within one or two terms of additional study, with funding provided directly from the Ministry of Education. See Appendix G for complete list of Training Participants.

2. Short-term Training

A total of 23 participants were sent on short-term training programs in the United States, Malaysia, Singapore, the United Kingdom, Kenya, Ghana, or Norway. Programs ranged from one week to six months and included study areas of educational policy, management and development, management of tertiary education, educational measurement and assessment, computer application, special education, art education, leadership skills, and teacher education. See Appendix G for complete list of Training Participants.

G. Commodity Procurement

Commodity procurement was to improve the MOE officers' productivity in developing curriculum and training materials in the CD&E and TT&D Departments; for the most part,

commodities replaced older equipment, thereby making curriculum materials easier and quicker to create and disseminate.

All commodities (computers, printers, photocopiers, professional books, audio visual materials, and production materials) authorized by USAID began to arrive in December 1994 and continued throughout the life of the project; training of MOE staff in the use of the new equipment began in February 1995 and continued throughout the life of the project.

AED inventoried all purchased commodities and supplied MOE with information regarding purchase price, date of purchase, and location of equipment. All equipment, including four vehicles, was officially transferred to the MOE during the last week of September, 1995.

See Appendix I for Procurement List.

H. Assessment of Program Impact (API)

USAID's API reporting is a monitoring mechanism to gauge achievements of strategic objectives in the Agency's development portfolio of a given country. In the case of Botswana, the relevant strategic objective (#1) is to "increase the level of relevance of what students learn, their receptivity to additional training, and their preparedness for further education." A specific BEC responsibility was to gather data to assess the degree of achievement of this objective. Early findings indicated improvements in the education program as cited above: an increase in net enrollment to 90% in 1993; an increase of trained primary teachers to 91% in 1993.

As quality of education improves, student attitudes toward additional training and preparedness for further education should improve. The number of qualified applicants to local training institutions was used in BEC API studies for this indicator. Between 1993 and 1994, the total number of qualified applicants desiring additional training increased by 30%. Additionally, the classroom observation study (see P. T. M. Marope, above) was used to document qualitative features of school environments as baseline data against which to assess an increase in student levels of competencies as the basic education system continues to evolve.

BEC's API reporting measured two program outcomes in support of Strategic Objective #1: "Increased proportion of students who are offered the new curriculum and pedagogic materials, instructed by teachers trained to apply them;" and "System established to provide feedback on student learning achievement to pupils, teachers, parents, policy makers, and the private sector." See Appendix H for a full report on the API findings related to these target outcomes.

V. Constraints in Project Implementation

While the usual array of obstacles appeared throughout the life of BEC, most were solved in a timely manner and implementation continued. Only three significant constraints to project implementation were consistently cited with somewhat serious negative impact. These are:

- Shortage of personnel (Education Officers) in CD&E: This remained a constant and serious constraint in facilitating the work of the three BEC advisors stationed in CD&E. However, this is not unique to MOE and is a national problem affecting many ministries. Fortunately, near the project's end, MOE seconded 20 teachers to assume temporary duties in CD&E, providing much-needed extra hands.
- Late start-up and internal management problems of the BEC Team: Some project activities were delayed due to late selection of some Team members and an inordinate amount of time required to complete the initial Needs Assessment, upon which future activities were to be based. Additionally, when internal management problems surfaced and threatened to derail timely project implementation, quicker and more decisive action by all involved to address the issue would have accelerated completion of remaining tasks.
- USAID's decision to terminate the project early: Cutting approximately two years off the life of the project had the effect of unduly condensing some activities, in some cases against an unrealistic schedule not consistent with program needs. Some activities were accelerated and successfully completed; others had to be cut short and not allowed to proceed smoothly to completion. Particularly affected was the implementation schedule of assistance to ERTD to develop a scoring system, training teachers, and reporting of national examination results.

VI. Lessons Learned

Perhaps the most significant factor in this category is not so much a lesson learned, but a lesson reiterated and verified; i.e., that project success is determined primarily by the degree to which the recipient agency is a full and participating partner with the donor agency and implementing organization in conceiving, designing, modifying, implementing, and evaluating the initiative. BEC was clearly devised to address the MOE's objectives and strategies which the Botswana Government had held in mind during years of forward thinking and planning. BEC was not a plan thrust on an unwilling recipient; everything accomplished under the project was consistent with the MOE's long-range development plan. In short, BEC was the MOE's project. And it is this single factor that will assure that activities and processes initiated under BEC will be sustained - and any incomplete actions finalized - in the future .

VII. Actions to Assure Sustainability

Sustainability is the key to the success of basic education consolidation. The effective continuance of serving children requires a process of coordination with all the stakeholders related to basic education. The BEC project included a Basic Education Coordinating Committee which is scheduled to meet twice a year. At this stage of Botswana's basic education consolidation, closer coordination is necessary. With the project's termination, frequent information sharing meetings are needed, and attempts at solving problems related to quality and equity issues should be continued. The BEC Team is confident that the Basic Education Coordinating Committee will take the necessary leadership, politically and administratively, to assure that BEC's impact will be sustained. Following are a few examples of the MOE's commitment to sustain BEC project outputs after project closure:

- a schedule for training remaining teachers in Criterion Referenced Testing and Continuous Assessment of student learning is in place;
- plans for preparing and trialing the Primary School Leavers Examination (PSLE) and the Junior Certificate Examination (JCE) are underway and will be completed in 1996;
- preparation of the three-year Junior Secondary curriculum is underway and scheduled to be in place in 1996;
- the MOE committed continued funding of education officers unable to complete their long-term degree programs in the US by the time of project closure; and
- recruitment and training of 20 additional curriculum education officers to assist the development of the basic education curriculum will assure the completion of that component of the BEC project.

VIII. Appendices:

- Appendix A: Outline of Needs Assessment
- Appendix B: BEC Work Plan
- Appendix C: Revised Work Plan (Close-out Plan)
- Appendix D: Budget
- Appendix E: Index of Consultants and Consultant Reports
- Appendix F: Project-related bibliography
- Appendix G: Training Participants
- Appendix H: Assessment of Program Impact (API) Report
- Appendix I : Procurement List

**Botswana
Basic Education Consolidation (BEC)
Project**

Final Report Appendices

**REPORT OF THE
FIRST BASIC EDUCATION CONSOLIDATION
NEEDS ASSESSMENT WORKSHOP**

**PREPARED BY THE
BASIC EDUCATION CONSOLIDATION
PROJECT TEAM**

MARCH 29, 1993

REPORT OF THE FIRST BASIC EDUCATION CONSOLIDATION NEEDS ASSESSMENT WORKSHOP

INTRODUCTION

The First Basic Education Consolidation Needs Assessment Workshop was held at the Sheraton Gaborone Hotel on 26 February 1993. The workshop was organised as a part of the Basic Education Consolidation (BEC) Project. The Project is a joint effort of the Government of Botswana and the United States Agency for International Development. It is important to note that this workshop is a beginning of the needs assessment process and was held to establish a basis for further needs assessment activities as a part of the Project. As stated in the Project Contract approved by the Government of Botswana and the United States Agency for International Development, the purpose of the needs assessment process is to

"focus on all aspects of the basic education curriculum development and implementation process, including departments, procedures, policies, and philosophies involved. It will review and quantify curriculum work completed and under way and examine organisational mandates and structures. It will also assess coordination, communication, and linkage mechanisms; staffing; gaps and redundancies; strengths and (areas which require further strengthening); training requirements; short-term technical assistance needs;..." (Basic Education Consolidation Project Contract, p 17)

As a part of the needs assessment process, this workshop is to be followed by a second needs assessment workshop to be held in May, 1993. Upon completion of the needs assessment, the results will provide the basis for

"the MOE and the Technical Advisory team (to) jointly develop Life of Project and Yearly Action Plans which specify and/or revise the main objectives of each project element, delineate the roles and responsibilities of each participating entity, provide a time-phased schedule for accomplishing each objective, and quantify the human and financial resources needed to meet each objective." (BEC Project Contract, p. 17).

Ninety-five individuals representing 16 different agencies and groups participated in this first workshop. Representation included the following: the National Commission on Education; nine units/divisions within the Ministry of Education; three other Ministries including Health, Finance, and Labour and Home Affairs; the University of Botswana; two organisations from the private sector; five donor agencies including British Council, Natural Resources Management Project, Peace Corps, United States Agency for International Development, and UNICEF; one Council School Board Chairperson; College/University Students; and members of the Basic Education Consolidation Project Team, including two persons representing the home office of the Academy for Educational Development and the University of Massachusetts.

Sixty-three of the 95 participants were employed within various units or sections of the Ministry of Education. Twenty-seven of the participants reported addresses outside Gaborone. All participants came from the geographic area along the railroad in the eastern section of Botswana except for three who had addresses in the USA (from USAID/Washington, AED, and the University of Massachusetts). Addresses of participants included 11 different cities/towns in Botswana.

ORGANISATION OF THE WORKSHOP

This first needs assessment workshop was organised by a "Workshop Planning Committee" appointed by the Permanent Secretary of the Ministry of Education. Members included the Chief Education Officers of the Departments of Teacher Training and Development and of Curriculum Development and Evaluation, the BEC Project Chief of Party, and additional members of the two departments. Letters of invitation to

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the workshop were mailed to representatives of various organisations in Botswana who were considered to be stakeholders in basic education. The invitation list was drawn up by members of the Workshop Planning Committee.

The Planning Committee designed the workshop as a one-day activity. Key individuals were identified and invited to chair the workshop, to make specific presentations, and to "sum up" and to close the workshop. A copy of the BEC Project Elements and a two-page description of the Basic Education Consolidation Project were included as a part of the "Invitation Packet" mailed in advance to the prospective participants.

Folders were presented to participants at the time they arrived at the Registration Desk. Each folder contained the agenda, a survey form on perceived importance of four "Purposes of Education", a feedback form which provided participants an opportunity to give individual feedback regarding various aspects of the Nine Year Basic Education Programme, to evaluate the workshop, and to make suggestions related to the follow-up workshop. Writing materials were also provided in the folder. The outside of the folder contained a number between one and eight which served as the basis of assigning individuals to small discussion groups.

Audio tape recordings were made of the various sessions to provide a record to facilitate analysis of information gathered in the various sessions of the workshop. Video tape recordings were made of the plenary sessions. Oral and written reports were made of key ideas presented in small group discussions. Each group chose its own leader and recorder. The recorder from each discussion group reported to the plenary session near the end of the day. To facilitate the reporting session, each discussion group was provided with flip charts and visual transparencies.

Three activities were employed to gather data important to the needs assessment process. The first activity consisted of requesting each participant to complete the survey form related to "Purposes of Education." The second activity involved the use of the discussion groups and the resulting reporting session. Groups were asked to focus their discussions on two tasks. During the one-hour morning session, each group focused on the following: "In view of the presentations made by the two Chief Education Officers, identify the major issues for consolidation of the Nine Year Basic Education Programme." A second one-hour session in the afternoon focused on the question: "What are the implications of the issues discussed during the morning session for implementing the consolidation of the Nine Year Basic Education Programme in terms of curriculum and teacher education?" The third activity was completion of the workshop feedback survey forms by individuals just prior to adjournment of the workshop. Each activity provided data which was recorded, and subsequently organised to determine participants' views of various aspects related to effective consolidation of the Nine Year Basic Education Programme.

WORKSHOP HIGHLIGHTS

Mr. Philemon Ramatsui, Deputy Permanent Secretary, Support Services, Ministry of Education, and Chairperson of the Workshop, opened the meeting stressing the importance of the workshop and the purpose as being assisting the Ministry of Education and the BEC Team to develop a needs assessment and a work plan.

Mr. Peter Sephuma, Acting Permanent Secretary, Ministry of Education, delivered the keynote address. In declaring the workshop open, Mr. Sephuma indicated that 1993 is a special year for basic education because, for the first time, there are more than enough Form 1 places available for Standard 7 leavers. Now the challenge was to keep up with the normal growth of enrolments, to improve the quality of education and to provide more services and curriculum contributions for the benefit of the youngsters in school. Mr. Sephuma added that this accomplishment did not mean that Botswana had no problems. He enumerated several issues that were still of great concern to the

Ministry including school-age children who were not in school, gender inequities, shortage of classrooms in certain areas and the need for greater access to post-junior secondary school. Nevertheless, Acting Permanent Secretary Sephuma emphasized the importance of consolidating the advances in the Nine Year Basic Education Programme over the previous ten years. He thanked the United States Agency for International Development for its continued generous support especially in the area of basic education.

Mr. Howard Handler, Director of USAID/Botswana, greeted participants and presented a short address. Mr. Handler indicated that the BEC project is the logical next step after the Primary Education Improvement Project (PEIP) and Junior Secondary Improvement Project (JSEIP). He noted that the BEC Project represents an important departure from previous USAID projects in Botswana. Mr. Handler contrasted the current BEC six-person team of long-term technical advisers with the provision of line and staff personnel of previous projects who took over positions most of which were eventually localised. The role of the current advisers is to work with Botswana counterparts as colleagues in assisting Botswana to develop and implement its localisation priorities. He added that this new departure was in keeping with the Botswana policy of eventually filling every post with Botswana.

Mrs. K. Lecoge, Chief Education Officer, Department of Curriculum Development and Evaluation, MoE, presented the current needs for basic education consolidation by sharing with the participants definitions of basic education and consolidation, and examples of issues and concerns which affect the Department of Curriculum Development and Evaluation. Included in those issues and concerns were the need to: reduce educational disparities with the aim to reach all, the poor, the disabled, minorities, rural or remote populations, and girls; bring together various programmes; identify gaps and redundancies and strengthen areas of weakness; establish closer linkages between the processes of curriculum development and curriculum implementation; promote closer relationships with other units and departments; make basic education less fragmented; and provide greater continuity within the Nine Year Basic Education Programme Workshop participants were encouraged to think of these and other issues as they deliberated in the small group sessions.

Ms. Kgomotso Motlote, Senior Education Officer In-Service, on behalf of the Chief Education Officer, Teacher Training and Development, MoE, presented issues and concerns related to that Department. Issues and concerns presented included: the need to eliminate differences in educational quality between rural and urban schools; the purpose of schools at all levels to prepare children for a useful, productive life in the real world; the need to bridge the gap between primary and secondary teacher training institutions; the need to provide for the special child within basic education programmes; and the need to determine "who provides in-service training to who(m)."

Dr. Murray Simon, Chief of Party for the BEC Project, recalled the National Conference on "Education for All" of June 1991, and quoted the closing speaker, Dr. Frank Youngman, who stated that the greatest challenge facing Botswana was to convert the rhetoric of practical education and productivity into reality. Dr. Simon asked the audience to step back and take a broad look at the problems of consolidation and basic education and to distinguish those areas in which participants do have control from those areas in which help is needed from sources outside of the Ministry of Education. He added that, in addition of the need for intra- and inter-Ministerial coordination, it was very important to consider donor coordination in relation to the educational needs. He especially referred to USAID, ODA and UNICEF as three important donors which are affecting the curriculum and implementation of basic education.

Following the opening presentations, participants met in the small groups to discuss major issues and implications of these issues for implementation of the consolidation of the Nine Year Basic Education Programme in Botswana. A summary of those

deliberations was presented in plenary session by a reporter from each group. The written feedback by individual participants indicated that they believed the small group discussions were the most meaningful part of the day's deliberations.

Dean T.P. Vanga, Faculty of Education, University of Botswana, "summed up" the day's activities with the following highlights:

1. A popular definition of education is that it is an investment enabling agent and includes learning how to learn, searching for knowledge and truth.
2. Education should be made relevant at the primary and secondary levels. Poor early education affects all levels of further education and training.
3. Education should prepare for productive participation in the world of work.
4. An appropriate institutional framework for successful education should be established, for example, pre-school education as a foundation is important but it is taken lightly in Botswana.
5. Consolidation of the Basic Education Programme should include pre-school education and non-formal education.
6. Resources should be distributed to all schools to facilitate effective learning.
7. Teacher training should be improved to enhance classroom effectiveness.
8. Language must be developed early. The issue is what language?

Mr. M. Mogasha, Chief Education Officer, Primary Education, MoE, gave the closing remarks by re-emphasising that Basic Education involves making the curriculum relevant to the needs of Botswana. The curriculum must be wholistic in both content and intent spanning the Basic Education Programme. For consolidation of the Basic Education Programme to be successful, all stakeholders must provide their support in their respective roles. Of particular importance, consolidation should not only include training at pre- and in-service but also of all personnel involved in the Basic Education Programme. This, he added, was the surest way of achieving localisation and continuity. Consolidation efforts should also include support and activities of all donor agencies. In conclusion, Mr. Mogasha thanked all participants for their contributions during the day. He also thanked the Workshop Planning Committee and the BEC team for their efforts in organising the workshop.

PRESENTATION OF THE DATA

During the morning session, participants were asked to identify the weighting they would place on four "Purposes of Education" which are relevant to basic education. Seventy-seven persons participated in this survey. As noted in Table 1, participants rated the purpose "Find a Job" considerably higher than the other purposes.

TABLE 1 PARTICIPANTS' PERCEPTIONS OF THE VALUE OF FOUR PURPOSES OF EDUCATION

PURPOSE	RESPONSE <u>MEDIAN</u> PERCENT
Transfer of the heritage and culture	20
Find a job	30
Good citizenship	20
Know yourself	20

Information gathered through the group discussion reports and the individual feedback was grouped within seven primary categories: (1) Coordination, Communication, and Collaboration; (2) Curriculum; (3) Teachers; (4) Teacher Education; (5) Organisation, Administration and Policy; (6) Resources; and (7) Assessment. Three additional categories (Guidance and Counselling; Language of Instruction, and Special Education) appear in the report of group discussions that do not appear in the report of individual feedback. The topic, Pupils and School Leavers, appears in the report of individual

feedback but not in the report of group discussions. The information gathered through these two activities is presented in the following paragraphs.

Group discussions

Seven¹ small groups consisting of six to eight participants were formed to discuss issues raised during the opening addresses. Two general questions presented to the groups were used as guides for discussion.

Issues

The first question "In view of the presentations made by the two Chief Education Officers, identify the major issues for consolidation of the Nine Year Basic Education Programme" resulted in listing a number of issues concerning consolidation. To minimise loss of information, a broad summary category was developed to capture the issues as shown in Table 2.

	Categories of Issues	Discussion Group No.							
		2	3	4	5	6	7	8	Tot.
1	COORDINATION, COMMUNICATION, COLLABORATION AND LINKAGES - pre-service and in-service; interdepartmental information sharing; primary and secondary teacher training; MLGLH and MoE; joint workshops; Education officers of all departments; resources for pre- and in-service	3	5	5	5	1	1	8	28
2	CURRICULUM - define basic education; quality of content and materials; coordination and linkages among implementors; flexible to the needs of the child; continuity from 1-9; joint panels	1	1	6	1	5	2	8	24
3	TEACHERS - quality; recruitment; conditions of service; equality between primary and secondary schools	1	-	1	1	3	1	5	12
4	TEACHER TRAINING - gap in training between primary & secondary teachers; entry qualifications into pre-service training colleges; length of training; in-service training of prim. and sec. teachers; opportunities of professional development; quality of curriculum at all levels of training; attitudes towards teaching	3	1	2	1	3	1	-	11
5	ORGANISATION, ADMINISTRATION AND POLICY: teacher admin. under one body; basic education under single authority; restructure of MoE; reorganise schools from 1-9; develop policy for in-service	-	2	1	-	2	3	1	9
6	RESOURCES- equality of curriculum implementation materials to all schools; MoE should be responsible for all resources to schools; facilities for children with disabilities; relevance of learning materials; TTCs and CoEs poor facilities	-	-	2	-	1	-	3	6
7	ASSESSMENT- hall mark test at the end of basic education as opposed to terminal test at standard 7; implement Cont. Assessment (CA); Criterion-Referenced-Test to supplement CA:	-	-	2	-	-	1	-	3
8	GUIDANCE and COUNSELING- implement throughout the basic education; career counselling; professional training of teachers; relieve counsellors from teaching responsibilities	-	-	-	-	-	-	3	3
9	LANGUAGE OF INSTRUCTION- Setswana and English where and how; adjust language to child's own mother tongue	-	-	-	-	-	1	-	1
10	SPECIAL EDUCATION- lack of trained teachers and facilities	-	-	-	-	1	-	-	1

Implications of the issues toward consolidation

The second question: "What are the implications of the issues discussed during the morning session for implementing the consolidation of the Nine Year Basic Education

¹ Eight small groups were originally planned but due to size of group 1 it was merged with group 2.

Programme in terms of curriculum and teacher education" presented a number of implications perceived by members of the discussion groups as follows:

I. Implications for consolidation of the curriculum of the Nine Year Basic Education Programme

1. Basic Education should be clearly defined and philosophy stated.
2. Content of the curriculum should reflect the definition, goals and objectives of the Nine Year Basic Education Programme.
3. Basic education should prepare the child for pursuit of learning and mastery of fundamental skills.
4. There should be flexibility in the curriculum to meet the learning and experience needs of individual child.
5. A broad range of skills including the world of work should be included in the curriculum.
6. Design and Technology should be started at the primary level and "may be incorporated into Arts and Crafts."
7. More time should be allocated to permit acquisition of "craft skills" with less emphasis on "content."
8. The basic education curriculum should be more relevant and effective.
9. Curriculum materials should be available to all including those schools in the remote areas.
10. There should be a continuity of learning experiences from standard 1-9 with similar methodology and cumulative instruction based on sound learning theory.
11. Vocational subjects should be established and core subjects become optional.
12. Curriculum development panels should be integrated and be responsible for a subject area from standard 1-9.
13. To effectively attain the aims of basic education, Guidance and Counselling services in Standards 1-7 should be part of the implementation.
14. Assessment should be modified to reflect the nine-year continuity. This is best achieved by establishing "hallmark" tests as opposed to the terminal exam at standard seven.
15. Continuous assessment and criterion-referenced tests should be implemented as they are best for establishing pupil progress, achieving mastery of skills as well as identifying the specific weaknesses of pupils.
16. Language of instruction should be adjusted according to the child's mother tongue. *Should Setswana and other local languages/dialects be used? Should English be used at the onset, from Standard One?*

II. Implications for the role of teacher training in the consolidation of the Nine Year Basic Education Programme

A. Pre-service

1. Improve quality of teachers at all levels of training by requiring the same period of training and entry requirements.
2. Common core curriculum for all TTCs and CoEs with emphasis on core skills including positive attitude towards the profession.
3. Pre-service teachers should develop skills to assist them in effectively working with children who have learning difficulties and also with classroom groups of mixed ability.
4. Pre-service training at the primary school level should provide for specialization in subject areas. *"The long-term benefits of this orientation would be thorough training and hopefully effective classroom instruction." "Teaching is a demanding responsibility especially at lower elementary levels to the extent that teachers in this sector need more preparation and*

professional commitment because the beneficiaries are premature and innocent."

5. Current entry qualifications to primary teacher training colleges should be raised, training duration increased from two years to three years and lecturers should have a senior degree.
6. The colleges should coordinate efforts between subject departments within and across colleges.
7. Much more collaboration is needed between the TTCs and CoEs, CD&E, primary, secondary and technical education departments.
8. Graduates should be able to teach across the curriculum.
9. Instructional resources and facilities of the colleges should be upgraded.
10. Efforts should be made to improve the quality of trainers of teachers.
11. Recruitment into the TTCs and CoEs should focus on qualified teachers.
12. It is essential to establish a professional development programme on basic education for both staff and administrators of TTCs and CoEs.
13. The Department of Teacher Training and Development should be strengthened to better serve the colleges.
14. Increased coordination is needed between pre- and in-service programmes.
15. Efforts of donor agencies must be coordinated to better provide adequate assistance to the colleges.

B. In-service

1. Establish a network of in-service activities covering standard 1-9.
2. There should be a joint workshop/collaboration between primary and secondary teachers, Field Education Officers (FEOs) and pre-service.
3. Appropriate induction courses should be provided for probationers.
4. Efforts are needed to upgrade primary school teachers, especially content.
5. In-service should involve common core courses on methodology for primary and secondary school teachers.
6. In-service should be an on-going process.
7. Effective school-based in-service is needed on basic education curriculum.
8. Rigorous staff development is needed for teachers and administrators.
9. Professional and financial incentives are needed for in-service education.
10. In-service should be linked with curriculum development and pre-service.
11. In-service policy should clearly specify, among other things, the roles of in-service personnel in basic education covering standards 1-9.
12. In-service trainers should also be in-serviced and their status recognised.

III. Implications for MoE's role in organising and administering effective consolidation of the Nine Year Basic Education Programme

1. Basic Education Programme should be administered by a single provider/authority *"instead of having primary education sector under local authority, junior secondary under joint government and village development committees This arrangement leads to inequalities in the provision of facilities and services."*
2. *"There has to be a restructuring and reorganization of Departments of the Ministry of Education to cater for continuous system of 1 - 9."*
3. Links must be established for coordinating efforts of donor agencies.
4. Schools should be organised on the basis of 1-9 instead 1-7, 8-9 as is the current practice.
5. MoE should be responsible for all resources and facilities in schools.
6. Define "Basic Education" including its philosophy and objectives. *"Basic Education should include: (1) Self-development including employment and self-employment; (2) Job creation; (3) Transmission of culture; and (4) Good citizenship."*

7. Improve conditions of service of all teachers in the Nine Year Basic Education segment ensuring that teachers are trained at the same level and offered the same salaries and benefits.
8. Guidance and Counselling should be implemented throughout the Nine Year Basic Education system.
9. Continuous Assessment and Criterion-Referenced Testing should be implemented.
"Basic Education should prepare students for the pursuit and mastering of skills."
10. Re-examine language of instruction (in the early years).
"While it is necessary to foster a common unifying language as a medium of instruction, the use of Setswana in the early years of learning could be inhibitive to those minorities whose mother-tongue is not Setswana. Why make Setswana a passing subject for a Mosarwa child...?"
11. Establish effective system of coordination, communication and collaboration between all Departments - **"PULLING TOGETHER."**
"Various Departments of the Ministry of Education must share information and there should be consultation to avoid unnecessary duplication and barriers."
12. Special Education should be given high priority in consolidation efforts since the Nine Year Basic Education Programme includes mixed-ability groups.

Individual Feedback

Forty-seven (47) persons completed the feedback survey forms at the close of the workshop. Twenty-four (24) were education officers; six were staff at teacher training institutions; four were secondary school Heads; three were from ministries other than Education; one each came from the University of Botswana, post secondary education students, and outside education; two were from a private education agency; and five did not tick any of these classifications. Information from the feedback instrument has been divided into two parts: the first focuses on consolidation of the Nine Year Basic Education Programme; the second focuses on perceived effectiveness of the workshop and suggestions for making future such workshops more productive..

Table 3: Categories and frequencies of individual (N=47) responses on Feedback Forms

	CATEGORIES	Most critical action	First steps to be taken	What's been done	What's expected	TOT.
1	CURRICULUM (N=80)					
	Dev. common relevant curr. Standards 1-9 .....	.....4.....	.....9.....	.....2.....	.....	15
	Coordinate between primary & secondary.....	.....2.....	.....	.....	.....	2
	Unification of purpose, scope & sequence.....	.....3.....	.....	.....2.....	.....	5
	Develop core, genuine set of concepts .....	.....1.....	.....	.....	.....	1
	Establish curriculum coordinator post.....	.....2.....	.....	.....	.....	2
	Develop diversified integrated curriculum.....	.....	.....3.....	.....	.....	3
	Common subject panels for BE Programme.....	.....	.....2.....	.....13.....	.....	15
	Flexible national curr. to permit localisation.....	.....	.....1.....	.....	.....	1
	Involve teachers in curr development process.....	.....	.....	.....1.....	.....	1
	Some aspects BE curr. already implemented.....	.....	.....	.....1.....	.....	1
	BE curriculum should be reviewed.....	.....	.....	.....1.....	.....	1
	Increased quality of education will exist.....	.....	.....	.....	.....27.....	27
	Curriculum should be geared toward skill development; broader curriculum will be implemented.....	.....	.....	.....	.....2.....	2
	Equity will be achieved.....	.....	.....	.....	.....1.....	1
	More consideration of quality in secondary schools.....	.....	.....	.....	.....2.....	2
	Technical advisor (curriculum) appointed.....	.....	.....	.....1.....	.....	1

Table 3 (cont.)

	CATEGORIES	Most critical action	First steps to be taken	What's been done	What's expected	TOT.
2	COORDINATION, COMMUNICATION, COLLABORATION (N=48) Identify all progress, inform all (teachers, administrators).....	.....2.....	.....2.....	.....1.....	.....	.....4..
	Involve, orient all stakeholders at initial stage.....	.....5.....	.....6.....	.....1.....	.....	.....12..
	Inform all on Phil., Obj., Aims, Goals of BE.....	.....3.....	.....	.....	.....	.....3..
	Increased efforts between all depts.....	.....7.....	.....	.....2.....	.....	.....9..
	Bridge gap between pre-service and in-service.....	.....	.....1.....	.....	.....	.....1..
	Increase coord. coll..comm. betw. MOE and donors; and between tchrs, EOs, panels on instr. materials, assessment and implementation.....	.....	.....2.....	.....	.....	.....2..
	Establish BE Programme Committee across all departments including more than CEOs.....	.....	.....4.....	.....	.....	.....4..
	Make special effort to keep parents informed.....	.....	.....3.....	.....	.....	.....3..
	Educate nation all occupations prestigious.....	.....	.....1.....	.....	.....	.....1..
	Increase understanding what is involved/expected in consolidation of BE.....	.....	.....1.....	.....	.....	.....1..
	Plans to forge links between CJSSs and feeder schools.....	.....	.....1.....	.....1.....	.....	.....2..
	FEOs link with MOE, primary teachers.....	.....	.....	.....2.....	.....	.....2..
	Structures have been laid haphazardly.....	.....	.....	.....1.....	.....	.....1..
	Conference on "Education for All" conducted.....	.....	.....	.....1.....	.....	.....1..
	Networking by all depts.....	.....	.....	.....1.....	.....1.....	.....2..

Table 3 (cont.)

	CATEGORIES	Most critical action	First steps to be taken	What's been done	What's expected	TOT
3	TEACHER TRAINING (N=41) Improve prep & quality, coord prim/sec training	.....2.....	.....3.....	.....1.....	.....	.....6..
	Entry qualif. same for prim. as sec. tchrs.....	.....1.....	.....4.....	.....	.....	.....5..
	Train tchrs, others to implement curr. changes..	.....	.....6.....	.....	.....	.....6..
	Same trng for primary/sec tchrs.....	.....	.....2.....	.....	.....	.....2..
	Train all tchr. trainers on BE Programme.....	.....	.....2.....	.....	.....	.....2..
	Use multiplier effect to broaden understanding of Basic Education.....	.....	.....1.....	.....2.....	.....	.....3..
	Provide trng.on differentiated teaching and language across the curriculum.....	.....1.....	.....	.....1.....	.....	.....2..
	In-service all personnel on BE consolidation....	.....1.....	.....	.....2.....	.....	.....3..
	Orient all personnel on 1-9 curriculum.....	.....1.....	.....	.....	.....	.....1..
	New TTCs have been constructed.....	.....	.....	.....3.....	.....	.....3..
	Liaison workshops for prim./sec. tchrs.....	.....	.....	.....1.....	.....	.....1..
	Innovations developed including Special Educ., Breakthrough, Project Method, etc.....	.....	.....	.....2.....	.....	.....2..
	Quality training should be given to all including implementators.....	.....1.....	.....	.....	.....	.....1..
	Pre-service, in-service cadres created.....	.....	.....	.....2.....	.....	.....2..
	Teacher training has been improved.....	.....	.....	.....1.....	.....	.....1..
	Pre-service & in-service technical advisors appted.	.....	.....	.....1.....	.....	.....1..

Table 3 (cont.)

	CATEGORIES	Most critical action	First steps to be taken	What's been done	What's expected	TOT
4	ORGANISATION, ADMINISTRATION AND POLICY (N=34)					
	Establish common TTCs for prim./sec. tchrs.....	.....3.....	.....	.....	.....	...3..
	Treat BE Programme as one entity.....	.....3.....	.....	.....	.....	...3..
	Consolid fragmented depts (CDE, TTD,Prim,Sec).	.....2.....	.....	.....	.....	...2..
	Action should be taken on recommendations.....	.....1.....	.....	.....	.....	...1..
	Spell out roles/responsibilities all levels.....	.....	.....2.....	.....	.....	...2..
	Develop effective action plan for consolidation.....	.....1.....	.....2.....	.....	.....	...3..
	Develop clearly stated National Policy on BE.....	.....	.....1.....	.....	.....	...1..
	Establish pre-school education policy.....	.....	.....1.....	.....	.....	...1..
	Review Standards 1-4 language policy.....	.....	.....1.....	.....	.....	...1..
	Abolish partnership w/MLGLH in school oper.....	.....	.....1.....	.....	.....	...1..
	Reviewed policies reaccessibility to BE.....	.....	.....	.....5.....	.....	...5..
	BE Policy has been developed and provided.....	.....	.....	.....1.....	.....	...1..
	BE will be Standards 1 thru 9 in one unit.....	.....	.....	.....	.....5.....	...5..
	There will be chaos.....	.....	.....	.....	.....1.....	...1..
	Quality of BE will be improved/extended beyond the ninth year.....	.....	.....	.....	.....3.....	...3..
	National Commission on Education is meeting.....	.....	.....	.....1.....	.....	...1..

Table 3 (cont.)

	CATEGORIES	Most critical action	First steps to be taken	What's been done	What's expected	TOT.
5	TEACHERS (N=19)					
	Same conditions of service, salary, status, etc.....	.....7.....	.....5.....	.....	.....	...12..
	Improve remuneration, both prim./sec. tchrs.....	.....	.....1.....	.....	.....	...1..
	Change attitudes toward BE and teaching.....	.....	.....2.....	.....	.....	...2..
	Eliminate inadequate tchrs.....	.....	.....1.....	.....	.....	...1..
	Teacher morale will be higher.....	.....	.....	.....	.....2.....	...2..
	More effective evaluation of tchrs.....	.....	.....	.....	.....1.....	...1..
6	ASSESSMENT (N=19)					
	Effective continuous assessment needed.....	.....2.....	.....	.....1.....	.....	...3..
	Increased assessment, evaluation, reflection, continued review built in.....	.....	.....	.....	.....6.....	...6..
	PSLE will be abolished, less emphasis on exams, more on learning to learn.....	.....	.....	.....	.....2.....	...2..
	Tchrs should be involved more in student assess....	.....	.....1.....	.....	.....	...1..
	Monitor/evaluate programme quality.....	.....	.....2.....	.....	.....	...2..
	Conduct needs assessment.....	.....	.....5.....	.....	.....	...5..
7	PUPILS AND SCHOOL LEAVERS (N=16)					
	More children will attend schl. [obtain 9 yrs of ed.].	.....	.....	.....	.....3.....	...3..
	Less quality will exist.....	.....	.....	.....	.....2.....	...2..
	Illiteracy will be eliminated.....	.....	.....	.....	.....1.....	...1..
	Large number of educated unemployed.....	.....	.....	.....	.....5.....	...5..
	Std. 7 leavers w/PSLE will find places in CJSS....	.....	.....	.....	.....5.....	...5..
8	RESOURCES (N=11)					
	Improve quality of materials and manpower.....	.....3.....	.....	.....	.....	...3..
	Strengthen media facilities, esp. in remote areas....	.....1.....	.....	.....	.....	...1..
	Increase/improve facilities.....	.....	.....3.....	.....	.....	...3..
	Increase availability of teaching materials.....	.....	.....1.....	.....	.....	...1..
	Secondary career guidance established.....	.....	.....	.....1.....	.....	...1..
	FEOs provide support/structure to Basic Education..	.....	.....	.....1.....	.....	...1..
	New prim. & sec. schools have been built.....	.....	.....	.....1.....	.....	...1..

Evaluation of This Workshop

At the close of the day, individuals were asked to evaluate the workshop as part of the feedback activity. Comments are presented in Table 4. below.

TABLE 4 EVALUATION OF WORKSHOP BY 47 PARTICIPANTS

QUESTIONS/COMMENTS	# RES- PONSES
MOST VALUABLE PART OF THIS WORKSHOP:	
Group discussions and reports of the groups	36
Panel discussion, presentations	17
Bringing together various people and agencies	6
Opportunity for individual participatoun	4
Organisation, planning, environment, facilities	2
LEAST VALUABLE PART OF THIS WORKSHOP:	
Reporting session after group discussions (mostly with suggestions for improving such reporting)	5
Closing remarks, summing up	4
Time was too short	2
Tea break	2
Too little information was received beforehand	1
Lack of consumer representation	1
Blanks (no comments included on this item)	24

Participants were asked to indicate what they believed best described the **organisation and level of effectiveness** of this workshop. As indicated in the items below, it is apparent that nearly all the 47 individuals completing the feedback forms at the end of the day believed the workshop had been organised well and had been effective in achieving its purpose.

- 34 Presenters helped me better understand the objectives/goals of basic education in Botswana.
- 41 The group discussion was helpful in focusing on actions required to bring about consolidation of basic education in Botswana.
- 30 I had opportunity to express my concerns about the basic education programme.
- 4 I had little opportunity to make my concerns known.
- 1 In my opinion, this workshop was not successful in accomplishing its purpose.

TABLE 5 SUGGESTIONS BY 47 PARTICIPANTS FOR FUTURE WORKSHOPS ON CONSOLIDATION

QUESTIONS/COMMENTS	# RESPON-SES
WAYS FUTURE WORKSHOPS ON BE CONSOLIDATION COULD BE MORE PRODUCTIVE	
Broader geographic/stakeholder participant distribution.	15
Stakeholder representation should include: PTSs primary and secondary teachers, primary heads, BOCCIM, Brigades, Polytechnic, wider MOE participation (TTD, Vocational/ Technical, Special Education), other ministries, police, BDF.	12
Continue to include Donor representation.	12
Increase time to 2 days and/or have regional workshops leading into a national workshop.	10
Make announcements of dates early.	2
Consider specific focus for each of discussion groups.	7
Provide time for open discussion following discussion group reports to determine areas in which there is consensus.	1
Give pre-workshop tasks/reading assignment.	4
Focus on identified weaknesses with improvements for implementation in Basic Education Programme.	2
Provide more time for large group discussion.	1
Handouts from presenters avail. immediately after presentations.	1
Series of workshops for participants to get input on next steps.	3
Name person with responsibility to follow-up implem of ideas.	2
High rank MOE officials should partic full day(s) in workshops.	1
Present current status of consolidation in next workshop.	1
More panelists, open discussion following presentations.	1
Report back to participants on this workshop.	1
All participants should remain for full workshop activity.	1
Mail questionnaires to obtain broad input on needs.	1
Provide more opportunity for participant input.	1

Summary of Findings

The summary includes participants' perceptions of progress already made toward consolidation, summary statements by the various categories into which the data was divided, suggestions for further workshops, and a concluding statement. It is important to note that what appears here is strictly a summary of perceptions of workshop participants. No attempt has been made to discuss the various issues and concerns raised.

Progress Already Made Toward Consolidation

One question on the individual feedback form provided opportunity for participants to indicate what they believe has been done toward bringing about consolidation of the Nine Year Basic Education Consolidation Programme. Such progress is important to note.

In the curriculum category, the following areas were cited by one or more participants where progress has occurred: the development of a common relevant curriculum for Standards 1 through Form 2; unification of purpose, scope and sequence; some common subject panels have been established; more teachers are involved in the curriculum development process; some aspects of basic education have already been implemented; and the technical advisor (curriculum) has been appointed.

Areas of **coordination, communication and collaboration** which were cited for progress in consolidation efforts include: stakeholders are being involved; increased efforts in communication and net working are being made between the various departments; some links are being forged between CJSSs and Feeder Primary Schools, FEOs are providing a link between MOE and primary teachers; and the conference on "Education for All" focused on basic education.

In the category of **teacher education**, ten of the 16 areas identified through the individual feedback forms were areas in which participants indicated some progress has already occurred. Areas mentioned included: improved preparation and quality of training; some in-service focused on understanding the Nine Year Basic Education Programme; some training on differentiated teaching and language across the curriculum; new TTCs have been constructed; pre-service and in-service cadres have been created; and pre-service and in-service technical advisors have been appointed. Such progress is important to note, especially as plans are being made to make even further progress toward bringing about enhanced quality in the Basic Education Programme.

In the category of **organisation, administration and policy**, participants believed that progress has been made in the following: a policy has been developed regarding the Nine Year Basic Education Programme which includes Standards 1 through Form 2; and the National Commission on Education has been convened and is expected to make recommendations affecting the Nine Year Basic Education Programme as part of its report.

In the area of **assessment**, individuals responding on the feedback forms identified one area in which progress has been made. That was in the area of continuous assessment.

Issues/concerns related to bringing about consolidation

Table 6 was used in organising the summary section of this report. The table is an attempt to order the various categories in terms of importance by discussion groups and by individuals by tallying the number of issues/concerns included in reports. No attempt should be made to compare the two sets of tallies since they are not comparable with the one being a compilation of comments developed by groups of 8-10 persons and the other developed from comments made by individuals. The table is useful, however, in demonstrating the similarity of the frequency of comments in the two different sets of data as well as in organising summary statements.

Curriculum. Issues and concerns mentioned most frequently in group discussion reports and the individual feedback form fell under the category of "Curriculum." Major curriculum issues and concerns were:

1. The terms "basic education" and "consolidation" should be clearly defined.
2. The national curriculum should be flexible to permit appropriate localisation.
3. Continuity from Standards 1 through Form 2 should be established in all curricular areas through common subject panels, unification of purpose-scope-sequence.
4. The curricular areas should be diversified and integrated across the various subjects/areas to enhance learning.
5. Curriculum panels should involve teachers more than at present.

Table 6: Summary of issue statements by group discussion and individual feedback

Category	Group Disc.	Individual Fdbk	Overall Statements	
			Total	Rank
CURRICULUM	24	80	104	1
COORDINATION, COMMUNICATION, COLLABORATION	28	48	76	2
TEACHER TRAINING	11	41	52	3
ORGANISATION, ADMIN. AND POLICY	9	34	43	4
TEACHERS	12	19	31	5
ASSESSMENT	3	19	22	6
RESOURCES	6	12	18	7
PUPILS AND SCH. LEAVERS	-	16	16	8
SPECIAL PROGRAMMES	5	-	5	9

Coordination, Communication, Collaboration. Participants presented a number of areas in which efforts in coordination, communication and collaboration will be essential if effective coordination of the Nine Year Basic Education Programme is to be accomplished. Comments included:

1. Progress to date on consolidation as well as future progress on consolidation should be communicated to all stakeholders on a regular basis.
2. The philosophy, objectives, aims, and goals of the Nine Year basic Education should be formalised and distributed to all involved.
3. Some provision should be made to communicate efforts among various departments and to coordinate and collaborate activities within and between various departments, other ministries, and agencies.
4. A Basic Education Programme Committee should be established which has broad representation beyond CEO level.

Teacher Training. Comments included under this category focus on both pre-service and in-service. Statements included in the reports of discussion groups and by the individual feedback forms indicated areas in which further action should be taken to bring about the quality of learning experience desired in the Nine Year Basic Education Programme. Responses are summarised as follows:

1. In order to further enhance the quality of the Nine Year Basic Education Programme, both pre-service and in-service must have a significant role. All personnel including education officers, school heads and teachers must understand progress of the Basic Education Programme in Botswana, what is

required in way of consolidation to provide learning experiences for children within Basic Education, and how to effectively implement the various aspects of the Programme.

2. Teacher training programmes should be modified in the following aspects:
 - a. Entry qualifications and length of training should be same for primary as for secondary teachers. Recruitment should focus on qualified persons.
 - b. A common core curriculum for primary and secondary TTCs should include: emphasis on core skills, developing positive attitudes toward the teaching profession; skills in finding differentiated instruction for children with learning difficulties, mixed ability, different home languages and different levels of language development; purposes, philosophy, aim and objectives of the Nine Year Basic Education Programme and the teacher's role in effectively implementing that programme.
 - c. Efforts of pre-service and in-service personnel should be coordinated to ensure effective consolidation and implementation of the Nine Year Basic Education Programme. Increased collaboration is needed between the TTCs and COEs, CD&E, primary, secondary and technical education departments if a quality Basic Education Programme is to be developed and maintained in the years ahead.
 - d. Instructional resources and facilities of the colleges should be upgraded to meet the continuity demand to provide and maintain highly qualified primary and secondary teachers, and to implement curricular changes required to implement an effective programme which will prepare school leavers for entry into vocational/technical training or the world of work.
3. Some type of "networking" should be developed which would increase efficiency and effectiveness of teachers, school heads, education officers, college staffs, and curriculum development activities. Input and contributions by both experienced teachers and trainees should be encouraged and recognised.

Organisation, Administration and Policy. Areas mentioned upon which participants believe action is required include:

1. The Nine Year Basic Education Programme should be organised as one entity with roles and responsibilities clearly identified for various departments and agencies supporting the Basic Education Programme. To accomplish this, a single provider/authority within the MOE should be responsible for the overall Programme, including all resources and facilities, and schools should be organised on the basis of standards 1-9.

Teachers. The following concerns were identified by small groups and individuals:

1. Primary teachers and heads should be given the same conditions of service (salary, status, etc.) as that given secondary teachers and heads.
2. A procedure should be established which would recruit persons who have entry qualifications for becoming effective teachers and which would eliminate those who are ineffective teachers.
3. Teachers need to develop more positive attitudes toward teaching and toward the concept of basic education.

Assessment. Areas of assessment in which further efforts were indicated in group reports and individual feedback forms include:

1. Increased efforts in assessment are required in the Nine Year Basic Education Programme including: effective continuous assessment and Criterion Referenced Testing through evaluation of curriculum and student achievement; and a continued monitoring, review, and reflection related to the quality of the Programme.
2. Teachers should be involved to a greater extent in student assessment.
3. There should be increased emphasis on "learning to learn" with decreased emphasis on examinations. However, a school leaver examination which focuses on aims and objectives of the Nine Year Basic Education Programme should be developed and implemented at "Standard 9."

Resources. Areas related to resources which require action as perceived by individuals and members of discussion groups include:

1. Instructional materials should be made available to all schools in a timely manner, with special efforts to service those schools in remote areas. Some participants suggested that the MOE, rather than another ministry, should be the responsible agency to expedite the distribution of materials to the various schools.
2. The quality of instructional materials should be improved by developing materials which focus directly on the philosophy, objectives, aims and goals of the Nine Year Basic Education Programme, and which meet the needs of all students, regardless of ability, learning handicaps, and geographic location.
3. Media facilities should be strengthened and designed to serve all geographic areas, remote or urban.

Pupils and School Leavers. This category was identified as a focus of individuals completing feedback forms in response to "What do you expect is going to happen when the Nine Year Basic Education Programme is fully in place?" Responses to this question included the following:

1. More children will attend school, more will obtain nine years of education, Standard 7 leavers will find places in CJSS, and illiteracy will be eliminated.
2. There was also some expression of the belief that "less quality will exist" and that Botswana will have an increased number of "educated unemployed."

Innovations, Specific Programmes. This category was identified as a focus of some group discussions. Areas included in this category are: guidance and counselling, special education, and language of instruction. The responses include:

1. Guidance and counselling services should be implemented throughout the Nine Year Basic Education Programme. Pre-service and in-service teacher education could enhance professional skills of the teacher in this important area. Where possible, trained counsellors should be relieved of teaching assignments.
2. Every effort should be made to provide qualified special education teachers and facilities for pupils with learning disabilities.
3. Policies regarding the language of instruction should be reviewed, especially in relation to meeting the needs of non-Setswana speaking children and when and how the transition is most effectively made to English.

Suggestions for Further BEC Needs Assessment Workshops.

The following suggestions were offered to be considered in organising subsequent workshops related to bringing about consolidation of the Nine Year Basic Education Programme:

1. Broader geographic distribution of participants to include representation by all regions.
2. Broader stakeholder representation should include: PTAs; Primary Teachers and Heads; Secondary Teachers; BOCCIM; Tertiary Level (including Brigades, Polytechnic, University); wider participation within MOE (including TTD, Vocational/Technical Education, Special Education); Police; BDF; and other Ministries.
3. Continue to include donor agency representation.
4. Increase time to two days or more and/or have one day regional workshops leading into the national workshop.
5. Make widespread announcement of dates for second Needs Assessment Workshop as far ahead of the date as possible.
6. Consider specific focus for each of the various discussion groups.
7. Provide time for an open discussion session to follow individual group presentations to determine areas in which there appears to be consensus.

Concluding Statements

Planning and organising subsequent workshops related to the consolidation of the Nine Year Basic Education Programme should incorporate appropriate information, ideas and suggestions made by the participants of this first workshop. The participants indicated that the first workshop was useful in helping them better understand the goals and objectives of basic education in Botswana, the discussion groups were an important activity, and they believed they had opportunity to express their concerns about the basic education programme.

A number of suggestions were given for making subsequent workshops related to consolidation more productive. Participants urged broader geographic and stakeholder participation, increasing time to two or more days, providing specific focus for each of the discussion groups, providing pre-workshop tasks/reading assignments for each person invited to attend, and several other items worthy of consideration.

Not only will the information included in this report be useful in the planning of the Second Basic Education Consolidation Needs Assessment Workshop to be held in May, 1993, it provides information which deserves consideration as efforts continue to bring about effective and efficient consolidation of the Nine Year Basic Education Programme.

Botswana BEC Project

Project Work Plan

September 1993

CURRICULUM WORK PLAN PHASE I - SEP. 1993 - MAR. 15, 1994

API Sub-Target 1.A.1: Sustainable system established to plan, produce, disseminate, and evaluate a relevant, improved quality, basic education programme.

GOAL: Strengthening the Curriculum Development and Implementation Process by Strengthening Capabilities of Ministry of Education Units Most Concerned With the Development of the Basic Education Curriculum.

OUTPUTS	ACTIONS	TIME LINE BEG. END	COORDINATION	LEADERSHIP
1.0 Statement of definitions for basic education and consolidation printed and disseminated to all stakeholders (Relates to API Output 1.A.1.d).	1.1 Establish a committee to review Basic Education and consolidation perceptions. 1.2 Develop draft definitions of the two concepts. 1.3 Circulate to MOE units for feedback. 1.4 Review and print for dissemination to all stakeholders.	1.1 Sep 93 1.2 Oct - Nov. 93 1.3 Dec 93 - Jan 94 1.4 Jan - Mar. 94	CDU Preservice Inservice RTC Exams DPE DSE	PCDO Curr. Coordinator
2.1 Curriculum Blueprint Prototype for use as guide for revising syllabuses to reflect definition of Basic Education printed and disseminated to appropriate personnel (Relates to API Output 1.A.1.d).	2.1 Establish working committee. 2.2 Hold workshop to generate/ identify components of a blueprint. 2.3 Develop draft prototype for circulation to and obtain feedback from MOE units. 2.4 Review and revise prototype, start development of blueprint.	2.1 Sep 93 2.2 Oct 93 2.3 Nov 93 - Jan 94 2.4 Feb - Mar 94	CDU	PCDO CDO (Planning) CDO (Media) Curr. Coordinator

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Curriculum Work Plan API Sub-Target 1.A.1 (continued)

OUTPUTS	ACTIONS	TIME LINE BEG. END	COORDINATION	LEADERSHIP
<p>3.1 Instructional Materials Prescription Manual printed each year and disseminated to all stakeholders including school heads, education officers, and education secretaries The manual will indicate new prescribed materials, materials to be continued, and materials to be removed. (Relates to API Output 1.A.1.b).</p>	<p>3.1 Request all subject CDOs to submit their criteria. 3.2 Compile the criteria. 3.3 Submit to all CDOs for review. 3.4 Review, revise and print manual.</p>	<p>3.1 Sep 93 3.2 Sep - Oct 93 3.3 Nov 93 3.4 Mar 94</p>	<p>CDU</p>	<p>PCDO CDOs</p>
<p>4.1 Curriculum Development Procedures Manual published and implemented to guide the curriculum development process (Relates to API Output 1.A.1.g).</p>	<p>4.1 Establish review committee of CDOs to review Section 1 of manual. 4.2 Call meeting of CDOs to identify areas to be included in the manual. 4.3 Committee develop scope for each of the different chapters. 4.4 Put together draft content list for remaining chapters of the manual. 4.5 Circulate draft to interested parties for feedback. 4.6 Produce Manual</p>	<p>4.1 Sep 93 4.2 Sep-Oct 93 4.3 Nov 93 - Jan 94 4.4 Jan - Mar 94 4.5 Mar-May 94 4.6 Jun - Dec 94</p>	<p>CDU</p>	<p>PCDO Curr. Coordinator Review Committee</p>

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Curriculum Work Plan API Sub-Target 1.A.1 (continued)

OUTPUTS	ACTIONS	TIME LINE BEG. END	COORDINATION	LEADERSHIP
<p>5.1 Revised syllabuses published which include practical application of content and skills to the world of work (Relates to API Output 1.A.1.d).</p> <p>5.2 Communication links established with training institutions (Relates to API Output 1.A.1.d).</p> <p>5.3 Programmes initiated to bridge BE and training institution curriculum (Relates to API Output 1.A.1.d).</p>	<p>5.1 Review panel membership for members from work related institutions and identify potential members.</p> <p>5.2 Request for curriculum materials from training institutions.</p> <p>5.3 Review materials for compatibility with the Basic Education materials and identify gaps.</p> <p>5.4 Develop communication links with training institutions.</p> <p>5.5 Initiate programmes for bridging between Basic Education Curriculum and training institutions curriculum.</p>	<p>5.1 Sep - Oct 93</p> <p>5.2 Oct- Dec 93</p> <p>5.3 Oct 93 - Jan 94</p> <p>5.4 Sep 93 - Feb 94</p> <p>5.5 Jan - Jul 94</p>	<p>CDU</p>	<p>All CDOs Curr. Coordinator</p>

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Curriculum Work Plan API Sub-Target 1.A.1 (continued)

OUTPUTS	ACTIONS	TIME LINE BEG. END	COORDINATION	LEADERSHIP
<p>6.1 Committee activated to review, commission and coordinate studies to identify needs of all Basic Education target groups (Relates To API Output 1.A.1.d).</p>	<p>6.1 Put together review committee to draw up Terms of Reference for the surveys to be commissioned.</p> <p>6.2 Committee reviews surveys already carried out during the NCE work.</p> <p>6.3 Draw up Terms of Reference and commission studies/surveys.</p> <p>6.4 Review reports of ongoing surveys and studies.</p> <p>6.5 Study reports and develop action plan for 1994/1995.</p>	<p>6.1 Sep - Oct 93</p> <p>6.2 Nov - Dec 93</p> <p>6.3 Dec 93 - Feb 94</p> <p>6.4 Mar - May 94</p> <p>6.5 Jun - Jul 94</p>	<p>CDU TT&D</p>	<p>PCDO Curr. Coordinator CDO (Eval.) Review Committee</p>
<p>7.0 Curriculum Blueprint revised to implement recommendations of the National Commission on Education Report (1993) and White Paper cross referenced with 2.0 above (Relates to API Output 1.A.1.d,e,f).</p>	<p>7.1 Procure and circulate report to all CDOs.</p> <p>7.2 Convene working retreat to identify major issues and concern about the current education system and study the Commission's Recommendations.</p> <p>7.3 Work out curriculum blueprint (cross reference with #2 on Development of Curriculum Blueprint.</p>	<p>7.1 Oct - Nov 93</p> <p>7.2 Dec 93 - Jan 94</p> <p>7.3 Feb - Jun 94</p>	<p>CDU</p>	<p>PCDO CDO (Planning) Curr. Coordinator</p>

Curriculum Work Plan API Sub-Target 1.A.1 (continued)

OUTPUTS	ACTIONS	TIME LINE BEG. END	COORDINATION	LEADERSHIP
<p>8.0 Basic Education Curriculum Coordinating Committee functions as communication and coordination link among all Basic Education stakeholders (Relates to API Output 1.A.1.j).</p>	<p>8.1 Work out terms of reference for the Basic Education Curriculum Coordinating Committee.</p> <p>8.2 Hold organisational meeting</p> <p>8.3 Work out activities for the committee for the 1993/1994 year</p>	<p>8.1 Sep - Oct 93</p> <p>8.2 Nov 93</p> <p>8.3 Nov - Dec 93</p>	<p>CD&E TT&D</p>	<p>BEC Planning Committee Basic Education Coordinating Committee</p>
<p>9.0 Short and long term training plan developed for Curriculum Development Officers (Relates to API Output 1.A.1.a).</p>	<p>9.1 Consult all CDOs on their training needs.</p> <p>9.2 Generate a short list of skills required for the Unit.</p> <p>9.3 Develop draft training plan for 1994/95 for both short and long term training within Project Agreement limitations.</p> <p>9.4 Develop short list of resource persons for training.</p>	<p>9.1 Sep 93</p> <p>9.2 Sep - Oct 93</p> <p>9.3 Oct - Dec 93</p> <p>9.4 Oct - Dec 93</p>	<p>CDU</p>	<p>PCDO Curr. Coordinator CEO(CD&E)</p>

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Curriculum Work Plan API Sub-Target 1.A.1 (continued)

OUTPUTS	ACTIONS	TIME LINE BEG. END	COORDINATION	LEADERSHIP
<p>10.0 Reporting procedures/systems designed for Curriculum Assessment and Evaluation (Relates to API Output 1.A.1.f).</p>	<p>10.1 Identify curriculum review needs for all areas within Curriculum Development.</p> <p>10.2 Start dialogue with Examinations Unit and Research and Testing Centre on the needs and draw up draft requirements.</p> <p>10.3 Generate draft report formats and set schedules for providing such reports.</p>	<p>10.1 Sep - Nov 93</p> <p>10.2 Sep 93 - Jul 94</p> <p>10.3 Jan - Jul 94</p>	<p>CDU RTC Examinations Unit</p>	<p>All CDOs Curr. Coordinator All RTOs All Examinations Officers</p>
<p>11.0 AIDS awareness programme integrated into appropriate subject syllabuses (Relates to API Output 1.A.1.d).</p>	<p>11.1 Communicate with existing groups in Botswana and assess what they are doing.</p> <p>11.2 Collect AIDS awareness materials from other countries with assistance from USAID.</p> <p>11.3 Review AIDS awareness programmes and materials of other countries.</p> <p>11.4 Develop objectives and determine content for integration into basic education curriculum.</p> <p>11.5 Revise appropriate subject syllabuses for integration of AIDS awareness programme.</p>	<p>11.1 Sep - Dec 93</p> <p>11.2 Sep - Dec 93</p> <p>11.3 Jan - Mar 94</p> <p>11.4 Apr - Sep 94</p> <p>11.5 Nov 94 - Mar 95</p>	<p>CDU</p>	<p>Appropriate CDOs Curr. Coordinator CDO (Science) PCDO</p>

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STUDENT ASSESSMENT WORK PLAN

API Sub - Target 1.B.1 Sustainable system established to evaluate and improve student learning achievement, attitudes and educational system performance.

OUTPUTS	ACTIONS	TIME LINE BEGIN END	COORDINATION	LEADERSHIP
1.0 Test blueprints for all subjects and all grades developed.	1.1. Select and develop a uniform set for titles for learning behaviours to be listed in the test blueprints to provide a concise structure for reporting diagnostic test results. 1.2 Develop appropriate weights for learning behaviours and test content areas for the table of specifications.	Sep. 93 - Dec. 94	RTC, CDU, EXAMS UNIT, TT&D, CRTIC	CRTIC (Criterion-Referenced Testing Implementation Committee).
2.0 Criterion standards for judging students test performance established.	2.1. Using established procedures for standards setting, and the experience of curriculum developers, measurement specialists and teachers, establish criterion standards for A,B,C,D for PSLE, JCE and classroom tests.	Sep. 93 - Dec. 94	RTC, CDU, TT&D, CRTIC, EXAMS UNIT	CRTIC
3.0 Grade criteria for the award of A,B,C,D, clearly defined.	3.1 Description of behaviours and types of syllabus content to be achieved and demonstrated by students for grade awards to be provided by syllabus panels.	Sep. 93 - Dec. 94	RTC, CDU, TT&D, CRTIC, EXAMS UNIT	CRTIC

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Student Assessment Work Plan API Sub-Target 1.B.1 (continued)

OUTPUTS	ACTIONS	TIME LINE BEGIN END	COORDINATION	LEADERSHIP
<p>4.0 Validation mechanism established to link criterion-referenced tests to syllabus objectives.</p> <p>(API 1.B.1.b)</p>	<p>4.1 . Plan a "Master Data Sheet" system in which each test item, the syllabus objective tested, pre-test statistics etc. would be recorded.</p> <p>4.2. Set up moderation teams which will use the draft test paper and the master data sheet to assess if items are accurately linked to syllabus objectives.</p> <p>4.3 Develop item banks for storage of moderated items, and from which tests will be generated for each subject.</p>	<p>Jan.95 - Dec. 95</p> <p>Jan. 95 - Dec. 95</p> <p>Jan. 94 - Dec.96</p>	<p>RTC, CDU, CRTIC</p>	<p>PRTO/Adviser</p>
<p>5.0 Prototype criterion-referenced tests designed based on syllabus objectives in all subjects, for all grades.</p> <p>(API 1.B.1.a)</p>	<p>5.1. Develop criterion-referenced tests structured in such a way as to provide diagnostic information, for all subjects and for all grades.</p> <p>5.2. Develop handbook on criterion-referenced testing to be used for training purposes and for distribution to teachers, education officers, etc.</p> <p>5.3. Develop costs for administering, scoring and reporting Standard 4 attainment tests for comparison with present system.</p>	<p>Jan.94 - Dec. 95</p> <p>Sep. 93 - Dec. 93</p> <p>Jun 94 - Dec. 94</p>	<p>RTC, CDU, TT&D, EXAMS UNIT, CRTIC</p>	<p>CRTIC /TT&D/ PRTO/Adviser</p>

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Student Assessment Work Plan API Sub-Target 1.B.1 (continued)

OUTPUTS	ACTIONS	TIME LINE BEGIN END	COORDINATION	LEADERSHIP
<p>6.0 Mechanism in place to analyze results of criterion-referenced tests and produce diagnostic test data for reports, remedial instruction etc (API 1.B.1.d).</p>	<p>6.1. Determine types of statistics and other types of information needed to be generated through the scoring system.</p> <p>6.2 Determine the grading and reporting formats of the examination results.</p> <p>6.3. Update data processing software for analyzing test results in line with 6.1 and 6.2.</p>	<p>Jun. 94 - Dec. 94</p> <p>Sep. 93 - Dec. 94</p> <p>Jul 94 - Jun 96</p>	<p>RTC, CDU, TT&D, EXAMS UNIT, CRTIC</p>	<p>PRTO/ CDU/Adviser</p>
<p>7.0. Mechanism established for monitoring and evaluating criterion-referenced testing processes in primary and junior secondary schools and for assessing the attitudes of students and teachers toward the new form of testing. (API 1.B.1.e and c).</p>	<p>7.1. Undertake school visits to monitor and collect data on criterion-referenced testing and attitudes of students and teachers.</p> <p>7.2. Conduct periodic regional and national surveys using tests, interviews, observations etc. to check the effectiveness of criterion-referenced testing procedures on learning and attitudes.</p> <p>7.3. Assess improvements in learning in primary and junior secondary schools by the use of national tests, international tests, and through interviews, questionnaires etc.</p> <p>7.4. Design data analysis and reporting systems for 7.1, 7.2, and 7.3.</p>	<p>Jan. 94 - Mar 97</p> <p>Jan. 94 - Mar 97</p> <p>Jan. 95 - Mar. 97</p> <p>Jan. 94 - Jun. 95</p>	<p>RTC, CDU, TT&D, CRTIC</p>	<p>CRTIC / PRTO/Adviser</p>

Student Assessment Work Plan API Sub-Target 1.B.1 (continued)

OUTPUTS	ACTIONS	TIME LINE BEG END	COORDINATION	LEADERSHIP
<p>8.0 Norm-referenced PSLE replaced with criterion-referenced tests by 1996/1997. (API 1.B.1.c).</p>	<p>8.1 Develop criterion-referenced PSLE implementation plan with deadlines covering test development, test administration, scoring, reporting and evaluation.</p> <p>8.2. Develop and pilot criterion-referenced examination for PSLE in 1996.</p> <p>8.3. Use data from the pilot PSLE results for modifications in the plans for the administration, scoring and reporting of the actual tests scheduled for 1997.</p>	<p>Aug. 93 - Jun. 96</p> <p>Jul. 94 - Dec. 96</p> <p>Dec. 96 - Mar. 97</p>	<p>RTC, CDU, EXAMS UNIT, TT&D, CRTIC</p>	<p>CRTIC / RTC</p>
<p>9.0. Norm-referenced JCE replaced with criterion referenced tests by 1998 (API 1.B.1.c). (Activities for this output will be completed by December, 1997)</p>	<p>9.1. Develop criterion-referenced JCE implementation plan with deadlines covering test development, test administration, scoring, reporting and evaluation.</p> <p>9.2. Develop and pilot criterion-referenced JCE in 1997.</p> <p>9.3. Use data from the pilot JCE results for modifications in the plans for administration, scoring and reporting of the actual tests for 1998</p>	<p>Jun. 94 - Jun. 97</p> <p>Jan. 95 - Mar. 97</p> <p>Dec. 96 - Mar. 97</p>	<p>RTC, CDU, Exams Unit, TT&D, CRTIC</p>	<p>CRTIC / PRTO/Adviser</p>

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Student Assessment Work Plan API Sub-Target 1.B.1 (continued)

OUTPUTS	ACTIONS	TIME LINE BEGIN END	COORDINATION	LEADERSHIP
<p>10.0 Reports on CRT assessments prepared and reported to relevant stakeholders (API 1.B.1.f).</p>	<p>10.1. Determine the format of annual reports to be submitted jointly by subject panels and examiners to stake-holders.</p> <p>10.2. Develop system for writing school reports on the examinations for distribution to teachers.</p> <p>10.3. Establish committee to receive reports on examinations, continuous assessments etc. and to make recommendations for improvement and quality control of CRT in schools etc.</p> <p>10.4. Determine representation on the committee at 10.3, size of committee, terms of reference etc.</p>	<p>Jun. 94 - Jun. 95</p> <p>Jun. 94 - Jun. 95</p> <p>Jun. 94 - Jun.96</p> <p>Jun.94 - Jun.96</p>	<p>RTC, CDU,TT&D, CRTIC</p>	<p>CRTIC / PRTO/Adviser</p>

Sub-Target 1.B.2 Sustainable system established to use continuous assessment of student performance for all grade levels.

Student Assessment Work Plan (continued)

OUTPUTS	ACTIONS	TIMELINE		COORDINATION	LEADERSHIP
		BEG	END		
1.0. Continuous Assessment procedures for all subjects at all grade levels developed. (API 1.B.2.a)	1.1. Set up committee to develop continuous assessment procedures and other related arrangements for all subjects especially with regards to specifications, performance standards etc.	Sep. 93	Dec. 94	RTC/CDU/TT&D	TT&D/PRTO
2.0. Continuous assessment problems/tasks developed for each subject. (API 1.B.2.b)	2.1. Subject panels to examine the syllabuses and develop continuous assessment problems/tasks ensuring that tasks are accurately linked to syllabus areas that are better tested through the continuous assessment mode.	Sep. 93	Dec. 94	CDU, RTC, TT&D	PRTO/CDU/TT&D
	2.2. Develop Student Work Books for Continuous assessment.	Jun 94	Jun 95	CDU, RTC, TT&D	PRTO/Advisor
	2.3. Develop Record Books for recording continuous assessment marks.	Jun 94	Dec. 95	CDU, CRT, TT&D	TT&D/Advisor
	2.4. Organize training workshops in continuous assessment for teachers in the field.	Jun 94	Dec. 96		TT&D/PRTO/Advisor
3.0. Mechanism for monitoring and evaluating continuous assessment in schools established.	3.1. Develop instruments for collecting evaluation data on continuous assessment.	Jun 94	Mar. 97	CDU, TT&D, RTC	TT&D/PRTO
	3.2. Undertake school visits to monitor and collect data on continuous assessment.	Jan. 95	Mar. 97	TT&D, CDU, RTC	TT&D/PRTO
	3.3. Conduct periodic regional and national surveys using interviews, classroom observations etc. to assess the impact of continuous assessment on teaching and learning and on the attitudes of teachers and pupils.	Jan. 95	Mar. 97	RTC, TT&D, CDU	CDU/PRTO

Student Assessment Work Plan API Sub-Target 1.B.2 (continued)

OUTPUTS	ACTIONS	TIME LINE BEG END	COORDINATION	LEADERSHIP
<p>4.0. Mechanism established to analyze and report continuous assessment results. (API 1.B.2.c)</p>	4.1. Train moderators to validate continuous assessment marking in schools.	Jun. 94 - Jun. 96	RTC, CDU, TT&D	PRTO/Adviser
	4.2. Acquire statistical moderation software.	Jun. 94 - Jun. 96	RTC, EXAMS UNIT	
	4.3. Develop data capture system for continuous assessment marks from schools.	Jun. 94 - Jun. 96	RTC, EXAMS UNIT	
	4.4. Develop plan for re-marking samples of continuous assessments from schools to be able to make school specific moderation decisions.	Jun. 94 - Jun. 96	RTC, EXAMS UNIT	
	4.5. Establish system for analyzing and combining continuous assessment results with final examination results.	Jun. 94 - Jun. 95	RTC, CDU, TT&D, EXAMS UNIT	
<p>5.0. Mechanism established for using data and recommendations from evaluation reports and examinations data for quality control and for reporting to schools and stakeholders.</p>	5.1. Develop format for reporting annual evaluation of continuous assessment to schools, CDU, and stakeholders after submission to the committee at 1.B.1.10.3	Jun. 94 - Jun 95	RTC, CDU, TT&D	PRTO
	5.2. Develop format and plan for writing Schools Reports on continuous assessment for distribution to teachers after end of year examinations.	Jun. 94 - Jun. 95	RTC, CDU, TT&D, EXAMS UNIT	PRTO/Adviser

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Sub - Target 1.B.3 Sustainable System established to train new teachers, current teachers and relevant MOE practitioners in student assessment procedures.
Student Assessment Work Plan (continued)

OUTPUT	ACTIONS	TIME LINE		DEPTS/UNITS	LEADERSHIP
		BEG	END		
1.0. Pre-service teacher training course in student assessment updated. (API 1.B.2.d)	1.1. Review existing student assessment course at pre-service teacher training for primary and junior secondary schools and update them in the area of criterion-referenced testing.	Jan. 94 - Dec. 94		TT&D, CDU, RTC	PRTO/Advisor
	1.2. Develop training programme in criterion-referenced testing for teacher trainers.	Sep. 93 - Aug. 94		TT&D, CDU, RTC	
2.0. Pre-service teacher training course in continuous assessment updated. (API 1.B.2.d)	2.1. Review existing course in continuous assessment at pre-service teacher training for primary and junior secondary schools and update them where necessary.	Jan. 94 - Dec. 94		TT&D, CDU, RTC	PRTO/Advisor
	2.2. Develop training programme in continuous assessment for teacher trainers.	Jan. 94 - Dec. 94		TT&D, CDU, RTC	
3.0. In-service training programme developed to ensure that teachers in the field and other practitioners acquire skills in criterion-referenced testing and continuous assessment. (API 1.B.2.d)	3.1. Develop training modules for in-service programme.	Jul. 94 - Dec. 96		TT&D, CDU, RTC	TT&D/PRTO
	3.2. Develop an in-service training programme.	Nov. 94 - Jun. 94		TT&D, CDU, RTC, EXAMS UNIT	
	3.3. Conduct in-service training workshops for MOE practitioners: Education Officers, Teacher Advisors etc.	Apr. 94 - Dec. 96		TT&D, CDU, RTC, EXAMS UNIT	
	3.4. Organize in-house training sessions on criterion-referenced testing, continuous assessment and other test development issues for staff of Curriculum Development and Evaluation Department and TT&D.	Aug. 94 - Mar. 97		RTC, CDU, EXAMS UNIT, TT&D	

Student Assessment API Sub-Target 1.B.3 (continued)

OUTPUTS	ACTIONS	TIME LINE BEG END	COORDINATION	LEADERSHIP
<p>4.0. Mechanism established for monitoring and evaluating the practice of criterion-referenced testing and continuous assessment in schools.</p>	<p>4.1. Develop data collection instruments for monitoring teachers' procedures in CRT and continuous assessment in schools.</p>	<p>Jan. 94 - Dec. 94</p>	<p>RTC, TT&D, CDU</p>	<p>PRTO</p>
	<p>4.2. Conduct periodic evaluations including surveys, interviews classroom observations etc. to assess teachers' attitudes toward CRT and continuous assessment.</p>	<p>Sep. 94 - Mar. 97</p>	<p>TT&D, RTC, CDU</p>	<p>TT&D</p>
	<p>4.3. Design analysis and reporting systems for above activities.</p>	<p>Jul. 94 - Dec. 95</p>		<p>CDU/TT&D</p> <p>PRTO/Adviser</p>
<p>5.0. Feedback, Quality control and Report systems to teachers established.</p>	<p>5.1. Develop format for annual report on training programmes for teachers, MOE practitioners etc. for submission to committee at 1.B.1.10.3 and to stakeholders.</p>	<p>Mar. 94 - Jun. 95</p>	<p>TT&D, RTC, CDU</p>	<p>TT&D/PRTO</p>
	<p>5.2. Develop system for submitting committee's recommendation and decisions for quality control to TT&D, CDU, and RTC as feedback for improving programmes.</p>	<p>Aug. 94 - Jun. 95</p>	<p>TT&D, RTC, CDU</p>	

W

PRESERVICE WORK PLAN TIME LINE

The time line for the targets, objectives and outputs is limited to Phase I, 16 September 1993 to 15 March 1995, and coordinated with those of the other project components: Inservice, Curriculum Development and, Student Assessment. The time line will be revised to accommodate the recommendations of the National Commission on Education Report. Some of the activities will be carried into Phase II.

REF: (API: 1.A.2) SUSTAINABLE SYSTEM ESTABLISHED TO TRAIN NEW AND CURRENT TEACHERS IN USING THE NEW CURRICULUM

1.0 Curricula of the teacher training colleges revised based on the recommendations of the National Commission of Education (API 1.A.2c&e).

OUTPUT	ACTION	TIME LINE Beg. - End	COORDI- NATION	LEADERSHIP
1.1. BE defined and corroborated with other feeder units of MOE	1.1a Collaborate with CDU to set up BE Curriculum Review Committee 1.1b Obtain DTT&D definition 1.1c Share definition with Curriculum Review Committee	Sept.-Dec 1993	CDU	SEO & BEC Adviser
1.2 Recommendations of the National Commission on Education (NCE) reviewed, plan of action designed and implemented in phases	1.2a Establish a Review Committee made up of representatives from PTTCs, COEs and TT&D SEOs 1.2b Review and analyse recommendations 1.2c Prepare implementation schedule based on short-, mid- and long-term plan of action 1.2d Implement action in phases	Feb -June 94	PTTCs, COEs	CEO, SEO & BEC Adviser
1.3. Curricula of the Colleges reviewed and gaps in content and delivery processes in terms of the learning requirements of the schools identified and documented	1.3a Conduct content analysis of Standards 1-9 curriculum for subject matter and methodology 1.3b Conduct content analysis of PTTCs /CPE, COEs and UB curricula for subject matter and methodology, and document gaps in content and methodology 1.3c Recommend changes and obtain approval 1.3d Determine revision time line	Feb-April 94	PTTCs, COEs	SEO/Adviser
1.4 Curriculum of the Pilot Diploma Programme reviewed and progress documented	1.4a Appraise curriculum already designed and implemented 1.4b Identify consultant to conduct formative evaluation of the Pilot Programme	Oct 93-April 94	Tlokweg COE	SEO/Adviser & Research Committee

2.0 Research on teacher training conducted to provide baseline data and to obtain inputs for strengthening the training curricula and administrative capability of the Colleges (API 1.A.2f).

OUTPUT	ACTION	TIMELINE Beg. - End	COORDI- NATION	LEADERSHIP
2.1 Research units in the Colleges established/strengthened, role and responsibilities defined and coordinated with those of the Botswana Education Research Association and the National Institute of Research	2.1a Set up research coordinating council for the Colleges to coordinate research efforts 2.1b Review research units in the COEs and PTTCs in terms of their programmes, resources and needs, and liaise with the Botswana Education Research Association (BERA) and the National Institute of Research (NIR), schools, and other teacher training institutions 2.1c Determine and provide research training and support for the Colleges in conjunction with BERA, UB, NIR 2.1d Organise research seminars to identify areas of research which will provide data for revising the curricula of the colleges 2.1e Assist the colleges in their research effort	March 94 continuing	PTTCs, COEs, CDU, UB, NIR	DTTD, SEO, Adviser
2.2 Research conducted to document teacher supply/demand for the BE programme	2.2a Prepare research objectives to include demand and supply of teachers taking into account enrollment projections, teacher attrition and untrained teachers 2.2b Design and conduct research 2.2c Prepare report on teacher projection 2.2d Prepare plan of action to implement recommendations	Jan-Mar 94	Planning Unit, CSO	DTTD, SEO, Adviser
2.3 Impact of the primary teacher training (PTTCs) programmes (5 year period impact study) documented	2.3a Prepare terms of reference and objectives for impact studies of the PTTCs' programmes 2.3b Identify consultancy to conduct the impact study in conjunction with Preservice Officers 2.3c Make recommendations based on findings	Nov. 93- June 94	PTTCs	DTTD, SEO, Adviser
2.4 Follow-up studies conducted	2.4a Establish a committee of college representatives to conduct the studies 2.4b Assist the committee in preparing research objectives for the study 2.4d Set up time line to conduct studies 2.4c Report findings and recommend action plans	Sept 94 - March 95	PTTCs, COEs, MOE	DTTD, SEO, Adviser

3.0 Administrative capability of the teacher training colleges strengthened (API 1.A.2g).

OUTPUT	ACTION	TIME LINE Beg. - End	COORDI- NATION	LEADERSHIP
3.1 Gaps in administrative and instructional resources of the Colleges identified and closed	3.1a Survey administrative and instructional resources of the Colleges and document gaps 3.1b Produce a list of required resources with suppliers and cost-estimates 3.1c Prepare procurement plan and provide support 3.1d Determine the needs of the libraries 3.1e Assist the libraries to prepare acquisition plan 3.1f Provide instructional resource support	April-Aug 94	PTTCs, COEs	DTTD, SEO, Adviser
3.2 Data tracking and information retrieval, feedback system designed to document needs and report performance of the Colleges	3.2a Define nature of data to be collected 3.2b Identify a programmer to install the information tracking and retrieval system 3.2c Design and provide training	Oct. 93 - Feb 94	PTTCs, COEs	DTTD SEO, Adviser
3.3 A Manual for Principals of the Teacher Training Colleges produced and training provided	3.3 Identify a consultant to develop the manual and conduct training	Jan-June 94	PTTCs, COEs	DTTD, SEO, Adviser & principals of Colleges
3.4 Gaps in manpower requirements and training documented	3.4 Assess and document manpower requirement and skills of the Colleges' professional staff	Dec 93	PTTCs, COEs	
3.5 Short- and long-term personnel training courses conducted	3.5a Identify short- and long-term training programmes, in-country and overseas 3.5b Identify and select training institutions 3.5c Prepare training objectives including deployment of participants 3.5d Prepare participants for training	March-June 94	PTTCs, COEs,	DTTD SEO, Adviser

3.0 (continued) Administrative capability of the teacher training colleges strengthened (API 1.A.2g).

OUTPUT	ACTION	TIME LINE Beg. - End	COORDI- NATION	LEADERSHIP
3.6 Sustainable professional staff development plan and programme strengthened/established (to continue beyond March 95)	3.6a Assess current professional staff development plans and programmes of the Colleges 3.6b Set up committees or use established relevant bodies in the colleges to identify areas of priorities for professional staff development 3.6c Assist the colleges in developing and implementing plans and programmes	April 94- Mar 95 continuing	PTTCs, COEs	DTTD, SEO, Adviser & principals of Colleges
3.7 Administrative capability of the Preservice Unit strengthened through short- and long term training, workshops, seminars and conferences (to continue beyond March 95)	3.7a Determine training requirements of officers. This should include assessment of their duties, experience and job demand 3.7b Prepare short- and long-term training plans 3.7c Arrange short-term courses offered incountry and/or internationally 3.7d Provide in-house training through seminars, conferences and one-to-one on the job relationship 3.7e Identify reading reference materials for the department	April 94- Mar 95 continuing	Internal	DTTD, SEO, Adviser

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4.0 Coordination and communication strengthened between the teacher training colleges, Curriculum Development Unit, Research and Testing Centre, and other user Departments of Primary and Secondary Education (API 1.A.2b&c).

OUTPUT	ACTION	TIME LINE Beg. - End	COORDI- NATION	LEADERSHIP
4.1 Communication, consultation and coordination links between the Colleges and feeder Departments/units of MOE established and sustainable. This would enable the Colleges to be fully involved in the development of new curriculum materials and innovations, and also to contribute ideas and innovations to enrich the BE Programme (to continue beyond March 95).	4.1a Assess existing communication and coordination links between the Colleges and other feeder Departments/units of MOE 4.1b Propose a meeting with the above Departments/Units to determine the most effective and sustainable method of communication and coordination 4.1c Define terms of reference for the BE Curriculum Coordinating Committee 4.1d Identify responsible persons from each of the Colleges to ensure sustainability 4.1e Set up a system of communication for information exchange	April 94 thru March 95	PTTCs, COEs, UB, CD&E, DTTD	DTTD, SEO, Adviser
4.2 A common Subject Panel and Advisory Board established for the Colleges to strengthen coordination, collaboration, communication and to monitor professional standards	4.2a Prepare a proposal for a common Panel / Council and discuss with the CEO, SEO preservice and principals of the Colleges 4.2b Determine the terms of reference of the Council and compare with existing bodies to avoid overlaps or to combine functions. It may well be that some of the existing councils should be consolidated to assume the terms of reference specified in the proposal	Mar - July 94	PTTCs, COEs, UB, BCA, Polytec CDU, DTTD	DTTD, SEO, Adviser & Principals of Colleges
4.3 Curriculum revision procedure established with the CD&E	4.3a Assist CDU to develop curriculum review procedure 4.3b Design curriculum review procedure for the colleges	Oct 93-June 94	CD&E	DTTD, SEO, Adviser
4.4 CRT/CA materials introduced in the curricula of the Colleges	4.4a Set up a review meeting between the colleges and RTC officers 4.4b Collect and review curricula of the colleges to determine how best to include CRT/CA materials 4.3c Revise curricula to accommodate CRT/CA materials	Jan 94- March 95	RTC	COEs, PTTCs Adviser

INSERVICE WORK PLAN TIME LINE

Objective 1.0 To coordinate the delivery of inservice activities across the nine years of Basic Education (API # 1.A.2.a and d)

OUTPUT	ACTION	TIME LINE Beg. - End		COORDI- NATION	LEADERSHIP
<p>1.1 Establish a system of planning inservice activities to assure the most efficient use of resources, both human and material.</p>	1.1.a. Review the current structure of primary and secondary inservice delivery	9-93	11-93	TTD, CDU	SEOs Inservice
	1.1.b. Enhance the leadership capability of the National Inservice Advisory Committee.	8-93	1-94	MOE, BEC	
	1.1.c. Appoint relevant officers to fill established posts.	8-93	1-94	MOE, BEC	
	1.1.d. Develop an annual inservice calendar planning exercise which includes both primary and secondary inservice activities and those of other relevant MOE departments.	annually			SEOs Inservice
	1.1.e Plan and implement an interdepartmental conference to coordinate delivery of training for teachers in curriculum innovations and assessment strategies	8-93	3-94	TTD, CD&E	CEOs, SEOs Inservice and BEC TAs
	1.1.f Coordinate inservice training activities for teachers with those of CD&E such as subject area curriculum revisions, continuous assessment and criterion reference testing	9-93 through life of project		TTD, CD&E	SEOs Inservice and BEC TAs

AP

INSERVICE WORK PLAN TIME LINE

Objective 2.0 To design and institute a consolidated policy for the Inservice Unit. (API# 1.A.2.g)

OUTPUT	ACTION	TIME LINE Beg. - End		COORDI- NATION	LEADERSHIP
2.1 Develop a consolidated inservice policy which clearly specifies structure, roles, responsibilities and standards.	2.1.a Review and consolidate inservice policies pertaining to primary and secondary roles and responsibilities including standards. 2.1.b Prepare a document for feedback/approval. 2.1.c Distribute to relevant stakeholders 2.1.d Conduct orientation seminars/workshops	11-93	1-94	TTD/CDU	Inservice SEOs Inservice TA
2.2 Define Basic Education and develop strategies to enhance its philosophy and objectives	2.2.a Form a department committee to define Basic Education 2.2.b Develop a definition from the department point of view and establish common understanding with other Ministry of Education department/units. 2.2.c Collaborate with CDU to produce and disseminate materials and definition.	11-93	1-94	TTD/CDU	CEO TTD

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INSERVICE WORK PLAN TIME LINE

Objective 3.0 Strengthen the training capabilities of Inservice Officers (API# 1.A.2.a. and b)

OUTPUT	ACTION	TIME LINE Beg. - End	COORDI- NATION	LEADERSHIP
<p>3.1 Provide long term training for Inservice Officers to strengthen their capabilities to conduct inservice activities and to implement the nine year Basic Education Programme</p>	<p>3.1.a Review and broaden scope and membership of Inservice Advisory Committee 3.1.b Determine professional staff requirements for inservice including projection for expected expansion of services. 3.1.c Establish criteria for selecting officers in terms of assignment and duties. 3.1.d Identify training requirements and objectives for each duty area. 3.1.e Identify training programmes/institutions 3.1.f Conduct orientation and arrange for departure of officers</p>	<p>1-94 1-96</p>	<p>MOE, BEC</p>	<p>TTD CEO, CD&E CEO</p>
<p>3.2 Provide short term training, study tours and courses to increase effectiveness of officers in conducting inservice activities.</p>	<p>3.2.a Determine professional development gaps 3.2.b Classify gaps into those to be met through internal workshops, seminars and those through organised courses, study tours and attachments. 3.2.c List and select major conferences courses, etc. relevant to inservice. 3.2.d Prepare training and conference schedule for officers.</p>	<p>1-94 1-96</p>	<p>MOE, BEC</p>	<p>TTD CEO, CD&E CEO</p>
<p>3.3 Establish a coherent career ladder for inservice officers</p>	<p>3.3.a Assess current range of officers providing inservice activities 3.3.b Define hierarchy of duties and responsibilities 3.3.c Outline steps of inservice career ladder</p>	<p>1-94 1-96</p>	<p>MOE, TSM, BEC</p>	<p>TTD CEO, CD&E CEO</p>
<p>3.4 Establish staff development plan for inservice officers in the field to accommodate curricular changes, innovations etc.</p>	<p>3.4.a Prepare a master plan for internal professional development of inservice officers 3.5.b Prepare cost-estimates 3.5.c Identify resource persons 3.5.d Develop evaluation measures to determine effectiveness of the plan</p>			

INSERVICE WORK PLAN TIME LINE

Objective 4.0. To strengthen infrastructural base for inservice programme and activities (API# 1.A.2.a and b)

OUTPUT	ACTION	TIME LINE Beg. - End	COORDI- NATION	LEADERSHIP
4.1 Develop an Inservice Manual with detailed procedures, guide lines, and technical resources for conducting inservice activities	4.1.a Establish a committee to develop the manual 4.1.b Establish terms of reference and objectives 4.1.c Equip the Centres as required.	1-94 4-94	TTD CEO	CEOs and BEC Advisers
4.2 Increase audio visual equipment in Education Centres	4.2.a Assess current resources and list shortfall 4.2.b Prepare cost estimates 4.2.c Equip the Centres as required	1-94 12-94	MOE and BEC	Inservice SEOs and Adviser
4.3 Enhance instructional material production capability of the Education Centres	4.3.a Assess materials production capabilities including available supplies a equipment and staff skills. 4.3.b Provide materials and training to improve materials production capability.	1-94 12-94	MOE and BEC	Inservice SEOs and Adviser
4.4 Enhance resources of Education Centre libraries to include access to curriculum revisions	4.4.a Provide the libraries with necessary equipment 4.4.b Establish link with CDU and RTC to have access to new curriculum materials	1-94 12-94	MOE and BEC	Inservice SEOs and Adviser
4.5 Expand Education Centres to accommodate more inservice activities	4.5.a Increase office space to six per Centre 4.5.b Increase hostel space by sixteen rooms per Centre 4.5.c Expand catering and dining facilities 4.5.d Expand staff housing by four per Centre 4.5.e Expand library and classroom facilities		MOE	Inservice SEOs

INSERVICE WORK PLAN TIME LINE

5.0 Objective: To establish an information base for all inservice activities (API #1.A.2.f)

OUTPUT	ACTION	TIME LINE Beg. - End		COORDI- NATION	LEADERSHIP
5.1 Conduct impact studies on Ministry of Education programmes of innovation e.g., Breakthrough, Continuous Assessment, Botswana Teaching Competency Instruments, etc., to determine their effect on teaching and learning.	5.1.a List innovations and activities to be studied. 5.1.b Frame research questions to be considered. 5.1.c Identify consultants and resources to design and conduct research. 5.1.d Report and distribute findings	11-93	12-94	TTD/BEC	Inservice SEOs Inservice TA
5.2 Determine school environmental factors which promote and/or prohibit transferability of inservice activities in the classrooms.	5.2.a Prepare questionnaires to collect relevant information. 5.2.b Conduct case studies. 5.2.c Report findings.	11-93	12-94	TTD/BEC	Inservice SEOs Inservice TA

INSERVICE WORK PLAN TIME LINE

Objective 6.0 To develop and implement a policy of incentives for inservice programmes and activities (API# 1.A.2.b)

OUTPUT	ACTION	TIME LINE Beg. - End	COORDI- NATION	LEADERSHIP
6.1 Define, establish and implement different forms of incentives to promote and sustain inservice programmes and activities	6.1.a Provide a systematic method of commendation for performance improvement based upon the Botswana Teacher Competency Instruments 6.1.b Establish a system of credits for inservice participation which leads to promotion and remuneration	1-94 12-94	TTD and related MOE units	TTD CEO and Inservice SEOs

Objective 7.0 To develop a system of monitoring and evaluating inservice programmes and activities (API# 1.A.2.d. and f)

OUTPUT	ACTION	TIME LINE Beg. - End	COORDI- NATION	LEADERSHIP
7.1 Establish a system for monitoring and evaluating the inservice programme and activities for Basic Education	7.1.a Outline monitoring procedures in Inservice Manual 7.1.b Implement systematic reporting methods for inservice providers and participants 7.1.c Design administer and analyze evaluation instruments to assess impact of inservice programmes	1-94 12-95	TTD and BEC	TTD CEO and SEOs Inservice
7.2 Strengthen administrative capability of officers responsible for inservice programmes and activities	7.2 a Determine training requirements of officers 7.2.b Prepare short- and long-term training 7.2.c Arrange short-term courses offered incountry and/or internationally 7.2.d Provide in-house training through seminars and one-to-one relationship 7.2.e Determine administrative supportive materials requirements 7.2.f Design plans for information tracking and retrieval system	1-94 12-95	TTD and BEC	TTD CEO and SEOs Inservice

Basic Education Consolidation Project Work Plan Addendum

A. Special Curriculum Topics: AIDS and Family Life Education, Vocational Education and the World of Work, Environmental Education, and Democracy and Gender Equality

We appreciate your suggestions about the inclusion of these special curriculum topics into the BEC Project. We are pleased to advise you that the MOE and BEC are already focusing on these areas. During the PEIP and JSEIP projects, the MOE conceived and began projects dealing with Environmental Education, Family Life Education, Population Education, AIDS Awareness, and Entrepreneurial Skills Development. All of these topics have advocates and are being included into the curriculum as described below. BEC is expected to continue to offer support to these areas within the context of the Basic Education Curriculum review.

As a consolidation goal, BEC will assist the MOE in bridging the gaps between Teacher Education and Curriculum Development with special emphasis on training in skills to deal with and to communicate in these special curriculum topics.

1. Special Topics and Curriculum Development

a. HIV/AIDS : We are consolidating our efforts in integrating HIV/AIDS Education into the curriculum. HIV/AIDS Education is currently receiving support from UNICEF, USAID and GOB. The MOE would like BEC to consolidate these efforts further and to provide links between curriculum development in this area and implementation. The MOE also requires BEC assistance in material development including instructional materials and student's books that will be relevant and specific to the age and culture of students in a specific setting. Linkages have been developed with other sectors such as the Ministry of Health to assist the Department and students through specialised talks and direct intervention.

The Guidance and Counseling Division of CDE also provides training to guidance teachers to equip them with counseling theories, skills and techniques that will assist in facilitating social development among students including knowledge and skills in areas such as:

- (1) assertiveness and being self-directed (as in sexual behavior);
- (2) interpersonal relationships;
- (3) health and sexually transmitted diseases (especially AIDS); and
- (4) family life and teenage pregnancy.

In addition, the training to guidance teachers is designed to enhance an understanding of the conditions and problems associated with adolescence and to assist them to develop coping and problem-solving skills.

Currently, the Curriculum Development Division is trialing HIV/AIDS instruction in six schools (three primary and three junior secondary schools).

b. Family Life/Population Education: In addition to relevant statements in the above section, this area has been in the Botswana curriculum for years. Project BOT/91/PO1 entitled Population/Family Life Education in Botswana Schools and Teachers Colleges is planned for 1994 implementation. This project is part of the MOE's basic education programme and would benefit from BEC's support in consolidation of activities and programmes related to it.

c. Vocational Education and the World of Work: The terms of reference of the National Commission on Education report call for a system that will ensure consolidation of basic education while vocationalising and diversifying the curriculum in preparing students for the world of work. Career guidance is targeted for implementation in all primary, junior secondary and senior secondary schools as described in some detail in the approved National Commission on Education report and the national policy statements. Implementation will require close coordination among the teacher preparatory institutions, the inservice programme and the Curriculum Development Division. BEC can assist decisively in this effort.

The National Commission on Education report and the National Development Plan VII have recommended that the MOE help develop Botswana students for productive lives through the Basic Education Programme. Efforts are being made to consolidate career guidance services in junior secondary schools (and senior secondary schools) to achieve the following objectives:

- (1) develop personal values, attitudes and behaviours appropriate for different environments especially in the work setting;
- (2) develop a thorough understanding of their (students') potential and of the world of work for appropriate actions and work related decisions; and
- (3) create awareness among parents and the community on training and employment opportunities.

Linkages have been established between the Guidance Counseling Division and BOCCIM to provide some network between the world of work and the education sector.

The following activities are currently being carried out to prepare students for the world of work. such as:

- (1) information on training and employment opportunities;
- (2) career fairs (both school- and regional-based) in which both the public and the private sectors participate; and
- (3) videos (so far only one video has been developed)

BEC will assist in the following areas:

- (1) development of career training materials for teachers and students;
- (2) technical expertise on video filming to be developed among the Guidance and Counseling staff members in order to enable them to produce support materials in-house and at low-cost elsewhere; and
- (3) setting up a Career Resource Center to cater for career needs of individuals and groups of students. Guidance teachers may also use it as a reference centre. This centre could serve as a model for replication elsewhere.

d. Environmental Education: Environmental education is being integrated into the curriculum through the combined efforts of the USAID-funded NRMP project and the Department of Curriculum Development and Evaluation. BEC will assist in establishing closer ties with the NRMP project in the areas of materials development, strengthening of the syllabus, and pre- and inservice teacher education.

e. Democracy and Gender Equality: Given the shortage of critical human resources in Botswana, BEC can be especially helpful in MOE efforts, through material development and teacher workshops as examples, to sensitize schools of the need for equal participation of males and females in national economic and social activities and employment opportunities. Although Botswana has a good record of opening educational opportunities to women in selected areas, many disparities still prevail.

The disparities in male and female participation in science and technical subjects as well as in scientific/technical operations has been a concern among Botswana educators.. Teachers and students are just beginning to be sensitized through career workshops where successful females serve as role models in being available for interviews . Issues on attitudes and their influence on career decisions still need to be explored and researched.

The Guidance Division has developed some materials to attract women into career areas that have been male exclusive such as water engineering and other careers in the water sector. In addition, some materials have been developed using female role models. Female role models have also been included in the MOE Guidance video on careers

2. Special Topics and Inservice Training

In addition to designing and integrating the special curriculum materials into the Basic Education Programme, special inservice and pre-service training will be designed and implemented to ensure dissemination of the curriculum to the educators and students in the local schools. The Inservice advisor and the Pre-Service advisor, with their respective colleagues, are responsible to develop the links and implement content and methodology from the Curriculum Development Division to the classroom.

B. Student Assessment: The Educational Measurement Advisor agrees that the two work plans [one for Criterion Referenced Testing (CRT) and one for Continuous Assessment] are segments of the student assessment process. However criterion-referenced testing (CRT) and continuous assessment (CA) should remain as two separate issues under an assessment program.

An assessment system may consist of only a formal summative examination with or without continuous assessment. Further, continuous assessment may be part of a norm-referenced examining system or part of a criterion-referenced examining system. In Botswana at the moment, there are four subjects in the junior secondary school curriculum with continuous assessment components within the current norm-referenced junior certificate examination system. It is intended that within the BEC project, final summative school leaving examinations such as PSLE and the JCE will be set by the principles of Criterion Referenced Testing and that Continuous Assessment will be developed, monitored and moderated by its own special principles.

The process requires that students' scores from both the summative examinations and continuous assessment be combined in appropriate proportions to derive final student achievement scores. The final scores will be given criterion-referenced interpretation, hence moving the present Botswana examination system from norm-referenced interpretations to criterion-referenced interpretations.

Continuous assessment is a branch of assessment which is normally organized and controlled by the school system with guidance from the examining board. It is a complicated and time consuming process to develop, monitor, score and assess.

Continuous Assessment is syllabus specific and it may not be possible for that aspect of the project to be completed by project closure time for three reasons:

1. work and planning have to start on the new national examination system for PSLE and JCE from the beginning of 1995. These efforts will require total effort at that time;

2. the total number of subjects in primary and junior secondary schools is twenty-two. Developing continuous assessment may be arranged for no more than four subject a year beginning from October 1994. With continuous assessment already existing in four subjects, the maximum number of subjects for which continuous assessment will be available by the time of project closure, is estimated to be about twelve; and
3. the control centre for the implementation of Criterion Referenced Testing is the Department of Curriculum Development and Evaluation while the control centre for the implementation of continuous assessment is the Department of Teacher Training. This administrative situation requires time and organizing close collaboration to implement a compatible assessment program.

The Education Measurement Advisor recommends that CRT and CA should be organized and implemented by one department, with other relevant departments . playing supporting roles. A committee already has been set up, with the BEC Education Measurement Advisor as a member, to determine how best to resolve this situation.

In the meantime, the most appropriate method of work in criterion-referenced testing and continuous assessment, given their different demands and expectations, is therefore to proceed by two separate work plans.

The RTC strategy is to combine training in Criterion Referenced Testing and Continuous Assessment in national workshop training from July 1994 onwards. After the training program is well under way, the BEC student assessment component will focus on continuous assessment development and on the new form of the national certificate examinations, PSLE and JCE.

In essence, the three aspects of the student assessment component must be organized separately: training of teachers; implementation plans in CRT for classroom and national examinations; and implementation plans in continuous assessment for classroom and national examinations. The scoring and grading phase is when both CRT and CA come together.

Botswana BEC Project

Close-out

Consolidation Activities

November 1994

BEC Close-out Consolidation Activities

Close-out Consolidation Activities of Curriculum Development Division (CDD) and Instructional Materials Development (IMD)

- | | |
|---------------------------|--|
| November 94 - January 95: | <ul style="list-style-type: none"> • Develop, review and revise Curriculum Framework (Blueprint) Prototype |
| January - August 95: | <ul style="list-style-type: none"> • Implement framework in revising syllabuses |
| January 95: | <ul style="list-style-type: none"> • Develop scope of each chapter of Curriculum Development Procedures Manual (CDPM) |
| February - June 95: | <ul style="list-style-type: none"> • Draft content for each chapter of CDPM |
| July - August 95: | <ul style="list-style-type: none"> • Produce CDPM |
| November 94 - June 95: | <ul style="list-style-type: none"> • Revise new three-year JC curriculum syllabi in English, maths, science, agriculture, social studies and Setswana. |
| June - August 95: | <ul style="list-style-type: none"> • Publish above syllabi |
| November - December 94: | <ul style="list-style-type: none"> • Draft report of POP/FLE Seminar; Develop Position Paper on environmental education and its infusion; evaluate HIV/AIDS trial material. |
| January 95: | <ul style="list-style-type: none"> • Submit written report of HIV/AIDS trialing evaluation. |
| February - March 95: | <ul style="list-style-type: none"> • Develop objectives and determine content for POP/FLE for infusion. |
| January - August 95: | <ul style="list-style-type: none"> • Develop Objectives and determine content for infusing HIV/AIDS into the curriculum. |
| February - August 95: | <ul style="list-style-type: none"> • Revise appropriate syllabi infusing POP/FLE and environmental education. |

Close-out Consolidation Activities of The Examinations, Research and Testing Division (ERTD)

Student Assessment Close-out component consists of two parts: 1) training all primary and secondary teachers in Criterion Referenced Testing (CRT) and Continuous Assessment (CA); and 2) changing the present norm-referenced examinations system (PSLE and JCE) to a CRT examinations system.

Close-out training activities will focus on updating trainers in the field; working with trainers in the training of resource persons for the national training programme; and beginning a training programme for teachers in junior secondary schools

Draft training handbook has been developed and final draft will be ready in May 1995. The multiplier effect training strategy will be instituted. Training has been given to trainers of trainers (senior educational officers, education officers, teacher advisors, university faculty and teacher training institution personnel).

Close-out activity plan to change the national examinations system from a norm-referenced approach to CRT is scheduled to be completed in December 1994. The plan also includes setting up an examinations council.

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|--------------------------|--|
| November-December 94: | <ul style="list-style-type: none"> • Develop CRT activity schedule for the PSLE and JCE. |
| November 94 - August 95: | <ul style="list-style-type: none"> • Develop item banks from which tests will be generated. |
| November 94 - March 95: | <ul style="list-style-type: none"> • Select and develop uniform titles for learning behaviours to be used for diagnostic CRT. |
| January - April 95: | <ul style="list-style-type: none"> • Develop test blueprints and test plans for PSLE subjects. • Determine the grading and reporting formats of the CRT examination results. • Joint activities between CRTIC and CDD on the development of profile dimensions to be used as testing and scoring units; development of test blueprints for the five core PSLE subjects; and establishment of performance standards for the award of grades A, B, C and D. CDD will take the leadership of the above activity. |
| January - May:95: | <ul style="list-style-type: none"> • Develop marker evaluation system. • Using standard procedures for standards setting, establish the performance standards for Grades A, B, C and D for the PSLE. • Determine types of statistics and other information needed to be generated through the CRT scoring system. |

- January - August 95:
- Review manual of examinations administration procedures.
- February 1995:
- Resume in-house training programme for ERTD staff to equip staff with necessary measurement skills for work in CRT and CA.
- February - August:
- Plan examining personnel records system.
- March-June 1995:
- CRTIC staff, the Inservice Unit and consultant will coordinate with trainers and about 350 resource people to undertake training of about 8,000 primary teachers. Training to take place beginning August 1995.
- March - August 1995:
- Set up moderation teams to moderate and validate test items for item banks.
 - Plan acquisition and installation of software for CRT processing
- April - July 95:
- Determine the format and content of annual technical reports to be submitted by ERTD to subject panels.
- April - August 1995:
- Assist CRTIC to develop the draft mainframe scoring plan.
 - Plan acquisition and installation of software for computerized item bank and test generation system.
 - Update procedure for writing school reports on examinations for distribution to teachers and TT&D.

Close-out Consolidation Activities of Preservice Teacher Education

- | | |
|-------------------------|---|
| November - December 95: | <ul style="list-style-type: none">• Through a Curriculum Advisory body established for the colleges, propose changes to increase coordination, consultation, communication and to strengthen unity of common areas of curricular concern. |
| January - April 1995: | <ul style="list-style-type: none">• Formative evaluation of the the primary pilot diploma programme to document progress and lessons learned to facilitate phasing-in the primary diploma programme in other TTCs. |
| February 94: | <ul style="list-style-type: none">• Select curricula changes tof Colleges of Education to be made during life of project. for 3 year JC Programme. |
| February - March 94 | <ul style="list-style-type: none">• Prepare revision timeline for 3 Year JC curriculum for Colleges of Education. |
| March - August 95: | <ul style="list-style-type: none">• Revise 3 Year JC curriculum for Colleges of Education. |
| April 95: | <ul style="list-style-type: none">• Recommend changes for adoption of three year diploma programme in other TTCs. |
| June - July 95: | <ul style="list-style-type: none">• Propose "Evaluation and Management System (EMS) for the colleges. |
| June - August 95: | <ul style="list-style-type: none">• Revise three year pilot TTC curriculum for adoption. |

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Training

- November 94:
- ERTD Conduct CRT trainers workshop.
 - Inservice travel to Education Centres during and after CRT workshops to collect data on numbers of teachers trained, quality of training, and planning of school-based follow-up activities.
- November 94 - January 95:
- ERTD Supervise the training of Standard V teachers.
 - ERTD Supervise the training of primary school headteachers.
- November 94 - February 95:
- ERTD plan short-term participant training programme for ERTD staff.
- November 94 - April 95:
- Preservice Assist in organising and conducting 2nd NCTE Conference.
- November 94 - July 95:
- Inservice Assist CRTIC with next phases of the CRT/CA inservice training.
 - Inservice Assist CDD with planning and implementating inservice activities related to curriculum changes.
 - Inservice Assist National Steering Committee and SSMP in implementing school heads training for primary and CJSS heads, deputies and senior teachers (includes travel to schools and Centres).
- November 94 - August 95:
- CRT training of trainers, senior education officers, education officers, UB faculty, teacher training faculty and ERTD staff on national level.
 - CDD structured in-house training on self-instructional modules new books purchased through BEC.
 - CDD/CC assists individual officers in acquiring and implementing skills as they develop curriculum.
 - ERTD Supervise and update trainers conducting inservice training workshops for teachers and MOE practitioners in CRT.
 - ERTD Plan and conduct CRT workshops for secondary inservice trainers.
 - ERTD Plan study visits for ERTD staff.

- December 94 - January 95:
 - CDD Training of personnel in use of new computers and other commodities.
- December - August 95:
 - CDD Provide individual on-the-job training and assistance in the use of computers, software and communication via network.
- December 94 - January 95:
 - CDD Materials Production Staff trained by equipment vendors.
- December 94 - July 95:
 - Inservice Assist in planning, implementation and evaluation of SADC regional seminar on school heads training programme.
- December 94 - August 95:
 - CDD Materials Production Staff trained individually on-the-job on use and maintenance of equipment.
- January - July 95:
 - Inservice Study Tour(s) to neighboring countries for exchange of professional development strategies.
- January - August 95:
 - CDD New Desk-Top Publishing staff trained.
- February:
 - Inservice Professional Development Seminar for all inservice providers, includes use of external consultants.
- February - July 95:
 - Preservice Organise/conduct in-country training workshops for preservice training officers and college lecturers
- February - August 95:
 - ERTD Continue in-house training courses in measurement and technical reports writing.
 - ERTD Plan and conduct training of computerized bank clerk.
 - Preservice Organise/conduct five curriculum review workshops to assist the colleges to revise the training curriculum.
 - Preservice Plan short-term training courses for preservice officers and college lecturers.
- March - April 95
 - Inservice Travel to Education Centres with PEO/Inservice to evaluate results of Professional Development Seminar.
- March - August 95:
 - ERTD Monitor the training of resource persons for the national training programme.
- April - July 95:
 - Inservice Library training for Centre Directors and staff, includes use of external consultants and procurement of books, video tapes, journals and other resource materials.

Consultancies and Studies

- | | |
|---------------------------|---|
| November - December 94: | <ul style="list-style-type: none"> • Inservice Hire training specialists (2-3) to present sessions on professional development research and training techniques for Professional Development Seminar. |
| November 94 - May 95: | <ul style="list-style-type: none"> • Preservice Engage a consultant to develop an administrative manual for the colleges. |
| November 94 - June 95: | <ul style="list-style-type: none"> • Preservice consultant to conduct a study on primary school teachers' effectiveness. |
| November 94 - August 95 | <ul style="list-style-type: none"> • Preservice/Student Assessment/COP Statistical consultancy. • Conduct impact studies on MOE programmes of innovation to determine their effectiveness on teaching and learning. |
| November 94 - January 95: | <ul style="list-style-type: none"> • Preservice/Inservice
Computer/programmer/statistician to analyse and prepare statistical reports on preservice and inservice programmes (also June-July 95). |
| December 94 -January 95 | <ul style="list-style-type: none"> • BEC Advisors API consultancy
Inservice Hire one or more resource library specialists to train Education Centre directors and staff on establishment. |
| January - March 95 | <ul style="list-style-type: none"> • Guidance designer consultancy for training programme |
| January - April 95: | <ul style="list-style-type: none"> • Preservice Consultant to develop and conduct a study of the impact of USAID projects on teacher training in Botswana. |
| March 95 | <ul style="list-style-type: none"> March 95• Guidance Vocational Exploration consultancy |
| March - April 95 | <ul style="list-style-type: none"> • Guidance - Pre-vocational skills |
| January - February 95 | <ul style="list-style-type: none"> • CDD - Curriculum Policy consultancy |
| January - March 95: | <ul style="list-style-type: none"> • CDD - A Study of Changes in Botswana Basic Education Since 1977 Education Policy • CDD - The Languages Consultancies |

- January - April 1995:
- Preservice consultant to conduct a formative evaluation of the Pilot Diploma Programme.
 - Preservice consultant to design a model to phase in the primary teachers Diploma programme in the PTTC in collaboration with preservice officers and the BEC advisor.
- January - June 95:
- Preservice computer programme designer for database system and to conduct user trainer workshops.
- March - April 95
- CDD - Packaging of subjects
- April 95
- ERTD - Computerised Item Banking Consultancy
- June - July 95
- Preservice/Inservice Computer/programmer/statistician to analyse and prepare statistical reports on preservice and inservice programmes (see also November 94 - January 95).
 - Preservice Engage a computer programmer to design the database system and provide user training workshops.
- July 95
- ERTD - Data Processing Consultancy - Mainframe
- TBA
- CDD - Computer Awareness Consultancy
- TBA
- CDD - Combination and Timetabling Consultancy
- TBA
- ERTD - Examinations Administration consultancy

Commodities

- November - December 94:
- CDD/TT&D Acquire and install computers.
 - Preservice Prepare and submit commodity requisition for: computers, softwares, printers, database soft/hardware and copier (approved).
- November 94 - February 95:
- November 94 - February 95:• CDD/TT&D Acquire/install new software
- CDD/TT&D Acquire and install CDD computer network
 - CDD Acquire/install video editing equipment
 - CDD Acquire S-video camcorder and recorder
- November 94 - January 95:
- CDD/TT&D Acquire/install printing production equipment
 - CDD Identify and order additional reference books
 - CDD Identify and order curriculum guides/syllabi
- November - December 94:
- CDD Acquire/install portable video projector.
- January 95:
- Preservice Prepare and submit: audio-visuals for training at headquarters, microfiche readers, resource books and other workshop support equipment to be used at TT&D headquarters by the unit officers for internal training and reference (to be approved).
- January - February 95:
- CDD/TT&D Plan for training of personnel in the use of commodities in CDD and in TT&D.
 - CDD/TT&D Plan for maintenance of commodities
 - CDD/TT&D Plan for systems management
 - CDD/TT&D Purchase and receipt of commodities
 - CDD and TT&D Training programme implemented for computers.
- April - June 95:
- Inservice Purchase library materials (print and media) for Education Centre libraries as part of the Inservice training programme.

Participant Training - Short Term

About 40 additional short-term trainees to be sent abroad before end of project

Publications

- | | |
|----------------------------|---|
| November 94 - February 95: | <ul style="list-style-type: none"> • Inservice Write, lay out and print Education Centre Brochure. |
| November 94 - May 95: | <ul style="list-style-type: none"> • Preservice Develop an administrative management manual for the teacher training colleges. |
| November 94 - July 95 | <ul style="list-style-type: none"> • Inservice Write, lay out, and print Inservice Manual. |
| December 94 -February 95 | <ul style="list-style-type: none"> • COP Publication of <i>A Graphic Look at Botswana Basic Education</i>. |
| February 95: | <ul style="list-style-type: none"> • Preservice Revised self-study guidelines. |
| March 95 | <ul style="list-style-type: none"> • Preservice Annual Report. |
| April 95: | <ul style="list-style-type: none"> • Preservice External formative evaluation of the Tlokweng College of Education Report. |
| May 95: | <ul style="list-style-type: none"> • Preservice Impact of USAID contribution to Teacher Education in Botswana. <ul style="list-style-type: none"> • Preservice Cost-effective model for phasing in the Diploma in primary education. |
| May - June 1995 | <ul style="list-style-type: none"> May - June 1995• Inservice Assist in preparing the 2nd NCTE Conference proceedings. <ul style="list-style-type: none"> • COP Revision of <i>A Graphic Look at Botswana Basic Education</i>. including 1994 information. |
| June 95 | <ul style="list-style-type: none"> June 95• Preservice Curriculum layout guidelines. <ul style="list-style-type: none"> • Primary teacher effectiveness. |
| July 95: | <ul style="list-style-type: none"> • Preservice Database system manual. |

Data Collection

- | | |
|------------------------|---|
| November 94 - July 95: | <ul style="list-style-type: none"> • Inservice Design survey forms and observation guides; train research assistants; analyse data and report finding. |
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Donor Collaboration

- | | |
|---------------------------|---|
| December 94 - February 95 | • COP MOE Joint Venture in guidance training programme with with Peace Corps. |
| January - February 95 | • Donor Conference |

Logistical Close-out Plans

- Logistics for advisors departure
- Quarterly reports to USAID (December 15, 1994, March 15, 1995, June 15, 1995 and September 15, 1995)
- Semi-annual report (March 15, 1995)
- Semi-annual report (September 15, 1995) - Last report
- Office close-out of bank account, payment of all outstanding bills, letters of recommendation of office staff and drivers
- Transfer of commodities (including vehicles, computers and other office equipment) to MOE/GOB
- Last meetings of various committees and BEC Team - status and recommendations
- Debriefing interviews with all long-term participants on return
- Trip reports of all short-term participants
- Trip reports of advisors on overnight trips, conferences and workshops

Proposed Departure Dates of Advisors (exact dates not yet set)

July 1995	Donna Kay LeCzel
August 1995	Barry Vogeli and Jerald Reece
September 1995	Johnson Odharo, Kofi Quansah
September 1995	Murray Simon

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APPENDIX D: Budget

SUMMARY: COST AT COMPLETION

CATEGORY	TOTAL	EXPENSES T DATE	TOTAL LIFE OF PROJECT
1. Salaries & Wages	19,819.00	883,231.65	903,050.65
Fringe Benefits @ 30%	5,946.00	247,708.99	253,654.99
2. Consultant Fees	44,335.00	103,056.43	147,391.43
3. Travel & Transportation	46,175.00	219,659.76	265,834.76
4. Other Direct Costs	12,160.33	128,643.25	140,803.58
Subtotal 1 - 5	128,435.33	1,582,300.08	1,710,735.41
Indirect Costs @ 33%	42,384.00	505,235.15	547,619.15
5. Participant Expenses	25,849.36	958,844.64	984,694.00
6. Equipment	203,504.00	519,487.93	722,991.93
7. Allowances	25,919.99	116,166.36	142,086.35
8. Subcontracts	335,374.66	973,946.34	1,309,321.00
9. Subcontract G&A @ 4%	13,415.00	35,082.20	48,497.20
GRAND TOTAL	774,882.34	4,691,062.70	5,465,945.04

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APPENDIX E: Index of Consultants and Consultant Reports

Consultancy	Department/ Division	Consultant	Report Title	Time Period¹
Guidance In-service Training	Guidance/ CDD	Dr. Wayne Maes, University of New Mexico	“Training in Guidance and Counseling in Botswana”	3 pm
Library Training Program	In-service	Qadir Madyun, private	“Library Training Consultancy Final Report”	3.5 pm
Professional Development Seminar	In-service	Dr. Linda Pursley, Cornell University	“In-service Providers Professional Development Seminar Plus Appendices”	2 pm
Seminar Facilitator	In-service	Lisa Peterson, private	no report required	0.25pm
Classroom Observation Study	Pre-service	Dr. P. T. M. Marope, University of Botswana	BEC Project Impact and Basic Education Teacher Effectiveness Study	2.5 pm
Pilot Diploma Evaluation	Pre-service	Dr. George Urch, University of Massachusetts	“Formulative Evaluation of the Pilot Diploma Programme in Primary Education”	1 pm
3-year Diploma Program Design	Pre-service	Dr. Freddie Munger, University of Massachusetts	“Preliminary Programme Description and Curriculum Framework”	1 pm
Database and Institution Network	Pre-service	Phil Hudson, Apple Centre	Instructional Manual	7 pm

¹ Time period measured in Person Months (pm) of service.

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Computerized Item Bank	ERTD	Dr. Eric Eno, private	"Towards a Computer Awareness Policy for Basic Education in Botswana Consultant's Report"	0.66 pm
Examination Administration	ERTD	Dr. Richard Johnson, private	"Examinations Research and Testing Department Consultant's Report"	0.66 pm
Computer Awareness	CDD	Dr. Peter Dublin, Intentional Education	"Towards a Computer Awareness Policy for Basic Education in Botswana"	1.5 pm
Curriculum Policy	CDD	Dr. Cream Wright, private	"Towards a Curriculum Policy for Basic Education in Botswana"	1.25 pm
Combining Subjects & Timetabling	CDD	Dr. Cream Wright, private	"Subject Combinations ad Time-Tabling for Basic Education in Botswana"	0.75 pm
English Language	CDD	Janet Orr, private	"English Language Consultancy"	1.5 pm
Setswana Language	CDD	Dr. Lydia Ramahobo, University of Botswana	"A Review of the Setswana Programme to Implement the Revised National Policy on Education for the Ten Years of Basic Education"	4 pm
Assessment of Program Impact	MOE/USAID	Dr. P. T. M. Marope, University of Botswana	"Assessment of Program Impact Report"	1.5 pm
NCTE Facilitator	Pre-service	Lisa Peterson, private	no report required	0.50 pm

Computer Technical & Statistical Support	ERTD	Winston Mtekateka, private	“Standard Five End of Term CRT Tests, Final Report”; “Standard Six End of Term CRT Tests, Final Report”; “CRT Testscores Database Management System, Final Report”; “CRT Trainers Database Management System, Final Report”	1.75 pm
Environmental Education Editing	CDD	L. Berger, private	Manuscripts	3.5 pm

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Appendix F

Botswana Basic Education Consolidation (BEC) Project Bibliography

“Defining Educational Quality IEQ Publication #1: Biennial Report,” Don Adams, January 6, 1993.

“Report of the First Basic Education Consolidation Needs Assessment Workshop,” BEC Team, March 29, 1993.

“Botswana BEC Project Final Report,” David Benedetti, September, 1995.

“1989 Classroom Observation Project Summary Report, Elizabeth C. Blake and Dr. David S. Cownie, January, 1990.

“Management Manual for the Teacher Training Colleges,” Panafrique Management Consultants, August, 1995.

“Proposed Program and Project Monitoring, Evaluation, and Reporting System for USAID/Botswana,” Nancy Diamond, Lawrence C. Heilman, Robert Klein, Marcia Musisi-Nkambwe, Diane VanBelle-Prouty, May, 1993.

“Towards a Computer Awareness Policy for Basic Education in Botswana,” Peter Dublin, August, 1995.

“Towards a Computer Awareness Policy for Basic Education in Botswana Consultant’s Report,” Eric Eno, 1995.

“Patterns of Reform in Primary Education,” Max W. Evans, and John H. Yoder, 1991.

“The Need to Improve Quality and Relevance in Teacher Education,” Emmanuel Fabio, May, 1995.

“Toward a Child-Centered Classroom,” Luther Hasely, Sr. Gregory Horgan, A.S. Kesupile, Joyce Maphorisa and Margaret M. Moss, 1981.

“Examinations Research and Testing Department Consultants Report,” Richard Johnson, July 10-22, 1995.

“The Ten Year Basic Education Curriculum What Was, What Should Be: Analysis and Implications,” Felicity Malebogo Leburu-Sianga, May 2, 1995.

“Inservice Final Report,” Donna Kay LeCzel, July, 1995.

- “Department of Teacher Training and Development Consultancy Report,” Judith Warren Little, 1995.
- “In-service Providers Professional Development Seminar Plus Appendices,” Judith Warren Little and Linda Pursley, January 30 - February 3, 1995.
- “Training in Guidance and Counseling in Botswana Consultants Final Report,” Wayne R. Maes, July 27, 1995.
- “Library Training Consultancy Final Report,” Theodore Qadir Madyun, July 20, 1995.
- “BEC Project Impact and Basic Education Teacher Effectiveness Study,” P.T.M. Marope, 1995.
- “Assessment Challenges in the Revised National Policy on Education: Strategies in the Reform of the National Examination System,” Serara Moahi, May 2-5, 1995.
- “Higher Education in Africa: Resources and Linkages,” Serara Moahi, May 16-20, 1994.
- “Budget Speech,” F.G. Mogae, February 13, 1995.
- “Report of the First Meeting of the Basic Education Implementation Committee,” M.K. Mogasha, May 10, 1994.
- “Preliminary Programme Description and Curriculum Framework,” Dr. Fredi Munger, February, 1995.
- “Botswana Education Statistics in Brief,” Winston B. Mandah Mtekateka, September, 1993.
- “Standard Five End of Term CRT Tests, Final Report,” Winston B. Mandah Mtekateka, August 30, 1995.
- “Standard Six End of Term CRT Tests, Final Report,” Winston B. Mandah Mtekateka, August 30, 1995.
- “CRT Testscores Database Management System, Final Report,” Winston B. Mandah Mtekateka, August 30, 1995.
- “CRT Trainers Database Management System, Final Report,” Winston B. Mandah Mtekateka, August 30, 1995.
- “Evaluation of the Criterion-Referenced Testing Implementation Plan Established by the Curriculum Development and Evaluation Department,” Anthony J. Nitko, June 24, 1993.
- “Criterion-Referencing, Continuous Assessment, and Junior Certificate Examination in Botswana:

- "A Time for Decisions," Anthony J. Nitko, October 21, 1993.
- "Curriculum Review Guidelines for the Teacher Training Colleges," J. Odharo, August, 1995.
- "English Language Consultancy," Janet Ramsay Orr, June, 1995.
- "Guide for the Structure, Organization and Implementation of Senior Secondary School Examinations in Botswana," Kofi Quansah, Ph.D, April, 1995.
- "Management Manual for the Teacher Training Colleges," Panafrigue Management Consultants, August, 1995.
- "Multiplier Effect Strategy for the Training of Teachers in Criterion-Referenced Testing and Continuous Assessment," Kofi B. Quansah, November 19, 1993.
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“A Graphic Look at Botswana Basic Education,” Republic of Botswana, January, 1995.

“The Revised National Policy on Education,” Republic of Botswana, March, 1994.

“Botswana Education Statistics in Brief,” Republic of Botswana, September, 1993.

Appendix G: Training Participants

NAME	SCHOOL	PROGRAM
Arabang, Keltebetse*	Ohio State University	Teacher Education
Botshelo, Johnson L.	U. of Nevada, Reno	Social Studies
Busang, Christopher	Ohio State University	Educational Media
Didimaleng, Clement	U. of Nevada, Reno	Special Education
Gotslleng, Dollars O.	U. of Nevada, Reno	Social Science
Kupe, Helen*	U. of Pittsburgh	Testing/Measurement
Letshabo, Kathleen	U. of Pittsburgh	Educational Measurement
Mabote, Motshwari	Ohio State University	Guidance Counseling
Manatsha, Abel	Kent State University	Art
Matenge, Brigid	Georgia Southern U.	MA English
Mmopi, Mpho B.*	U. Of Nevada, Reno	Teacher Education
Mmualefe, Theresa	U. of Pittsburgh	Educational Measurement
Moate, Solomon K.	U. of Nevada, Reno	Environmental Education
Moepi, Henry	Ohio State University	Educ. Technology/Media
Mogapi, Molefe O.*	U. of Pittsburgh	Testing/Research
Motshaba, Esther	U. of Pittsburgh	Linguistics
Nkoane, Ometse	U. of Massachusetts	Social Studies Curriculum
Oaitse, Chabaetsele	U. of Massachusetts	Language Curriculum
Pitso, Obusitswe	Clark Atlanta University	Math Curriculum
Serumola, Lekoko B.	U. of Nevada, Reno	Testing/Measurement
Tladi, Lekopanye	Ohio State University	Media
Tlhablwe, Elizabeth	Ohio State University	Guidance Counseling
Utlwang, Augustine*	U. of Pittsburgh	Educational Measurement
Wigget, Rhoda	Ohio State University	Educational Administration

*Participant remained at his/her University after end of Botswana BEC Project to continue studies.

Assessment of Program Impact Report

Botswana BEC Project

March 1995

Section III. Progress Toward Achievement of Objectives and Program Outcomes

Accomplishments of Prior USAID Funded Projects

The BEC Project consolidates the past achievements of two previous USAID-funded projects - the Primary Education Improvement Project (PEIP, 1981-1992) and the Junior Secondary Education Improvement Project (JSEIP, 1985-1991). These projects helped significantly in bringing about major advances in the access to and delivery of quality basic education programs in Botswana. The primary purpose of the PEIP project was to strengthen the Ministry of Education (MOE) and the University of Botswana capacity to organize, revise and implement an effective pre-service and in-service curriculum for primary teacher education. Major accomplishments of this project include the formation of a fully functioning Department of Primary Education at the University of Botswana that offers undergraduate and graduate level programs in primary education; the organization of teacher training programs at the Primary Teacher Training Colleges; and the development of an in-service education network including the construction of eight new education centers and the training of educators to carry out in-service education programs. Under its human resource development component, PEIP provided training to about 80% of the lecturers assigned to Primary Teacher Training Colleges, to 100% of the Primary Education Officers, and approximately 75% of the education center professional staff.

Both the PEIP and JSEIP projects have assisted the Government of Botswana to make very significant progress in improving the quality, relevancy and efficiency of basic education and in expanding access to basic education. As shown in Exhibit 1, in 1982 a year after PEIP began, there were 463 primary schools with a combined enrollment of 188,218, representing a net enrollment ratio of 85%. By 1992, there were 643 primary schools with a total enrollment of 301,482, yielding a net enrollment of 90%. At the same time, the quality of the teaching staff had improved significantly. For example, the percent of trained primary school teachers increased from 65% in 1982 to 91% by 1993.

In 1983 the GOB extended universal access to junior secondary education. In response to this decision USAID increased its assistance to the MOE with the Junior Secondary Education Improvement Project. During the implementation phase of JSEIP, junior secondary (Forms 1 and 2) enrollments increased from 12,687 in 1982 to 68,966 by 1993 as shown in Exhibit 1. By 1993, the MOE was able to place all Standard 7 leavers in Form 1. JSEIP also assisted the MOE improve the quality of junior secondary school teachers, resulting in the percent of trained junior secondary school teachers increasing from 56% in 1982 to 79% by 1993. Female student enrollment remained higher than male enrollments throughout the school system.

The Education Training Centers which were institutionalized under JSEIP and PEIP, enabled the MOE to provide continuous in-service teacher training. Additionally, the capability of the Junior Secondary teacher training colleges were strengthened by providing educational materials and technical advisors to improve teacher preparedness and curriculum development.

During the JSEIP years, the curriculum of the Molepolole College of Education was expanded to include Instructional Design, Mixed Ability Teaching Strategies (Teaching of Heterogeneous Grouped Students), Special Education, Criterion-Referenced Testing (CRT) and Continuous Assessment (CA), Micro Teaching (Video taping pre or in-service

teaching sessions for classroom supervision), Design and Technology and an internship component of Art Education. Since 1987, the Colleges of Education have trained and graduated approximately 1,500 junior secondary school teachers. Localization of primary and junior secondary school teachers increased from 60% in 1982 to 79.9 in 1993.

Exhibit 1. Basic Education Performance Indicators			
Indicators	1982	1992	1993
Primary School Enrollment	188,218	301,482	305,479
% Male	46%	49%	49%
% Female	54%	51%	51%
Gross Enrollment Ratio (GER)	100.3	108.2	102.9
Net Enrollment Ratio (NER)	84.8	90.2	91.0
Primary School Repetition Rate (%)*	5.9%	3.4%	2.6%
Standard 4	12.4%	10.8%	9.4%
Standard 7	26.2%	8.1%	4.8%
Primary School Teachers	5,998	10,409	9,772
% Trained/Retrained	64.7%	84.9%	91.0%
% Female Teachers	80.9%	76.9%	74.0%
% Botswana Citizens	60%	82%	79.9%
Primary School Pupil to Teacher Ratio	32.4	28.9	31.2
Number of Primary Schools	468	643	660
Junior Secondary School Enrollment (Form 1 & 2)	12,687	54,976	68,966
% Male	42.3%	44.5%	45.7%
% Female	57.7%	55.5%	54.3%
Progression Rates from Standard 7 to Form 1 (%)**	26.9%	77.5%	81.0%
Dropout Rates (%)	na	3.2%	3.8%
Form 1 & 2	2.1%	1.7%	1.6%
Due to Pregnancy	na	1.5%	2.2%
Due to other reasons			
Junior Secondary School Teachers	425	2,832	3,387
% Trained/Retrained	56.0%	74.9%	78.7%
% Botswana Citizens	26.6%	50.4%	56.0%
% Female	40.0%	41.1%	42.9%
Number of Junior Secondary Schools	42	157	166
* Current repeaters as a % of previous year enrollment			
** Current Form 1 enrollment as a % of previous year Standard 7 enrollment adjusted for repeaters and dropouts			

Accomplishments Under the BEC Project

A significant contribution of USAID's intervention in education in Botswana has focused on and continues to focus on improving the quality and efficiency of an expanding education system. BEC was designed to assist the Ministry of Education (MOE) to plan, implement and evaluate an integrated, consolidated and coordinated basic education program which covers the first ten years of public education. BEC is strengthening the

basic education system by establishing a process which integrates curriculum development, teacher training and student assessment. Student competencies are expected to improve and the foundation will be laid for school leavers to continue their education and/or to effectively participate in the labor market, thus enhancing their quality of life.

The operation of the BEC project is monitored by a strategic objective predicated on two program outcomes, 1.A and 1.B, each of which is also based on two sub-target objectives.

Strategic Objective No. 1: Increase the level of relevance of what students learn, their receptivity to additional training, and their preparedness for further education.

Although the implementation phase of the BEC Project is only in its second year, it has made significant progress toward the achievement of its Strategic Objective. The indicators for the strategic objective have been developed to cover all major indicators for evaluating the achievement of program outcomes 1.A and 1.B and their respective sub-targets. The indicators for evaluating the achievement of the strategic objective of the project are in general as follows:

- Number of teachers trained to use CRT procedures
- Number of students offered instruction under CRT procedures
- Availability of pedagogic materials
- Human resource training for sustainability of qualitative educational growth
- Quality of training for classroom instruction and assessment.
- Improvement in classroom teaching as a result of training in new instructional and assessment system
- Attitude of teachers and students toward the new form of assessment
- Estimates of improvement in student performance
- Improved feedback reporting system for pupils, teachers, parents, policy makers etc.
- Project assistance to the MOE in changing the national examination system from norm-referenced testing (NRT) to criterion-referenced testing (CRT)
- Preparedness of school leavers for further training

Program Outcome No. 1.A: Increased proportion of students who are offered the new curriculum and pedagogic materials, instructed by teachers trained to apply them.

The process of improving school curricula and educational materials which began under PEIP and JSEIP, has been a continuous activity of BEC. The contributions of PEIP and JSEIP coupled with the current efforts of BEC are assisting the MOE to develop and assimilate a more relevant curriculum for basic education, to better prepare students for the world of work and society.

The establishment of the Department of Teacher Training and Development (TT&D) and the collaboration of CD&E with TT&D has resulted in the systematization of the curriculum processes (i.e., development, planning, implementation, monitoring, evaluation, revision and adoption) for the primary and junior secondary schools. BEC has assisted in the infusion of special topics across the curriculum, i.e., the world of work, environmental education, family life issues including population, family planning, HIV/AIDS awareness and gender sensitivity, and has further provided assistance in the development of pedagogic

materials. The improved curriculum and the new areas of study contribute to raising the horizons of what is taught in the classroom.

BEC curriculum development effort, as well as its assistance in teacher training, are all best evaluated by an assessment of how these efforts positively impact on student learning and student performance at the classroom level and in the Botswana national school leaving examinations. Issues regarding the proportion of students who are presently receiving instruction based upon the new syllabuses and pedagogic materials, and by teachers competently trained along CRT principles, toward the improvement of student performance and preparedness for further education are dealt with under program outcome 1.B.

Program Outcome No. 1.B: System established to provide feedback on student learning achievement to pupils, teachers, parents, policy makers, and private sector.

The two sub-target objectives of this outcome specify the establishment of criterion-referenced testing and continuous assessment procedures for classroom instruction and assessment, and further specify the development of an instruction and assessment system that can be used for evaluating the performance of the Botswana educational system.

Improved learning and achievement is a long term objective and is accomplished through a composite of factors many of which are listed above under the strategic objective. For ease of reporting and understanding of BEC accomplishments, the first four indicators in the above list have been grouped together since they all deal essentially with training. A report of the BEC project impact as assessed by the eleven indicators is therefore provided under eight headings.

Number Teachers trained and Number of Students instructed under the CRT system with new Syllabuses and Pedagogic Materials.

Within the short period of its operation, the BEC project has assisted the MOE in training teachers in the use of the new primary school syllabuses developed by the Curriculum Development Division (CDD) and supplied to all schools in January 1993. Teacher training programs have been organized by the Criterion-Referenced Testing Implementation Committee (CRTIC) in cooperation with the Inservice Unit of TT&D through a series of workshops starting in April 1993. The CRTIC consists of representatives from the following departments of the MOE: Curriculum Development and Evaluation Department (CD&E), Department of Teacher Training and Development (TT&D), the Secondary Department and the Primary Department. The training plan involved a selection of 41 pilot schools, representing 7 percent of the total number of primary schools. A decision was made to start training teachers in the upper primary sector within the pilot phase. A second decision was to start training Standard V teachers, and to follow them through to Standard VII which is the end of the primary school circle. The pilot phase was to start from 1993 to 1994, with training at the national level starting in 1995 and ending in 1997, by which time it was expected that all primary school teachers would have been trained in the use of criterion-referenced testing and continuous assessment principles for classroom use. By the middle of 1994, a total of 250 teachers from the pilot schools had been trained. In April 1994, with BEC assistance, a multiplier effect training system was introduced by the CRTIC and discussed with the Department of Teacher Training and Development as the system to be used for the national training of teachers, with TT&D spearheading the national effort.

Eighty trainers consisting of Senior Education Officers, Education Officers, Teacher Advisers and lecturers of teacher training colleges were subsequently trained by the CRTIC in two training workshops in September and October 1994. It was planned that the trainers would in turn train a corps of 400 resource persons in the national training program. For purposes of practical training experience, the 80 trainers directly trained 1,846 standard V teachers and school principals, approximately 19 percent of the total of 9,772 primary school teachers by the middle of December 1994, through workshops organized in the five regions of the country. While the training is primarily focused on CRT and CA, a second aspect of the training is to help teachers toward a better understanding and use of the new syllabuses and materials. The training of the 400 resource persons is planned to start in May 1995. Using the resource persons, it is hoped that a total of 5000 primary school teachers would have received CRT training by the end of 1995, and at least 80% of all primary school teachers trained by the end of 1997 to be able to use the new syllabuses. It is planned to increase the number of resource persons to about 700 in order to ensure that by the end of 1996, there will be at least one resource person, well trained in CRT and CA in each school to be able to provide continued help to other teachers in the school. Table 2 shows the projected numbers of teachers expected by to be trained each year till 1997.

The total number of primary school students presently offered instruction under the CRT procedures is about 45,600, that is 15% of the total number of 301,482 primary school students. The number consists of about 43,100 students in all Standard V classes across the country and a further number of about 2,500 students in Standards VI and VII in the pilot schools where teacher training in CRT started in 1993. The number of classrooms using criterion-referenced procedures for assessment and instruction is about 20%. The numbers of teachers trained in CRT procedures as well as the numbers of students and classrooms receiving instruction under the CRT system, with projections up to 1997, are shown in Table 2.

The training of junior secondary school teachers will also proceed by the multiplier effect system. Working with TT&D, a corps of trainers will be selected and trained by October 1995, to undertake the national training of all junior secondary school teachers, numbering about 4,000.

Apart from the training of teachers in the new assessment and instructional system, one of the more enduring impacts of USAID's involvement in promoting education activities in Botswana is in human resource development. Beneficiaries of USAID sponsored long and short-term training now hold key positions across different levels of the Ministry of Education and continue to contribute significantly to Botswana's educational improvement efforts. PEIP and JSEIP funded long-term training had a net positive effect transcending the Ministry of Education. Several of the participants are now working for other Ministries, parastatals, and private sector businesses. Within the BEC project, personnel training of counterparts has been advanced. On-the-job training for Curriculum Development Officers (CDOs) and the Curriculum Division support staff has been provided in curriculum design, production and testing of syllabi as well as computer training. In-house training of the Examinations, Research and Testing Division has also been conducted and will be intensified within the project close-out period. The investment in staff training has demonstrated a noticeable improvement in the contractual relevance of instructional materials, coupled with a decrease in the lead time and costs associated with the development, production, testing and distribution of materials. Currently, many of the primary and junior secondary school instructional materials are locally developed and produced.

Quality of training for Classroom Instruction and Assessment

The focus of the training is on a clear understanding of criterion-referenced testing principles basing the training and instruction on the new primary school syllabuses. Participants therefore acquire knowledge of criterion-referenced testing system of instruction and assessment, and are also trained in the understanding and use of the new syllabuses. The training covers the principles of CRT, the relationship between instruction and learning behaviours, the development of criterion-referenced tests for assessing classroom instruction, marking, grading, analysing and using classroom test results for improving student learning and for remedial instruction. In order to systematise the CRT training, BEC has assisted the MOE in developing a Teachers' Handbook on Criterion-Referenced Testing and Continuous Assessment. Over 2000 copies are available for the training programme at the moment. Each teacher receives a copy of the handbook upon completion of the training. The final draft of the handbook will be printed by the MOE in the middle of 1995. The training has been very intensive, and as a result the MOE has decided that training in continuous assessment should be temporarily delayed till all teachers have had sufficient training in CRT. Already, four subjects in the junior secondary school curriculum have continuous assessment components. The extension of CA to all primary and junior secondary school subjects will be undertaken by the MOE.

To ensure that students in teacher training colleges receive accurate instruction in CRT procedures, BEC has developed updated course programmes in educational measurement for the Colleges of Education and the Primary Teacher Training Colleges. Finalization of the draft courses will be undertaken by TT&D, with participation from the training colleges, and the Department of Curriculum Development and Evaluation before the middle of the year. Implementation of the new educational measurement programmes will start in the academic year beginning in 1996. In preparation for the new programme, the CRTIC will organize training programmes for teacher training college lecturers in 1995. Criterion-referenced testing and Continuous Assessment (CA) were introduced into the teacher training curriculum just prior to the completion of the PEIP and JSEIP projects. BEC is however, assisting the MOE in institutionalizing CRT in the classroom and in the national examinations for primary school and junior secondary school leavers.

Improvement in Classroom Teaching as a Result of Training in New Instructional and Assessment System

Each of the pilot schools which have had training in CRT is expected to produce a report on CRT activities in their respective school using an outline provided by the CRTIC at the end of each term. Reports from the majority of the pilot schools indicate positive changes in the school instructional system using the new CRT procedures. Reports collected in 1993 and 1994 indicate that: (1) CRT training improves teachers' sensitivity to student concerns and curriculum objectives, (2) teachers who have had CRT training accord their students individualized attention and instruction, and (3) course presentation and test preparation skills in CRT-trained teachers have improved dramatically.

Attitude of Teachers and Students Toward the New Form of Assessment

Analysis of the reports also indicate highly positive attitude toward the CRT system of instruction and assessment on the part of teachers. Of the 35 returns from the 41 pilot schools, 80.0% of teachers indicated high positive attitude toward the use of CRT procedures as shown in Exhibit 2. Only 9 of the 35 schools gave indication of students' attitude toward the CRT system of instruction and assessment. To be validly assessed, the

Performance Indicator	Specific Evidences																								
Increased student achievement and competencies as measured by criterion-referenced test scores.	<p>A 25-item CRT-based test was administered to the pilot standard 5 students in both 1993 and 1994 in three subjects, namely, mathematic, social studies and Setswana. In 1993, The teachers received their initial training in CRT and therefore the same teachers moved to standard 6 with their students. A 25 item test was administered to the same students in 1994. The results of the tests were as follows.</p> <table border="1"> <thead> <tr> <th>Subject Area</th> <th colspan="2">1993</th> <th colspan="2">1994</th> <th>Significance of Difference</th> </tr> </thead> <tbody> <tr> <td>Mathematics</td> <td>9.011</td> <td>36.0%</td> <td>9.740</td> <td>39.0%</td> <td>None</td> </tr> <tr> <td>Social Studies</td> <td>11.058</td> <td>44.2%</td> <td>13.041</td> <td>52.2%</td> <td>p<.01</td> </tr> <tr> <td>Setswana</td> <td>16.914</td> <td>67.7%</td> <td>16.691</td> <td>66.8%</td> <td>None</td> </tr> </tbody> </table> <p>The difference between the means for 1993 and 1994 for math and Setswana were reported as not statistically significant. SOURCE: BEC Technical Advisors' reports</p>	Subject Area	1993		1994		Significance of Difference	Mathematics	9.011	36.0%	9.740	39.0%	None	Social Studies	11.058	44.2%	13.041	52.2%	p<.01	Setswana	16.914	67.7%	16.691	66.8%	None
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Increased teacher and student attitudes toward CRT-based teaching and learning.	<p align="center">Attitude Assessment in Pilot Schools (1993) for the CRT Testing</p> <table border="1"> <thead> <tr> <th></th> <th>High</th> <th>Moderate</th> <th>None</th> </tr> </thead> <tbody> <tr> <td>Teachers</td> <td>80.0%</td> <td>16.7%</td> <td>3.3%</td> </tr> <tr> <td>Students</td> <td>77.8%</td> <td>11.1%</td> <td>11.1%</td> </tr> </tbody> </table> <p>Survey questionnaires were returned by 35 of the 41 pilot schools. However, the reports submitted by five schools were inadequate and could not be included. The survey instrument was aimed at teachers' attitudes rather than students. The indication of students attitudes toward the CRT testing were teachers' judgements of students' attitudes. With only nine schools reporting students' attitudes, the data on students is inconclusive. SOURCE: BEC Technical Advisors' reports.</p>		High	Moderate	None	Teachers	80.0%	16.7%	3.3%	Students	77.8%	11.1%	11.1%
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Increased preparedness of school leavers for further training and higher education.	<p align="center">Number of Qualified Applicants</p> <table border="1"> <thead> <tr> <th rowspan="2">Institutions</th> <th colspan="2">1993</th> <th colspan="2">1994</th> <th colspan="2">%Change</th> </tr> <tr> <th>Applicants</th> <th>Accepted</th> <th>Applicants</th> <th>Accepted</th> <th>Applicants</th> <th>Accepted</th> </tr> </thead> <tbody> <tr> <td>1. University of Botswana</td> <td>3,985</td> <td>2,016</td> <td>5,340</td> <td>2,961</td> <td>34%</td> <td>46%</td> </tr> <tr> <td>2. Polytechnic</td> <td>1,500</td> <td>485</td> <td>1,700</td> <td>593</td> <td>13%</td> <td>22%</td> </tr> <tr> <td>3. BOCCIM</td> <td>1,123</td> <td>887</td> <td>685</td> <td>609</td> <td>39%</td> <td>31%</td> </tr> <tr> <td>4. National Productivity Center</td> <td>-</td> <td>-</td> <td>306</td> <td>306</td> <td>-</td> <td>-</td> </tr> <tr> <td>5. Molepolole Teachers College</td> <td>1,350</td> <td>1,004</td> <td>2,562</td> <td>1,005</td> <td>89%</td> <td>0%</td> </tr> <tr> <td>6. Francistown Teachers College</td> <td>2,012</td> <td>165</td> <td>2,544</td> <td>159</td> <td>26%</td> <td>0%</td> </tr> <tr> <td>TOTAL</td> <td>9,970</td> <td>4,557</td> <td>13,137</td> <td>5,633</td> <td>32%</td> <td>23%</td> </tr> </tbody> </table> <p>Applications for admission to Botswana academic and technical institutions, a proxy for student preparedness for further training and higher learning, showed an increase between 1993 and 1994. SOURCE: BEC Technical Advisors' reports.</p>	Institutions	1993		1994		%Change		Applicants	Accepted	Applicants	Accepted	Applicants	Accepted	1. University of Botswana	3,985	2,016	5,340	2,961	34%	46%	2. Polytechnic	1,500	485	1,700	593	13%	22%	3. BOCCIM	1,123	887	685	609	39%	31%	4. National Productivity Center	-	-	306	306	-	-	5. Molepolole Teachers College	1,350	1,004	2,562	1,005	89%	0%	6. Francistown Teachers College	2,012	165	2,544	159	26%	0%	TOTAL	9,970	4,557	13,137	5,633	32%	23%
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implications and meaning of a variable or construct on which an attitude is being assessed must be known to the respondent. CRT is essentially an assessment system with instructional and learning capabilities. Since students only know the quality of their performance rather than the principles on which a test form is based, the attitude of students as shown in Exhibit 2 is only indicative of the generally positive attitude teachers have of the CRT system of instruction and assessment.

Estimates of Improvement in Student Performance

It is expected that student learning and achievement as indicated by test scores, will improve in the long run given the variety of factors and arrangements being improved and consolidated with the project assistance. Qualitative and quantitative data are planned to be collected in a study to be undertaken about six months after the start of the national training of teachers in the application of CRT procedures. Qualitative data will involve an assessment of attitudes of teachers and students toward CRT and CA. For the quantitative data, a pre-test is planned to be administered to two national samples of students selected from Standard V and Standard VII. The scores of the Standard V sample who would have had about six months of instruction under the CRT system will be compared to the scores of the Standard VII students who would have had nearly three years of instruction under the CRT system, for any significant differences which may indicate positive effects in students' achievement within the short run. As a long term study of effects, the scores obtained on the Standard V pre-tests will be used as baseline scores to be compared to the scores the same students will obtain on the first national criterion-referenced primary school leaving examination to be administered in 1997.

In the training of teachers in CRT procedures, the CRTIC administers criterion-referenced tests at the end of each term for purposes of training teachers in the construction and use of criterion-referenced tests. As a precursor to the research to be undertaken for baseline data in the middle of 1995, test results in three primary school subjects administered to the pilot school students by the CRTIC at the end of 1993, when the students were in Standard V, were compared to test results obtained at the end of 1994 in the three subjects for the same set of students when they were in Standard VI. The two tests were not parallel tests used in pre-test, post-test fashion for estimating change. The 1993 and 1994 tests were based on the respective syllabuses for Standard V and Standard VI. The interest in the comparison was to check whether improvement in test performance could be detected for the same group of students at two different points in their learning. There are obviously problems of internal and external validity which may weaken conclusions in a study of this nature. However, the establishment of a preliminary trend in the performance of students undergoing CRT instruction and assessment was of great interest. The Standard V sample consisted of a minimum of 1570 students in each of the three subjects, while the Standard VI sample consisted of a minimum of 1245 in each of the subjects. Results of the tests in mathematics, social studies and Setswana are shown in Exhibit 2.

Test of significance, using the t-test, showed that the difference between the means of the social studies tests was significant at the .01 level. The differences between the means for the mathematics and Setswana tests were not significant. The higher score in the social studies test in 1994 could have arisen from many sources and not necessarily be due to higher performance arising from instruction under the CRT instructional and assessment system. As stated earlier, improvement in learning and in test performance is a long term effect rather than short term. It is therefore expected that significant improvements in test results will be obtained in the primary school examination subjects in 1997.

Improved Feedback Reporting System for Pupils, Teachers, Parents etc.

The present norm-referenced testing system is mainly useful as a selection device and does not provide significant feedback information on students' achievement. For an instruction and testing system to provide accurate information that can be used for improvement of classroom learning, both instruction and learning must be based on the significant learning behaviors or dimensions specified by the curriculum developers. With the assistance of BEC, a new form of criterion-referenced test with diagnostic capabilities, and based on clearly specified test dimensions is being planned. Test blueprints have been developed by MOE with BEC assistance in preparation for the development of item banks that will be used for developing the new test forms. The new testing system will be computerized such that parallel tests could be developed to make it possible to compare students' performance across the years. The structure of the new tests is designed in such a way that students, teachers, parents, policy makers and prospective employers, will obtain accurate information on the competencies of students assessed by the examinations. New certificates will be structured in such a way as to provide information on the strengths and weaknesses of each student on the learning dimensions assessed in the examinations. The results of the new form of examination will be valuable for curriculum evaluation, and valuable also for the Department of Teacher Training and Development in obtaining information on areas of the syllabuses in which teachers need help through inservice programs.

Project Assistance to MOE in Changing the National Examination System from Norm-Referenced Testing to Criterion-Referenced Testing

While present attempts are focused on improving teaching, learning and assessment at the classroom level, the ultimate goal is to be able to use information on student learning and performance for improving the educational system. The norm-referenced testing system that has so far been used for national primary and junior secondary school leaving examinations do not provide any valuable information for diagnosing student learning problems and for educational improvements at the national level. For this reason, the MOE has decided to change the norm-referenced testing system at the national level to a criterion-referenced examination system at both the primary school leaving examination and the junior certificate examination. Since BEC will end in September 1995, and will therefore not be available to assist the MOE in organizing the new examination system for national certificates, BEC has developed a "Guide for the Structure, Organization, and Implementation of National Examinations" to help the MOE in implementing the new national certificate examinations based on the principles of criterion-referenced testing and continuous assessment. The guide deals with issues in establishing an examinations council, as intended by the MOE, and provides guidelines for examinations paper development, test administration, test scoring, data processing, and grading of criterion-referenced examination results. Further issues included in the guide are procedures for writing and using reports based on examination results for educational improvement, and the critical issue of examinations security. The guide lastly provides a month by month activity plan for three critical areas of the national examinations process.

Preparedness of School Leavers for Further Training

As the quality of education improves, it is expected that students will develop more interest in further education, and will also be more prepared for further education and training. Student receptivity to additional training is built into the schools' career guidance curriculum where students become aware of whether of not additional education and

training is required for their chosen careers. The official MOE practice of emphasizing the world of work reinforces student receptivity for additional education or training. The indicator on preparedness of school leavers for further training may not validly be used for assessing the achievement of the BEC project. The project is only in its second year and school leavers preparedness for further training may therefore not necessarily be attributable to the efforts of the project. It is however, a reasonable expectation that the cumulative improvements in education under PEIP and JSEIP should by this time have resulted in an accretion of knowledge and skills that would make school leavers at this stage wish to proceed to higher forms of education and training.

To check this assumption, information was obtained from local training institutions and analysed in terms of the increases in the number of applicants for entry into the respective institutions and the number accepted for admission. Information provided by the following post secondary training institutions, the University of Botswana; the MOE teacher training colleges; the Botswana Confederation of Commerce, Industry and Manpower; a Parastatal Training Center and Vocational Training Centers, indicate that the total number of qualified applicants desiring additional training is clearly on an increase. For example, the number of qualified applicants who sought admission for further training increased by more than 30% from 1993 to 1994 as shown in the chart in Exhibit 2. The trend noticed in these preliminary findings will be verified in 1995 by a retrospective study of the past five years.

Conclusion

By agreement reached between the CRTIC and the Department of Teacher Training and Development, the training of primary and junior secondary school teachers in criterion-referenced testing procedures for instruction and assessment will be organized and conducted by TT&D. The CRTIC and TT&D will jointly monitor the training programme and will organize further workshops for updating the trainers and resource persons. There is every hope that the efforts being made will result in higher student learning and achievement in both classroom tests and in national school leaving examinations. Education is only good enough if the results of examinations could be used for diagnosing student learning problems and could further be used for evaluating the performance of the educational system from year to year toward sustained improvement. The present norm-referenced testing system cannot provide information that may be used for improving education at the national level. On the other hand, for criterion-referenced testing to be able to provide valid and reliable information that can be used for evaluating the performance of the educational system, and for making needed improvements in the instructional and learning system, the testing system should be structured in such a way that the national certificate tests would be parallel from year to year. It is for this reason that the project has been very interested in assisting in the development of modernized form of criterion-referenced tests that are based on the assessment of profile dimensions, and that are computer generated. The basic activities needed to be accomplished toward this end, including the development of test blueprints, determining the dimensions and their respective weights for structuring and scoring the examinations etc., have been completed. Other activities currently under way include standards setting, arrangements for developing a computerized item bank system, and the writing of reports for educational improvement. At least 45% of the activities would have been completed by the end of the project in September 1995.

Table 2. Assessment of USAID/Botswana's Basic Education Program Impact (Fiscal Year 1994)

Performance Indicators	Data Sources	Baseline			Actual & Performance Targets					
		Year	Units	Value	Actual		Performance Targets			
					FY 1993	FY 1994	FY 1994	FY 1995	FY 1996	FY 1997
Strategic Objective No. 1: Increase the level and relevance of what students learn, their receptivity to additional training, and their preparedness for further education										
1. Data from criterion-referenced PSLE will demonstrate an improvement in student achievement and comparability	Criterion-referenced PSLE test results	1993	Composite Mean CRT Score on subjects tested	49.2%	49.2%	52.4%	51%	53%	55%	55%
2. Qualitative documentation will demonstrate an improvement in levels of student and teachers' attitudes and competencies	BEC-operated classroom surveys, classroom ethnographies, a checklist of skills, competencies	1993	% increase in number of students with positive attitudes: - Student Attitudes - Teacher Attitudes	77% 80%	77% 80%	- -	75% 80%	80% 85%	85% 90%	85% 90%
3. Surveys will demonstrate an improvement in student preparedness for additional training and further education	Survey of applicants to Botswana colleges	1993	Number of qualified applicants	9,970	9,970	13,137				
Program Outcome No. 1.A: Increased proportion of students in classrooms who are offered the new curriculum and pedagogic materials, instructed by teachers trained to apply them										
1. Percent of students who are receiving instructions under CRT and using new syllabuses, etc.	BEC-operated classroom surveys, classroom ethnographies, training reports, random surveys of first-year teachers, surveys before and after workshops, teacher evaluations	1993	% of students	1.3%	1.3%	15%	5%	45%	60%	80%
2. Percent of teachers trained to utilize new curricular materials		1993	% of teachers - primary school	1.3%	1.3%	19%	5%	45%	60%	80%
Program Outcome No. 1.B: System established to provide feedback on student learning achievement to pupils, teachers, parents, policy-makers, and the private sector										
1. Percent of primary & junior secondary school classrooms in which criterion-referenced assessment and instructional systems are used	Semiannual progress reports, checklists, classroom surveys	1993 1994	% of classrooms - Primary - Junior Secondary (Deffered to Oct. '95)	1.3% 0%	1.3% 0%	20% 0%	5% 0%	45% 5%	60% 40%	80% 80%
2. Documentation to demonstrate a progressive implementation of process toward national CRT assessment and feedback systems ¹		1993	% progress toward implementation	0%	0%	17%	15%	40%	60%	80%

¹ On September 24, 1994, the Ministry of Education decided to differ the Continuous Assessment activities to a later date when CRT would have been sufficiently implemented throughout the school system

Basic Education Consolidation Project

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Computer	LC 475 (8/160) with 14" colour monitor and extended keyboard	CPU: CK334045126 Monitor: TY309331051827 Keyboard: AM9131XHM0115Z	11/15/93	\$2,905.00	BEC 223A		To be transferred to ERTD
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4405CC3WQ Monitor: S14058ZE08 Keyboard: MM349GEB03NZ	12/08/94	\$3,117.58	BEC 223B		To be transferred to ERTD
Computer	LC 475 (8/160) 14" colour monitor and extended keyboard	CPU: CK33502B12L Monitor: TY309331051870 Keyboard: AM913WYM0115Z	11/15/93	\$2,905.00	BEC 228		To be transferred to ERTD
Computer	PowerBook 520 (4/160) with 8mb upgrade and case	CK41701E1XN	12/08/94	\$2,915.99	CDD Production 1		To be transfered to ERTD
Computer	PowerBook 520 (4/160) with 8mb upgrade and case	CK4170FQ1XN	12/08/94	\$2,915.99	CDD Production 1		To be transfered to ERTD
Computer	LC 475 (8/160) 14" colour monitor and std. keyboard	CPU: CK33403V12L Monitor: TY309331051876 Keyboard: MM3302UM03NZ	11/15/93	\$2,905.00	ERTD	CPU: 0004435 Monitor: 0004473	
Computer	LC 475 (8/160) 14" colour monitor and extended keyboard	CPU: CK33424512L Monitor: TY30933105117 Keyboard: AM0104M2M3501Z	11/15/93	\$2,905.00	TT&D (Johnson)		To be transferred to ERTD
Computer	LC 475 (8/160) 14" colour monitor and extended keyboard	CPU: CK436C184RJ Monitor: S14151FZE08 Keyboard: FL4367BT39J	11/15/93	\$2,905.00	TT&D (D.K.)		To be transferred to ERTD
Computer	PowerBook 180 (4/80) without case	CK308141440	11/03/93	\$4,476.50	BEC 228		To be transferred to ERTD
Computer	PowerBook180 (4/80) with case	CK3101BX441	11/03/93	\$4,476.50	CDD 315		To be transferred to ERTD
Printer	Laser Printer Model MO198Z	C7460BG0198Z	01/93	N/A	BEC 227		Transferred from JSEIP; to be transferred to ERTD
Printer	LaserWriter Pro 630	CA346T10126	12/13/93	\$2,332.00	BEC 223A		To be transferred to ERTD
Printer	StyleWriter II with case	CG426E8Z103	12/08/94	\$438.00	CDD Production 1		
Printer	StyleWriter II with case	CG426E96103	12/08/94	\$438.00	CDD Production 1		

Basic Education Consolidation Project

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Photocopier	Sanyo Z135 Copier with document feeder and sorter	Copier: 201X3981 Feeder: 21117 Sorter: 13121155	02/24/94	\$10,423.00	BEC 223A		
Facsimile	Arzoom Remez FAX 101, ARFAX2000	922010475	N/A	N/A	BEC 228		
Refrigerator	HiTech, model no. HR-1500	308250021	N/A	N/A	BEC 223		
Binder	Binding Machine CB 400	804683	31/07/95	P1399.00	ERTD		
Projector	2000 AHR Portable Elmo Combo Projector with carrying case	837135	09/08/95	P2595.00	ERTD		
Projector	2000 AHR Portable Elmo Combo Projector with carrying case	837130	09/08/95	P2595.00	ERTD		
Projector	Elite Vision Overhead Projector 2000, Model 914	6022	07/09/95	P1,850	ERTD		
Shredder	Ideal Shredder 3802cc	1519503	03/08/95	P7,628.00	ERTD		
Shredder	Ideal Shredder 1000		03/08/95	P1,269.00	ERTD		
Photocopier	Nashua copier model 6655 with feeder model DF-60	Copier: A3364090220 Feeder: 3384110815	18/08/95	P37,544.00	ERTD		
Computer	AST Bravo MS P/90, 17" SVGA Colour monitor, mouse,	CPU: 514BKL001508 Monitor: 503BD02776 Keyboard: M950337955 Mouse: FCC ID C3KABUS1	15/09/95	P12,783	ERTD		
Printer	HP Laserjet 4 Plus 12PPM 600DPI, 2MB RAM	USFN003972	15/09/95	P5,780	ERTD		
Tape Back-up	Conner 850MB Ext Tape Streamer		05/09/95	P2,583.00	Guidance		Built into computer # 145BPC020849
Projector	Infocus LitePro with Laser Pointer, model 2600	9AA005295	05/09/95	P16,000.00	Guidance		

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Basic Education Consolidation Project

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Projector	Infocus LitePro with Laser Pointer, model 2600	9AA005234	05/09/95	P16,000.00	Guidance		
Printer	HP Scanjet IICx		05/09/95	P6,500.00	Guidance		Not yet delivered (18/09/95)
Printer	HP Deskjet660C Color, model C2164A	SG54PICOSK	05/09/95	P3,800.00	Guidance		
Computer	AST Laptop Ascentia 910N, 486DX4, model 4/75CS10	(FCCID-DJKPWRE 486900N) 202663-00IXT HKQ3816133	05/09/95	P16,000.00	Guidance		
Computer	AST Laptop 486DX4	(FCCID-DJKPWRE 486900N) 202663-00IXT HKQ3816827	05/09/95	P16,000.00	Guidance		
Computer	AST 486DX4, Sound Blaster Edutainment, 14" colour monitor, enhanced keyboard, Robotics FaxModem	CPU: 145BPC020849 Monitor:334M086544 Keyboard: 2160227 Mouse: 1625016	05/09/95	P19,700	Guidance		
Computer	AST 486DX4, Sound Blaster Edutainment, 14" colour monitor, enhanced keyboard, Robotics FaxModem	CPU: 145BPC021278 Monitor: 354M910751 Keyboard: 2160223 Mouse: 1625007	05/09/95	P19,700	Guidance		
Computer	Macintosh SE, Model M5011	800753	01/93	N/A	BEC		Transfer from JSEIP; to be transferred to ERTD
Computer	Macintosh SE, Model M5010	CK909HC4	01/93	N/A	BEC		Transfer from JSEIP; to be transferred to ERTD
Computer	Macintosh SE, Model A9M0331	1099802	01/93	N/A	BEC		Transfer from JSEIP; to be transferred to ERTD

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Basic Education Consolidation Project

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Hard Disk	Model M2610	C7040HL	01/93	N/A	BEC		Transfer from JSEIP
Typewriter	Brother Model AX-20	F61558349	01/93	N/A	BEC 223		Transfer from JSEIP
Typewriter	Brother Model CE-500	F61580668	01/93	N/A	Production 1		Transfer from JSEIP
Photocopier	Type U-BIX 2202	008935193	01/93	N/A	BEC		Transfer from JSEIP

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Curriculum Development Division

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4403TK3WQ Monitor: S14058ZFE08 Keyboard: MM347DX303NZ	12/08/94	\$2,516.62	CDD 319		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4398H93WQ Monitor: S13481QUE08 Keyboard: MM408R1703NZ	12/08/94	\$2,516.62	CDD 317		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4398X23WQ Monitor: S14053D1E08 Keyboard: MM405M9N03NZ	12/08/94	\$2,516.62	CDD 315		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4398GQ3WQ Monitor: S1349461E08 Keyboard: MM402LTQ03NZ	12/08/94	\$2,516.62	CDD 313		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4403U83WQ Monitor: S141508SE08 Keyboard: MM402LT203NZ	12/08/94	\$2,516.62	CDD 311		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4403TS3WQ Monitor: S14058ZDE08 Keyboard: MM402LNH03NZ	12/08/94	\$2,516.62	CDD 309		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4395RC3WQ Monitor: S14053CWE08 Keyboard: MM347D8J03NZ	12/08/94	\$2,516.62	CDD 302		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4397TE3WQ Monitor: S140509ME08 Keyboard: MM402LPA03NZ	12/08/94	\$2,516.62	CDD 304		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK44030N3WQ Monitor: S14058ZCE08 Keyboard: MM402LP603NZ	12/08/94	\$2,516.62	CDD 306		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4405C93WQ Monitor: S13482LCE08 Keyboard: MM402LP503NZ	12/08/94	\$2,516.62	CDD 308		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4398GS3WQ Monitor: S13481ZTE08 Keyboard: MM405M9V03NZ	12/08/94	\$2,516.62	CDD 310		

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Curriculum Development Division

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK43975T3WQ Monitor: L04030VAE08 Keyboard: MM402LP903NZ	12/08/94	\$2,516.62	CDD 312		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4405CG3WQ Monitor: S14058YVE08 Keyboard: MM402LTP03NZ	12/08/94	\$2,516.62	CDD 314		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4405BH3WQ Monitor: S141508QE08 Keyboard: MM402LTM03NZ	12/08/94	\$2,516.62	CDD 316		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK43996V3WQ Monitor: S13482LDE08 Keyboard: MM402LUM03NZ	12/08/94	\$2,516.62	CDD 318		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4403U43WQ Monitor: S13481QYE08 Keyboard: MM405M9503NZ	12/08/94	\$2,516.62	CDD 320		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK42069837R Monitor: SG4330WUE08 Keyboard: MM408R1A03NZ	12/08/94	\$2,516.62	CDD 322		
Computer	Power Mac 6100 (8/160) with 14" colour monitor and std. keyboard	CPU: CK4398HC3WQ Monitor: S13481ZRE08 Keyboard: MM347DXA03NZ	12/08/94	\$2,516.62	CDD 206		
Computer	Power Mac 6100 (8/160) with 17" colour monitor and extended keyboard	CPU: CK4405BG3WQ Monitor: S14341X61XX Keyboard: AL4452Z4M3501Z	12/08/94	\$3,117.58	CDD Production 2		
Computer	Power Mac 6100 (8/160) with 17" colour monitor and extended keyboard	CPU: CK4403UK3WQ Monitor: S14332791XX Keyboard: AL4452Z6M3501Z	12/08/94	\$3,117.58	CDD Production 2		
Computer	Quadra AV (24/230/CD) with 21" colour monitor and extended keyboard	CPU: CK3465WXCE3 Monitor: FS350NNWA02 Keyboard: AL3330COM3501Z	01/17/94	\$10,670.00	CDD Production 1		Upgraded to Power Mac 8100/80 (24/500)
Computer	Power Mac Server AWS 8150 (16/2GB/DAT/CD), 14" colour monitor and extended keyboard	CPU: CK4340P333U Monitor: S14051JFE08 Keyboard: AL4452Z2M3501Z	12/06/94	\$9,612.30	CDD Production 3		

Curriculum Development Division

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Computer	Power Mac 8100/80 (64/500/CD), 17" colour monitor and extended keyboard	CPU: CK4403U43WQ Monitor: S14290L51XX Keyboard: AL4452Z3M3501Z	12/06/94	\$7,264.83	CDD Production 3		
Video Editor	Media 100 component set	Part 1: 00285039 Part 2: 00279761 Part 3: 00282222 Part 4: 00284517	01/23/94	\$8,195.00	CDD Production 3		
Hard Drive	Seagate Elite 9GB hard drive	SB307390	01/23/94	\$4,476.50	CDD Production 3		
Hard Drive	Seagate Elite 9GB hard drive	SB314906	01/23/94	\$4,476.50	CDD Production 3		
Video Recorder	Sony SVO-9620 VCR PAL/NTSC VHS	11751	01/25/95	\$5,343.00	CDD Production 3		
Monitor	14" Apple RGB Monitor	SG501J3N0QX	12/08/94	\$458.00	CDD Production 3		Upgraded to AV monitor
Printer	LaserWriter Pro 810 with 8mb upgrade	DK417025855	12/08/94	\$7,019.04	CDD Production 1		
Printer	LaserWriter Pro 630	CA41745M126	12/08/94	\$2,118.40	CDD 307		
Printer	LaserWriter Pro 630	CA41745J126	12/08/94	\$2,118.40	CDD 320		
Printer	LaserWriter Pro 630	CR350VQX126	1/27/94	\$2,357.00	CDD Production 2		
Video Projector	Sharp XV-310P LCD	409318458	12/22/94	\$2,267.00	CDD Production 1		
Photocopier	Konica 4060 Copier	572303111	03/02/95	\$27,683.33	CDD Printing		
Digital Duplicator	Riso 6300 Duplicator	95605439	12/14/94	\$11,574.00	CDD Printing		
Shredder	Taros 3190 paper shredder	652.11.00201.0	06/23/95	\$2590.75	CDD Printing		
Network Hub	IMC 16 Port 10 Base-T hub	5761686	02/22/95	\$767.30	CDD 308		
Network Hub	IMC 16 Port 10 Base-T hub	5761692	02/22/95	\$767.30	CDD 307		
Network Hub	IMC 16 Port 10 Base-T hub	85704229	02/22/95	\$767.30	BEC 223B		

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Curriculum Development Division

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Network Hub	IMC 16 Port 10 Base-T hub	65261884	02/22/95	\$767.30	CDD Production 1		

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Software

Item	Description	Purchase Date	Cost	Location	Comments
Software	Microsoft Office 4.2.1 w/ 10 user licenses	12/08/94	\$141.00	CDD	
Software	Microsoft Office 4.2.1 w/ 10 user licenses	12/08/94	\$141.00	CDD	
Software	Microsoft Office 4.2.1 w/ 10 user licenses	12/08/94	\$141.00	CDD	
Software	Microsoft Office 4.2.1 w/ 10 user licenses	12/08/94	\$141.00	TT&D	
Software	Microsoft Office 4.2.1 w/ 10 user licenses	12/08/94	\$141.00	TT&D	
Software	4th Dimension Server	12/08/94	\$934.00	CDD	
Software	4th Dimension Server	12/08/94	\$934.00	TT&D	
Software	4th Dimension Client	12/08/94	\$384.00	CDD	
Software	4th Dimension Client	12/08/94	\$384.00	CDD	
Software	4th Dimension Client	12/08/94	\$384.00	CDD	
Software	4th Dimension Client	12/08/94	\$384.00	TT&D	
Software	4th Dimension Client	12/08/94	\$384.00	TT&D	
Software	4th Dimension Client	12/08/94	\$384.00	TT&D	
Software	SAM Administrator	12/08/94	\$256.00	CDD	
Software	SAM Administrator	12/08/94	\$256.00	TT&D	
Software	SAM Standard	12/08/94	\$29.00	TT&D	
Software	SAM Standard	12/08/94	\$29.00	CDD	
Software	SAM 50 user license pack	12/08/94	\$1111.00	CDD/TT&D	35 users CDD 15 users TT&D
Software	PageMaker 5.0 10 user pack	12/08/94	\$1702.00	CDD	
Software	Norton Administrator 25 user pack	12/08/94	\$340	CDD	
Software	Norton Administrator 25 user pack	12/08/94	\$340	TT&D	
Software	Norton Utilities Standard	12/08/94	\$42.00	CDD	
Software	Norton Utilities Standard	12/08/94	\$42.00	TT&D	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Kasane Educ. Centre	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Serowe Educ. Centre	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Tsabong Educ. Centre	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Ghanzi Educ. Centre	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Mochudi Educ. Centre	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Lobatse Educ. Centre	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Mahlapye Educ. Centre	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Francistown Educ. Centre	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Molepolole Educ. Centre	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Tlokweg Educ. Centre	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Selebe Pikwe Educ. Centre	

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L&S

Software

Item	Description	Purchase Date	Cost	Location	Comments
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Maun Educ. Centre	
Software	Adobe Pagemaker 5.0	07/08/95	\$445.00	Kasane Educ. Centre	
Software	Adobe Pagemaker 5.0	07/08/95	\$445.00	Serowe Educ. Centre	
Software	Adobe Pagemaker 5.0	07/08/95	\$445.00	Tsabong Educ. Centre	
Software	Adobe Pagemaker 5.0	07/08/95	\$445.00	Ghanzi Educ. Centre	
Software	Adobe Pagemaker 5.0	07/08/95	\$445.00	Mochudi Educ. Centre	
Software	Adobe Pagemaker 5.0	07/08/95	\$445.00	Lobatse Educ. Centre	
Software	Adobe Pagemaker 5.0	07/08/95	\$445.00	Mahlapye Educ. Centre	
Software	Adobe Pagemaker 5.0	07/08/95	\$445.00	Francistown Educ. Centre	
Software	Adobe Pagemaker 5.0	07/08/95	\$445.00	Molepolole Educ. Centre	
Software	Adobe Pagemaker 5.0	07/08/95	\$445.00	Tlokwenng Educ. Centre	
Software	Adobe Pagemaker 5.0	07/08/95	\$445.00	Selebe Pikwe Educ. Centre	
Software	Adobe Pagemaker 5.0	07/08/95	\$445.00	Maun Educ. Centre	
Software	Aldus Fetch	07/08/95	\$167.00	Kasane Educ. Centre	
Software	Aldus Fetch	07/08/95	\$167.00	Serowe Educ. Centre	
Software	Aldus Fetch	07/08/95	\$167.00	Tsabong Educ. Centre	
Software	Aldus Fetch	07/08/95	\$167.00	Ghanzi Educ. Centre	
Software	Aldus Fetch	07/08/95	\$167.00	Mochudi Educ. Centre	
Software	Aldus Fetch	07/08/95	\$167.00	Lobatse Educ. Centre	
Software	Aldus Fetch	07/08/95	\$167.00	Mahlapye Educ. Centre	
Software	Aldus Fetch	07/08/95	\$167.00	Francistown Educ. Centre	
Software	Aldus Fetch	07/08/95	\$167.00	Molepolole Educ. Centre	
Software	Aldus Fetch	07/08/95	\$167.00	Tlokwenng Educ. Centre	
Software	Aldus Fetch	07/08/95	\$167.00	Selebe Pikwe Educ. Centre	
Software	Aldus Fetch	07/08/95	\$167.00	Maun Educ. Centre	
Software	Aldus Persuasion	07/08/95	\$278.00	Kasane Educ. Centre	
Software	Aldus Persuasion	07/08/95	\$278.00	Serowe Educ. Centre	
Software	Aldus Persuasion	07/08/95	\$278.00	Tsabong Educ. Centre	
Software	Aldus Persuasion	07/08/95	\$278.00	Ghanzi Educ. Centre	

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12/12/95

Software

Item	Description	Purchase Date	Cost	Location	Comments
Software	Aldus Persuasion	07/08/95	\$278.00	Mochudi Educ. Centre	
Software	Aldus Persuasion	07/08/95	\$278.00	Lobatse Educ. Centre	
Software	Aldus Persuasion	07/08/95	\$278.00	Mahlapye Educ. Centre	
Software	Aldus Persuasion	07/08/95	\$278.00	Francistown Educ. Centre	
Software	Aldus Persuasion	07/08/95	\$278.00	Molepolole Educ. Centre	
Software	Aldus Persuasion	07/08/95	\$278.00	Tlokweng Educ. Centre	
Software	Aldus Persuasion	07/08/95	\$278.00	Selebe Pikwe Educ. Centre	
Software	Aldus Persuasion	07/08/95	\$278.00	Maun Educ. Centre	
Software	Apple Remote Access	07/08/95	\$112.00	Kasane Educ. Centre	
Software	Apple Remote Access	07/08/95	\$112.00	Serowe Educ. Centre	
Software	Apple Remote Access	07/08/95	\$112.00	Tsabong Educ. Centre	
Software	Apple Remote Access	07/08/95	\$112.00	Ghanzi Educ. Centre	
Software	Apple Remote Access	07/08/95	\$112.00	Mochudi Educ. Centre	
Software	Apple Remote Access	07/08/95	\$112.00	Lobatse Educ. Centre	
Software	Apple Remote Access	07/08/95	\$112.00	Mahlapye Educ. Centre	
Software	Apple Remote Access	07/08/95	\$112.00	Francistown Educ. Centre	
Software	Apple Remote Access	07/08/95	\$112.00	Molepolole Educ. Centre	
Software	Apple Remote Access	07/08/95	\$112.00	Tlokweng Educ. Centre	
Software	Apple Remote Access	07/08/95	\$112.00	Selebe Pikwe Educ. Centre	
Software	Apple Remote Access	07/08/95	\$112.00	Maun Educ. Centre	
Software	Apple Remote Access	07/08/95	\$112.00	Francistown TTC	
Software	Apple Remote Access	07/08/95	\$112.00	Tlokweng TTC	
Software	Apple Remote Access	07/08/95	\$112.00	Tonota TTC	
Software	Apple Remote Access	07/08/95	\$112.00	Molepolole TTC	
Software	Apple Remote Access	07/08/95	\$112.00	Lobatse TTC	
Software	Apple Remote Access	07/08/95	\$112.00	Serowe TTC	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Francistown TTC	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Tlokweng TTC	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Tonota TTC	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Molepolole TTC	

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Software

Item	Description	Purchase Date	Cost	Location	Comments
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Lobatse TTC	
Software	Microsoft Office 4.2.1	07/08/95	\$678.00	Serowe TTC	
Software	Microsoft Office 4.3/DOS	05/09/95	\$888.00	Guidance	
Software	Adobe Freehand	07/08/95	\$352.00	Kasane Educ. Centre	
Software	Adobe Freehand	07/08/95	\$352.00	Serowe Educ. Centre	
Software	Adobe Freehand	07/08/95	\$352.00	Tsabong Educ. Centre	
Software	Adobe Freehand	07/08/95	\$352.00	Ghanzi Educ. Centre	
Software	Adobe Freehand	07/08/95	\$352.00	Mochudi Educ. Centre	
Software	Adobe Freehand	07/08/95	\$352.00	Lobatse Educ. Centre	
Software	Adobe Freehand	07/08/95	\$352.00	Mahlapye Educ. Centre	
Software	Adobe Freehand	07/08/95	\$352.00	Francistown Educ. Centre	
Software	Adobe Freehand	07/08/95	\$352.00	Molepolole Educ. Centre	
Software	Adobe Freehand	07/08/95	\$352.00	Tlokwegw Educ. Centre	
Software	Adobe Freehand	07/08/95	\$352.00	Selebe Pikwe Educ. Centre	
Software	Adobe Freehand	07/08/95	\$352.00	Maun Educ. Centre	
Software	SPSS, Serial # 515383	N/A	N/A	BEC 227	
Software	SPSS, Serial # 515382	N/A	N/A	BEC 227	
Software	SPSS, Serial # 515381	N/A	N/A	BEC 227	
Software	SPSS, Serial # 515396	N/A	N/A	BEC 227	
Software	SPSS, Serial # 515375	N/A	N/A	BEC 227	
Software	Super Paint, Serial # 397-1300	N/A	N/A	BEC 227	
Software	Super Paint, Serial # 392-1300	N/A	N/A	BEC 227	
Software	Super Paint, Serial # 394-1300	N/A	N/A	BEC 227	
Software	Super Paint, Serial # 344-1430	N/A	N/A	BEC 227	
Software	Super Paint, Serial # 345-1430	N/A	N/A	BEC 227	
Software	Excel, Serial # LV4GVW	N/A	N/A	BEC 227	
Software	Excel, Serial # GV0T4Y	N/A	N/A	BEC 227	
Software	Excel, Serial # 4GVM1U	N/A	N/A	BEC 227	
Software	Excel, Serial # 4PVG0E	N/A	N/A	BEC 227	
Software	Claris MacDraw Pro, System 7	N/A	N/A	BEC 227	
Software	Claris MacDraw Pro, System 7	N/A	N/A	BEC 227	
Software	Claris MacDraw Pro, System 7	N/A	N/A	BEC 227	
Software	Claris MacDraw Pro, System 7	N/A	N/A	BEC 227	
Software	Claris MacDraw Pro, System 7	N/A	N/A	BEC 227	
Software	Symantec AntiVirus for Mac, 3.5	N/A	N/A	BEC 227	
Software	Symantec AntiVirus for Mac, 3.5	N/A	N/A	BEC 227	

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1995/01/01

Software

Item	Description	Purchase Date	Cost	Location	Comments
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Software	Symantec AntiVirus for Mac, 3.5	N/A	N/A	BEC 227	
Software	Symantec AntiVirus for Mac, 3.5	N/A	N/A	BEC 227	

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Teacher Training and Development

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Computer	LC 475 (8/250) with 14" colour monitor, std. keyboard and 10baseT interface	CPU: CK33424512L Monitor: TY3093310521A Keyboard: AM0104M2M3501Z	12/08/94	\$1,889.76	TT&D Room 2		
Computer	LC 475 (8/250) with 14" colour monitor, std. keyboard and 10baseT interface	CPU: CK436C184RJ Monitor: S14151FZE08 Keyboard: AL4367BT39J	12/08/94	\$1,889.76	TT&D Room 2		
Computer	LC 475 (8/250) with 14" colour monitor, std. keyboard and 10baseT interface	CPU: CK436C214AJ Monitor: S14151J4E08 Keyboard: AL4367CX39J	12/08/94	\$1,889.76	TT&D Room 1		
Computer	LC 475 (8/250) with 14" colour monitor, std. keyboard and 10baseT interface	CPU: CK4369UK4QJ Monitor: S1415JJEO8 Keyboard: AL4367CX39J	12/08/94	\$1,889.76	TT&D Room 1		
Computer	LC 475 (8/250) with 14" colour monitor, std. keyboard and 10baseT interface	CPU: CK4369UC4AJ Monitor: SG433HWFEO8 Keyboard: AL4367C739J	12/08/94	\$1,889.76	TT&D Room 4		
Computer	LC 475 (8/250) with 14" colour monitor, std. keyboard and 10baseT interface	CPU: CK43694J4AJ Monitor: S14151FYE08 Keyboard: AL4367D39J	12/08/94	\$1,889.76	TT&D Room 5		
Computer	LC 475 (8/250) with 14" colour monitor, std. keyboard and 10baseT interface	CPU: CK4369UW4AJ Monitor: S141508MEO8 Keyboard: AL4367DM39J	12/08/94	\$1,889.76	TT&D Room 3		
Computer	LC 475 (8/250) with 14" colour monitor, std. keyboard and 10baseT interface	CPU: CK436CQHHQJ Monitor: S14054ENEO8 Keyboard: AL4367DE39J	12/08/94	\$1,889.76	TT&D Room 10		
Computer	LC 475 (8/250) with 14" colour monitor, std. keyboard and 10baseT interface	CPU: CK436C284AJ Monitor: S14054EAE08 Keyboard: AL4367CD39J	12/08/94	\$1,889.76	TT&D Room 10		
Computer	LC 475 (8/250) with 14" colour monitor, std. keyboard and 10baseT interface	CPU: CK43694Q4AJ Monitor: S14151G1E08 Keyboard: AL4367DL39J	12/08/94	\$1,889.76	TT&D Room 11		
Computer	LC 475 (8/250) with 14" colour monitor, std. keyboard and 10baseT interface	CPU: CK436C2K4AJ Monitor: S14058YYED08 Keyboard: AL4367CV39J	12/08/94	\$1,889.76	TT&D Room 12		

Teacher Training and Development

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Computer	LC 475 (8/250) with 14" colour monitor, std. keyboard and 10baseT interface	CPU: CK43694H4AJ Monitor: S141508PE08 Keyboard: AL4518839J	12/08/94	\$1,889.76	TT&D Room 3		
Computer	95 Server (16/1000/DAT/CD), 14" colour monitor and std. keyboard	CPU: CK4369UVHAI Monitor: S14053D2E08 Keyboard: AL4367DR39J	12/08/94	\$7,584.93	TT&D		
Printer	LaserWriter Pro 630	CA41745E126	12/08/94	\$2,118.40	TT&D Room 10		
Printer	LaserWriter Pro 630	CA41745P126	12/08/94	\$2,118.40	TT&D Room 11		
Printer	LaserWriter Pro 630	CA4163EK126	12/08/94	\$2,118.40	TT&D		
Printer	LaserWriter Pro 630	CR351WRF126	12/13/93	\$2,332.00	TT&D (D.K.)		
Network hub	Asante 12 port 10base T hub	419A0226	12/08/94	\$1,717.13	TT&D Room 4		
Network hub	Asante 12 port 10base T hub	419A0227	12/08/94	\$1,717.13	TT&D Room 4		
Modem	Global Village Modem	T220915	12/08/94	\$415.00	TT&D Room 2		
Photocopier	Cannon JP6030 with feeder and sorter	PRF00161	11/03/94	\$7,614.00	TT&D		
Photocopier	Canon NP4050 Photocopier with sorter and feeder	UAD 02730	18/05/95	P109 924.00	TT&D		
Photocopier	Canon NP4050 Photocopier with sorter and feeder	UAD 02704	18/05/95	P109 924.00	TT&D		
Photocopier	Canon NP4050 Photocopier with sorter and feeder	UAD 02709	18/05/95	P109 924.00	TT&D		
Photocopier	Canon NP4050 Photocopier with sorter and feeder	UAD 02708	18/05/95	P109 924.00	TT&D		
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5071QK2PY Monitor: SG5160FFE08	07/08/95	\$2,236.00	Tlokweng TTC	018939 2 018940 8	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5083PL2PY Monitor: SG5160GBE08	07/08/95	\$2,236.00	Tlokweng TTC	018938 5 018946 0	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5101YY2PY Monitor: SG5160FVE08	07/08/95	\$2,236.00	Lobatse TTC	018937 8 018944 6	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5101PV2PY Monitor: SG5160G1E08	07/08/95	\$2,236.00	Lobatse TTC	018936 1 018947 7	

Teacher Training and Development

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5100KQ2PY Monitor: SG5160G3E08	07/08/95	\$2,236.00	Molepolole TTC	018935 4 018943 9	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5101ZP2PY Monitor: SG5160GCE08	07/08/95	\$2,236.00	Molepolole TTC	018934 7 018948 4	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5101TU2PY Monitor: SG516HG5E08	07/08/95	\$2,236.00	Serowe TTC	018933 0 018942 2	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5090NG2PY Monitor: SG5160FYE08	07/08/95	\$2,236.00	Serowe TTC	018932 3 018949 1	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5102PN2PY Monitor: SG5160FDE08	07/08/95	\$2,236.00	Francistown TTC	018930 9 018941 5	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5081FW2PY Monitor: SG5160L7E08	07/08/95	\$2,236.00	Francistown TTC	018931 6 018951 4	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5091NS2PY Monitor: SG5160FBE08	07/08/95	\$2,236.00	Tonota TTC	018929 3 018945 3	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5102Q22PY Monitor: SG5160G2E08	07/08/95	\$2,236.00	Tonota TTC	018928 6 018950 7	
Computer	Power Mac 6100 (8/250/CD) with 14" colour monitor and std. keyboard	CPU: CK4300K237R Monitor: SG5160L6E08	07/08/95	\$2,741.00	TT&D	018927 9 018923 1	
Computer	Power Mac 6100 (8/250/CD) with 14" colour monitor and std. keyboard	CPU: CK4292E31GX Monitor: SG5160FZE08	07/08/95	\$2,741.00	TT&D	018926 2 018920 0	
Computer	Power Mac 6100 (8/250/CD) with 14" colour monitor and std. keyboard	CPU: CK44567H3WQ Monitor: SG516HAXE08	07/08/95	\$2,741.00	TT&D	018925 5 018921 7	
Computer	Power Mac 6100 (8/250/CD) with 14" colour monitor and std. keyboard	CPU: CK42069E37R Monitor: SG5160FEE08	07/08/95	\$2,741.00	TT&D	018924 8 018922 4	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5102PK2PY Monitor: SG507282E08	07/08/95	\$2,236.00	Kasane Educ. Centre	018896 8 018908 8	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5101ZV2PY Monitor: SG5160L8E08	07/08/95	\$2,236.00	Serowe Educ. Centre	018894 4 018911 8	

Teacher Training and Development

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5080AB2PY Monitor: SG516HF8E08	07/08/95	\$2,236.00	Tsabong Educ. Centre	018893 7 018910 1	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5090LR2PY Monitor: SG5160L9E08	07/08/95	\$2,236.00	Ghanzi Educ. Centre	018892 0 018909 5	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5101XX2PY Monitor: SG516HCKE08	07/08/95	\$2,236.00	Mochudi Educ. Centre	018897 5 018904 0	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5102NS2PY Monitor: SG5160G0E08	07/08/95	\$2,236.00	Lobatse Educ. Centre	018898 2 018905 7	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK50623K2PY Monitor: SG5160LAE08	07/08/95	\$2,236.00	Mahlapye Educ. Centre	018899 9 018903 3	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5090LY2PY Monitor: SG516HF7E08	07/08/95	\$2,236.00	Francistown Educ. Centre	018900 2 018902 6	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5090NT2PY Monitor: SG516HF6E08	07/08/95	\$2,236.00	Molepolole Educ. Centre	018889 0 018901 9	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5090NH2PY Monitor: SG5080AEE08	07/08/95	\$2,236.00	Tlokweng Educ. Centre	018891 3 018906 4	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5091TE2PY Monitor: S141508DE08	07/08/95	\$2,236.00	Selebe Pikwe Educ. Centre	018890 6 018907 1	
Computer	LC 630 (8/350/CD) with 14" colour monitor, std. keyboard	CPU: CK5092S52PY Monitor: SG5160E3E08	07/08/95	\$2,236.00	Maun Educ. Centre	018895 1 018912 5	
Printer	Personal Lasewriter 320	CA423LTM1GL	07/08/95	\$1,309.00	Kasane Educ. Centre	*018887 6	
Printer	Personal Lasewriter 320	CA505CDC1GL	07/08/95	\$1,309.00	Serowe Educ. Centre	018883 8	
Printer	Personal Lasewriter 320	CA507D9B1GL	07/08/95	\$1,309.00	Tsabong Educ. Centre	018884 5	
Printer	Personal Lasewriter 320	CA505CDG1GL	07/08/95	\$1,309.00	Ghanzi Educ. Centre	018885 2	
Printer	Personal Lasewriter 320	CA505CDB1GL	07/08/95	\$1,309.00	Mochudi Educ. Centre	018888 3	
Printer	Personal Lasewriter 320	CA452A921GL	07/08/95	\$1,309.00	Lobatse Educ. Centre	018879 1	

Teacher Training and Development

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Printer	Personal Lasewriter 320	CA452A9Q1GL	07/08/95	\$1,309.00	Mahlapye Educ. Centre	018880 7	
Printer	Personal Lasewriter 320	CA452A9N1GL	07/08/95	\$1,309.00	Francistown Educ. Centre	018881 4	
Printer	Personal Lasewriter 320	CA426P6M1GL	07/08/95	\$1,309.00	Molepolole Educ. Centre	018882 1	
Printer	Personal Lasewriter 320	CA505CA91GL	07/08/95	\$1,309.00	Tlokweg Educ. Centre	018877 7	
Printer	Personal Lasewriter 320	CA505CDJ1GL	07/08/95	\$1,309.00	Selebe Pikwe Educ. Centre	018878 4	
Printer	Personal Lasewriter 320	CA505CDA1GL	07/08/95	\$1,309.00	Maun Educ. Centre	018886 9	
Printer	Personal Lasewriter 4/600 PS	CA5216CH55L	07/08/95	\$1,309.00	TT&D	018919 4	
Printer	Personal Lasewriter 320	CA452A9H1GL	07/08/95	\$1,309.00	Francistown TTC	018913 2	
Printer	Personal Lasewriter 320	CA505CBQ1GL	07/08/95	\$1,309.00	Tlokweg TTC	018914 9	
Printer	Personal Lasewriter 320	CA505CD91GL	07/08/95	\$1,309.00	Tonota TTC	018915 6	
Printer	Personal Lasewriter 320	CA452A981GL	07/08/95	\$1,309.00	Molepolole TTC	018916 3	
Printer	Personal Lasewriter 320	CA505CDH1GL	07/08/95	\$1,309.00	Lobatse TTC	018917 0	
Printer	Personal Lasewriter 320	CA505CDF1GL	07/08/95	\$1,309.00	Serowe TTC	018918 7	
Scanner	Tamarack Scanner	S69511047T	07/08/95	\$926.00	Kasane Educ. Centre	018869 2	
Scanner	Tamarack Scanner	S69511058T	07/08/95	\$926.00	Serowe Educ. Centre	018872 2	
Scanner	Tamarack Scanner	S69510985T	07/08/95	\$926.00	Tsabong Educ. Centre	018871 5	
Scanner	Tamarack Scanner	S69511032T	07/08/95	\$926.00	Ghanzi Educ. Centre	018868 5	
Scanner	Tamarack Scanner	S69511065T	07/08/95	\$926.00	Mochudi Educ. Centre	018866 1	
Scanner	Tamarack Scanner	S69511007T	07/08/95	\$926.00	Lobatse Educ. Centre	018870 8	
Scanner	Tamarack Scanner	S69510983T	07/08/95	\$926.00	Mahlapye Educ. Centre	018865 4	

Teacher Training and Development

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Scanner	Tamarack Scanner	S69510995T	07/08/95	\$926.00	Francistown Educ. Centre	018876 0	
Scanner	Tamarack Scanner	S69511075T	07/08/95	\$926.00	Molepolole Educ. Centre	018875 3	
Scanner	Tamarack Scanner	S69511108T	07/08/95	\$926.00	Tlokweng Educ. Centre	018874 6	
Scanner	Tamarack Scanner	S69511054T	07/08/95	\$926.00	Selebe Pikwe Educ. Centre	018873 9	
Scanner	Tamarack Scanner	S69510971T	07/08/95	\$926.00	Maun Educ. Centre	018867 8	
Modem	Teleport Gold Modem II	G1538072	07/08/95	\$260.00	Kasane Educ. Centre	018958 3	
Modem	Teleport Gold Modem II	G1542959	07/08/95	\$260.00	Serowe Educ. Centre	018959 0	
Modem	Teleport Gold Modem II	G1540336	07/08/95	\$260.00	Tsabong Educ. Centre	018960 6	
Modem	Teleport Gold Modem II	G1538153	07/08/95	\$260.00	Ghanzi Educ. Centre	018961 3	
Modem	Teleport Gold Modem II	G1538100	07/08/95	\$260.00	Mochudi Educ. Centre	018962 0	
Modem	Teleport Gold Modem II	G1542955	07/08/95	\$260.00	Lobatse Educ. Centre	018963 7	
Modem	Teleport Gold Modem II	G1554161	07/08/95	\$260.00	Mahlapye Educ. Centre	018964 4	
Modem	Teleport Gold Modem II	G1542964	07/08/95	\$260.00	Francistown Educ. Centre	018965 1	
Modem	Teleport Gold Modem II		07/08/95	\$260.00	Molepolole Educ. Centre		still to supply
Modem	Teleport Gold Modem II		07/08/95	\$260.00	Tlokweng Educ. Centre		still to supply
Modem	Teleport Gold Modem II	G1554136	07/08/95	\$260.00	Selebe Pikwe Educ. Centre	018966 8	
Modem	Teleport Gold Modem II	G1538142	07/08/95	\$260.00	Maun Educ. Centre	018967 5	
Modem	Teleport Gold II Modem	G1553110	07/08/95	\$260.00	Francistown TTC	018952 1	
Modem	Teleport Gold II Modem	G1541721	07/08/95	\$260.00	Tlokweng TTC	018953 8	
Modem	Teleport Gold II Modem	G1542945	07/08/95	\$260.00	Tonota TTC	018954 5	

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Teacher Training and Development

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Modem	Teleport Gold II Modem	G154837 1	07/08/95	\$260.00	Molepolole TTC	018955 2	
Modem	Teleport Gold II Modem	G1539317	07/08/95	\$260.00	Lobatse TTC	018956 9	
Modem	Teleport Gold II Modem	G1556973	07/08/95	\$260.00	Serowe TTC	018957 6	



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BEC Vehicles

Item	Description	Serial nos.	Purchase Date	Cost	Location	Gov't Serial no.	Comments
Vehicle	Toyota Cressida Station Wagon, White	Engine: 2R3081832 Chassis: RX726008211 Registration: BD 9458 C	06/02/91	N/A	CD & E		Assigned to TT & D
Vehicle	Ford Laser Sedan, White	Engine: F6387699 Chassis: LR648286 Registration: BD 2437 F	31/12/94	N/A	CD & E		Assigned to CD & E
Vehicle	Toyota Land Cruiser, White	Engine: 1FZ0113199 Chassis: FZJ80-0065164 Registration: BD 3373 F	15/04/94	N/A	CD & E		Assigned to CD & E
Vehicle	Toyota Land Cruiser, White	Engine: 3F0282664 Chassis: FJ800016621 Registration: BD 8907 C	30/11/90	N/A	CD & E		Assigned to TT & D

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