

# **BOTSWANA**

**(Draft - for discussion purposes only)**

**INTERNAL MID PROJECT REVIEW**  
**JUNIOR SECONDARY EDUCATION IMPROVEMENT PROJECT**

June , 1987

## **IEES**

**Improving the  
Efficiency of  
Educational  
Systems**

for  
**The Ministry of Education**  
and  
**The U.S. Agency for International Development**  
Gaborone, Botswana

**Florida State University**  
**Howard University**  
**Institute for International Research**  
**State University of New York at Albany**

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**IEES  
Educational Efficiency Clearinghouse  
Learning Systems Institute  
204 Dodd Hall  
Florida State University  
Tallahassee, Florida 32306  
USA  
(904) 644-5442**

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## Table of Contents

1.	Introduction . . . . .	1
	Project Inception . . . . .	1
	Project Staffing . . . . .	2
	Project Administration . . . . .	3
	Scope of Project Review . . . . .	4
2.	Summary of Project Purposes . . . . .	5
3.	Summary of Project Accomplishments . . . . .	8
	Curriculum and Instructional Materials Development . . . . .	8
	Detailed Summary of Progress by Subject Area . . . . .	9
	Teacher Development . . . . .	.12
	Education Systems Planning, Management and Evaluation . . . . .	.14
4.	Project Activities in Terms of the Logical Framework . . . . .	.16
	Internal and External Project Communications . . . . .	.26
5.	Recommendations . . . . .	.29

### Annexes

- 1 -

## INTERNAL MID PROJECT REVIEW

### JUNIOR SECONDARY EDUCATION IMPROVEMENT PROJECT

#### 1. INTRODUCTION

This report summarizes the results of an internal, formative program review of the Botswana Junior Secondary Education Improvement Project (JSEIP), conducted in June, 1987.

The technical assistance portion of the project is funded by USAID, through the "Improving the Efficiency of Educational Systems" (IEES) consortium, administered by Florida State University.

This project review was conducted by Dr. Robert M. Morgan, Principal Investigator of the IEES project at Florida State University, and Dr. David Chapman, of the State University of New York at Albany. The purpose of the review is to examine progress in implementing JSEIP, to identify problems that are being encountered, and to offer suggestions for possible remedies to any such problems. The internal review is intended to be of primary use to USAID, the Ministry of Education, and the JSEIP project staff in Botswana. It should also assist in the improvement of project backstopping support by the IEES group, and the contract management by AID's Science and Technology Bureau.

#### Project Inception

Botswana's Junior Secondary Education Improvement Project (JSEIP) was derived from the USAID-funded "Education and Human Resources Sector Assessment" (Updated in March, 1986.) The Sector Assessment recommendations that are relevant to the junior secondary program are summarized in Annex A. At the time of the EHR Sector Assessment, Botswana was approaching the end of Phase I of a USAID supported Primary Education Improvement Project (PEIP) and was anticipating its continuation in a second, follow-on, phase.

That junior secondary education improvement and expansion was the nation's highest educational development priority was underscored by the analyses and recommendations of the National Commission on Education (NCE), chaired by Torsten Husen in 1977. See Annex B for the arguments presented by the NCE. Over the years the NCE report has served as a basic planning document for the Ministry of Education. The Commission report was followed by the government's promulgation of a National Assembly Policy on Education, "Changing the Goals of Secondary Education." (See Annex C.) This new policy formally established the nine year basic education program.

Many steps have been taken to organize the educational infrastructure to support the new program. After some delay in changing to the new 7-2-3 system, and implementing a reorganized instructional program, the changes were fully initiated in 1986. World Bank and African Development Bank funds are assisting with new school construction and the USAID-funded JSEIP is to provide the support for the curriculum changes anticipated in moving to the two year junior secondary program, and then eventually to a 6-3-3 system.

The government, having identified the junior secondary level as its most urgent area for development, solicited USAID assistance in planning the development project. The IEES group, consisting of Florida State University, Howard University, the Institute for International Research, and the State University of New York at Albany, was tasked by USAID to assist with the development of the Project Identification and Project Planning documents. This work was done in close concert with key officials from the Ministry of Education and the Ministry of Planning. The product of this effort was the JSEIP project.

The Project Agreement was signed by the two governments in April, 1985, and the IEES group was contracted to be the source of JSEIP technical assistance in July, 1985. The project assistance completion date is February, 1992. The total project funding is \$22.5 million, with \$16.3 million to be contributed by USAID. Of this contribution approximately \$9.0 million is for U.S. technical assistance to be provided during the first five years of the project.

### Project Staffing

The IEES group fielded a team of ten resident technical advisers (RTA) beginning in October, 1985. They are as follows:

#### Ministry of Education

Alfred S. Hartwell (Oct, 1985)	Planning and Systems Management Specialist and Chief-of-Party.
Joseph McDonald (Sept, 1986)	Inservice School Management and Administration Specialist
Vacant*	Inservice Teacher Education Specialist

Department of Curriculum Development and Evaluation

C. W. Snyder (Sept, 1986)	Program and Materials Evaluation Specialist
Kent Noel (Oct, 1985)	Senior Instructional Systems Design Specialist
Barry Vogeli (Dec, 1985)	Instructional Media Specialist

Molepolole College of Education

Johnson Odharo (Oct, 1985)	Instructional Systems Design Specialist
Dwight Allen (Dec, 1985)	Staff Development Specialist
John Bowers (Jan, 1986)	Teacher Education Certification Specialist
Frank Walton (Jan, 1986)	Technical Education Specialist

Project Administration

The responsibility for providing technical assistance to the JSEIP project has been assigned to the IEES group, of which Florida State University is the prime contractor. The contractual mechanism for this assignment is an amendment of the AID/FSU IEES contract, to add the JSEIP technical assistance requirement. This contracting process serves to insert the AID Science and Technology Bureau's Contract and Grant Office and its Education Office, in the project management and review process. S&T's involvement should provide an efficient means of channeling communications to and from USAID/Botswana and the Contractor.

Florida State University provides campus coordination and backstopping support for the project, which includes the acquisition of specified commodities, employing and providing personnel administrative support for the resident technical advisors, coordinating participant training, and responding for requests for short-term consultants. Consistent with the

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\*This position was filled by Dr. Darrel Dubey from October, 1985, until his death in December, 1986. A replacement is presently being recruited.

AID/FSU contractual agreement, three or more qualified consultants were or will be nominated to USAID and the MOE, through AID/S&T, for each long-term-technical advisory position. Qualified individuals are nominated for short-term consultant positions, when requested by the Ministry of Education, through AID/S&T to USAID. Final selection of field personnel, long or short-term, is subject to the approval of the MOE, USAID, and AID/S&T.

JSEIP project reporting generally follows the same communication channels, with the contractual provision that progress reports and annual project plans are subject to the approval of AID/S&T. A considerable burden of responsibility is placed on the JSEIP Chief-of-Party, Dr. Ash Hartwell, in that he reports to USAID's HRDO, Dr. Ann Domidion, Mr. Jakes Swartland, the Deputy Permanent Secretary of the MOE, and to FSU's IEES Principal Investigator, Dr. Robert M. Morgan - who in turn reports to the AID/S&T IEES Project Monitor, Dr. Joan Claffey.

All U. S. personnel paid in dollars are appointed to one the four IEES institutions. FSU also purchases materials, supplies and commodities specified by the contract as most appropriate for acquisition in the United States. Dr. Hartwell has a revolving account in a Gabarone bank, with which he purchases locally available supplies and materials, pays locally hired personnel, and pays for other locally incurred expenses. This revolving account is replenished when expenditure reports, with backup receipts and vouchers, are submitted to the central project office at FSU.

#### Scope of Program Review

The project review concentrated on four areas of project activity, as defined by the Project Agreement: (1) curriculum development; (2) teacher development, both in-service and pre-service; (3) planning, management, and evaluation activities in support of the first two areas; and (4) capacity building, which cuts across all of the first three areas.

Emphasis was on: (a) examining the extent and appropriateness of project implementation; (b) identifying and assessing the contribution of the intermediate outputs that have occurred already; (c) identifying issues being encountered during project implementation thus far that may affect the continued success of the project; and (d) formulating recommendations for responding to those issues.

Within each of the areas of project activity, the project review addressed the following questions:

a. To what extent are the original project goals still appropriate and valid?

b. To what extent is the project being implemented as planned?

c. What problems are being encountered during implementation that could affect overall project success?

d. To what extent does it now appear that project goals will be achieved?

e. What modifications and/or adjustments in project design, management, or implementation are needed to improve the likelihood of achieving project objectives?

The report is organized in five parts. Parts one and two summarize the purposes of the project and review project components, respectively. Part three summarizes project accomplishments to date. Part four presents an analysis of project activities and outcomes in terms of the logical framework in the Project Paper, describes projected activities, including plans for reorganizing and reallocating resources to take advantage of current opportunities now available to the project. Part five includes the recommendations of the project review team.

## 2. SUMMARY OF PROJECT PURPOSES

The Junior Secondary Education Improvement Project (JSEIP) was designed to increase the quality and efficiency of an expanded junior secondary education program and to institutionalize the MOE's capacity to develop, manage and support junior secondary education. The JSEIP has three closely coordinated and interrelated components to achieve these results: (1) curriculum and instructional materials development; (2) teacher development; and (3) educational systems planning, management and supervision.

At the core of the project is JSEIP's effort to assist the MOE with the revision of the junior secondary curriculum to better respond to basic education and projected workforce requirements of Botswana. This curriculum revision includes the identification and organization of instructional objectives, learning strategies, and achievement measures; the development of instructional materials to support the

revised curricula; establishment of strategies for field testing and on-going improvement of the instructional program; and development and distribution of teacher guides, student learning guides and instructional materials.

To support the implementation of the new curriculum, the project provides for development and implementation of in-service and pre-service teacher training programs designed to prepare teachers to teach the new curriculum. The in-service activities are located within the Secondary Education Department of the MOE while the pre-service activities are mostly located at Molepolole College of Education (MCE).

Lastly, the project provides support to strengthen the capacity of the MOE to design, implement, and monitor the new curriculum. This capacity building takes the form of training workshops for inspectors, education officers and headmasters responsible for junior secondary education, assistance to the MOE in planning, and support for information management activities in the ministry. The conceptual design of the project as it was originally conceived is presented in Figure 1.

In its design, JSEIP represents one of the most creative education improvement efforts supported by AID - because of its systematic approach to instructional design and the manner in which the instructional design and implementation efforts are integrated into the larger educational system at both the school and central ministry levels. Most donor assisted education projects are designed to address single, particular aspects of educational improvement, e.g., improved textbooks, teacher training, or planning. JSEIP addresses all the major components of curriculum design and implementation simultaneously, thus increasing the likelihood of effective implementation, improved educational efficiency, and continued use.

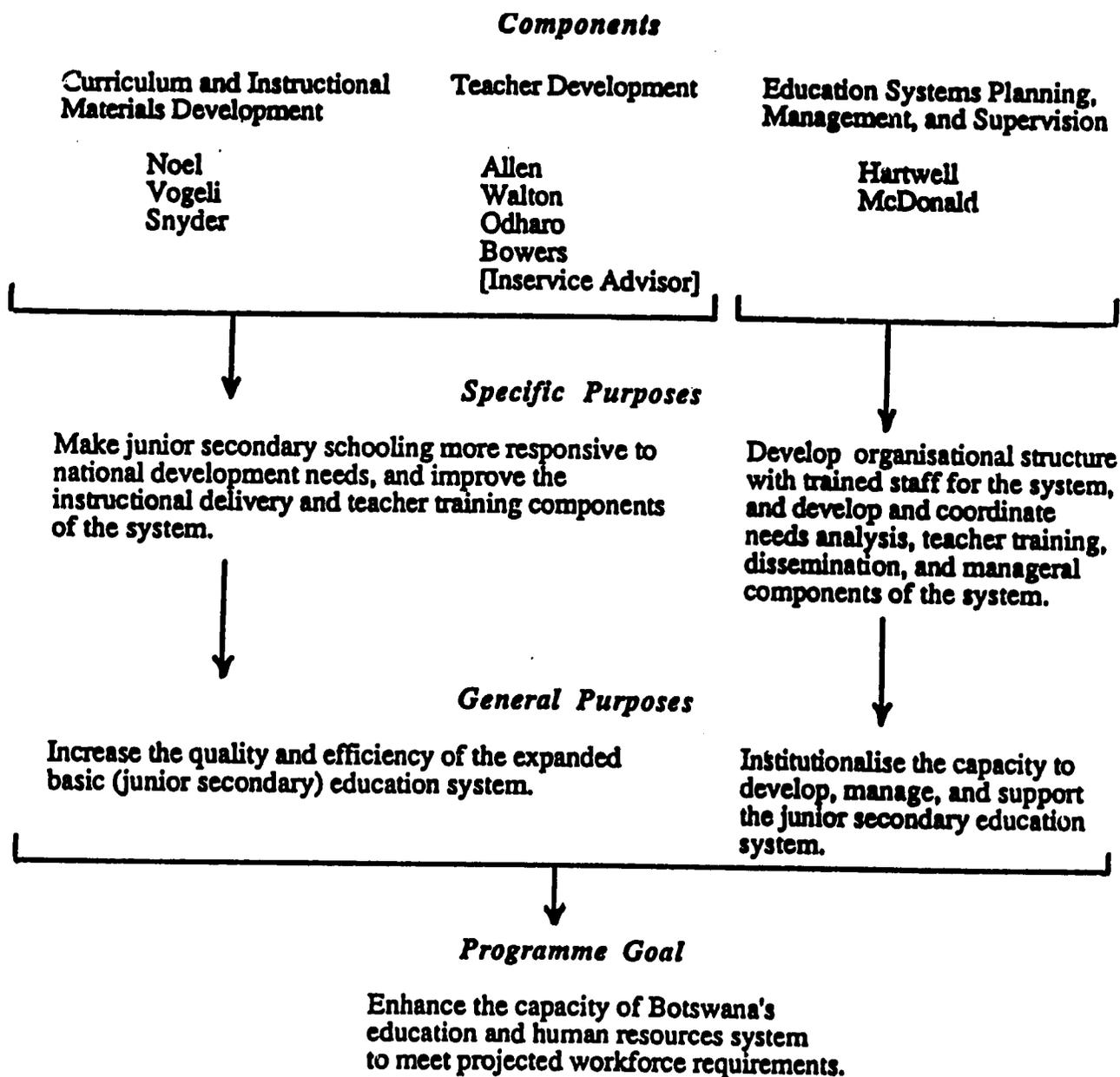
### 3. SUMMARY OF PROJECT ACCOMPLISHMENTS

Project accomplishments to date, will be described in four areas: (a) curriculum and instructional materials development; (b) teacher development; (c) planning, management, and evaluation activities; and (d) capacity building.

#### a. Curriculum and Instructional Materials Development.

JSEIP is undertaking instructional design and/or improvement in seven subject areas: social studies; English; Setswana; agriculture; technical studies; mathematics; and science. In all but math and science, the design process is beginning

**Figure 1**  
**Project Components as per Project Paper**



from initial curriculum development. In math and science, some instructional materials have already been developed by the Curriculum Development Center using less systematic design procedures than employed in JSEIP. In these subject areas, JSEIP is assisting to enhance the quality of the materials already available and helping with the development of appropriate assessment procedures to accompany these materials.

Figure 2 summarizes the steps in the instructional development process being employed by JSEIP and describes progress, to date, in each of the subject areas. A more detailed breakdown of these steps is given in Annex D. While the steps identified in Figure 2 are sequential, they are not of equal magnitude. Steps requiring the greatest commitment of time and resources tend to be those later in the development process. Consequently, the information contained in Figure 2 indicates that JSEIP is at the early stages of curriculum and instructional materials development. Progress has been slower in this area than originally anticipated, for reasons that will be discussed in section 4.

#### b. Detailed Summary of Progress by Subject Area.

**Social studies:** Instructional topics and specific objectives have been identified; scope and sequence of material have been delineated. The two year course has been divided into fifteen modules; content for three of those modules has been selected and draft modules have been developed. Formative evaluation and field testing will wait until more modules are complete.

**English:** Instructional topics and specific objectives have been identified; scope and sequence of material for a two year course have been delineated. The next step will be the development of a more detailed curricular plan.

**Setswana:** Instructional topics and specific objectives have been identified; scope and sequence of material have been delineated. The two year course has been divided into fifteen modules; content for four of those modules has been selected and the draft modules developed. Formative evaluation and field testing will wait until more modules are complete.

**Agriculture:** Initial work in defining topics and objectives is just getting underway.

**Technical Studies:** Initial work in defining topics and objectives is just getting underway. Once underway, work in this area is expected to proceed rapidly, since the course

Current Status of Curriculum Development Activities  
June, 1987

Steps in instructional development activity	SUBJECTS						
	Soc Stud	Eng	Math	* Scie	* Sets-wana	Agric	Tech Stud
1. Identify Topics	:	:	:	:	:	:	:
2. Identify general aims; specify objectives, delineate scope and sequence	:	:	:	:	:	:	:
3. Put those into units, continue w/ scope and sequence	:	:	:	:	:	:	:
4. Devel. detailed curric plans for each unit with indication of how assessment will occur	:	:	:	:	:	:	:
5. Develop/select student learning materials	:	:	:	:	:	:	:
6. Develop student assessment instruments	:	:	:	:	:	:	:
7. Develop student guides	:	:	:	:	:	:	:
8. Develop teacher guides	:	:	:	:	:	:	:
9. Formative evaluation and field testing	:	:	:	:	:	:	:
10. Revise materials as necessary	:	:	:	:	:	:	:
11. Develop examinations for overall curriculum	:	:	:	:	:	:	:
12. Produce and implement the new curriculum	:	:	:	:	:	:	:
Anticipated ease of moving through the ID process (1=difficult to 10=easy)	10	7	1	5	10	3	4

\* = Instructional materials for science and math were not developed by JSEIP, however project may assist in enhancing existing materials and developing appropriate assessment instruments.

materials are expected to be modeled on the curriculum of the technical studies course being designed for Molepolole College of Education, which is well along in development.

**Mathematics:** Instructional materials for mathematics have been developed by the Curriculum Development Unit outside of JSEIP. However, JSEIP staff will assist the CDU to enhance the quality of these materials and develop appropriate assessment instruments to accompany these materials. This process is not yet fully underway.

**Science:** Instructional materials for science have been developed by the Curriculum Development Unit outside of JSEIP. However, JSEIP staff will assist the CDU to enhance the quality of these materials and develop appropriate assessment instruments to accompany these materials. This process is not yet fully underway.

Figure 2 also presents a scale representing team members' estimates of the ease of moving through the instructional design process within each subject area. The high ratings given social studies and Setswana reflect the substantial progress that has already been made and the perceived commitment of the materials development teams (MDTs) to continued rapid progress. The low ratings given mathematics, agriculture, and technical studies reflects the early stages of MDT formation in those areas. It is still unclear how responsive Subject Review Panels will be to JSEIP assistance in those subject areas.

Concurrent with the curriculum and instructional materials development activities of the Materials Development Teams (MDTs), JSEIP has provided support to build the capacity of the CDU to undertake the instructional development effort. These activities include: (Note: the numbering of items below is keyed to Tables 1 and 2 presented later.)

C1. Instructional Materials Development Teams. - Teachers seconded from the schools to serve for three years maximum with the Curriculum Development Unit.

C2. Improved Instructional Materials Production Capacity. - Installation of complete system of Macintosh computers, Laserprinters, and photocopy facilities in the CDU, with additional equipment at the Research and Testing Center (RTC) and the Molepolole College of Education (MCE).

C3. Building for the Department of Curriculum Development and Evaluation. - The new CDU building is scheduled for completion in September, 1987, to accommodate the Examinations

Unit, the RTC, CDU, and Secondary Department; design work facilitated by JSEIP advisors.

C4. Organization of Curriculum Library. - collection, itemizing, and systemitizing books relevant to curriculum development within the Curriculum Development Units.

C5. Improved Communications in the Curriculum System. - Established cross-links among subject areas; provided impetus to improve; distributed curriculum aims; organized first conference of primary and secondary education officers; and JSEIP advisor rapporteur for key curriculum committees.

C6. Needs Assessment Studies. - Completed review of literature of studies relevant to curriculum development (with particular emphasis on rural development and basic needs); assessed priority aims for the nine-year program in the Community Junior Secondary Schools: established Needs Assessment Committee; established Technical Studies Task Force; assessed gap between syllabus and what's actually taught; and surveyed CJSS staff around the country for problems in the various subject areas and for general concerns about curriculum implementation.

C7. Construction of Education Centers. - Centers are being constructed at Mochudi, Mahalapye, Tshabong, and Ghanzi to provide instructional support within their respective regions.

C8. Syllabus Rationalization. - Initiated the unitization of the science, mathematics, social studies, agriculture, technical studies, and Setswana curricula.

C9. Improved JC Exam in Social Studies. - Assistance provided to improve item development and curriculum representativeness.

C10. Established the Curriculum Coordinating Steering Committee. - This is an advisory group of key MOE participants in the curriculum development process; designed to assist in the focus and coordination of curriculum development activities in the CDU.

The curriculum development process historically used by the MOE underlies some of the current issues faced by the team in the instructional development process. The specification of curriculum at both the primary and secondary levels is the responsibility of Curriculum Panels established for each subject area. These panels have been composed of senior teachers and secondary education officers. The panels oversee the specification of objectives, determine the scope and

sequence of content and review materials proposed for use in the schools.

Since the new junior secondary curriculum is intended to articulate with the existing curriculum at both the primary and secondary levels, the Curriculum Panels for junior secondary were expanded to include representation from both the primary and secondary levels. Since the full panels meet only about four times a year, Subject Review Panels, drawn from the membership of the larger panels, were designated to represent the full Curriculum Panel and to work on an ongoing basis with the instructional development process underway through JESIP. However, difficulties experienced by the Subject Review Panel members in freeing time to work on JSEIP activities led, in 1986, to the creation of Materials Development Teams (MDTs). The role of the MDTs was to actually select/write the new curricular materials which were then to be reviewed by the Subject Review Panels. Hence, the Curriculum Panel delegates certain authority to the Subject Review Panel which, in turn, delegates certain responsibilities to the MDTs.

The original plan was to have Subject Review Panels review preliminary statements of topics, objectives, scope and proposed sequence of materials, prior to actual development of those materials. In practice, this procedure has slowed progress because (a) the Subject Review Panels meet on an irregular basis and, (b) they frequently want the curriculum components being developed by the MDTs to be reviewed by the full Curriculum Panels, which meet even less frequently. The multiple responsibility and authority, intended to expedite the development and review process, has resulted in a more cumbersome process and has slowed down the materials development process.

One component of the revised instructional development strategy now being proposed by JSEIP (presented later) is that materials development occur concurrent with Subject Review Panel and Curriculum Panels' reviews. Changes in objectives, scope or sequence designated by these panels would be made through later modifications in the materials being developed.

### c. Teacher Development

Teacher Development Activities include technical assistance in both inservice and preservice teacher training. The central purpose of these efforts is to prepare teachers to teach the new curriculum, once it is ready for implementation. The work in this area has been constrained by three factors: (1) the death of the Inservice Advisor in December, 1986; (2) the slower than expected development of

the JSEIP advisors' role at MCE. These will be discussed later in this report. Teacher development activities are summarized as follows:

T1. Established Department of Arts, Crafts, and Technical Studies at the Molopolole College of Education. - First group of eight students to graduate in 1987; special facilities designed for Department; two teachers seconded on rotating basis to serve as interns in the technical studies section; full-time staff member, in addition to the JSEIP advisor, has been assigned to the technical studies section.

T2. Technical Studies Inservice Workshops. - ACT Department has conducted workshops for all junior secondary technical teachers in the country.

T3. Social Studies Inservice Workshops. - Fifteen workshops were carried out in 1986 with all junior secondary social studies teachers in the country.

T4. Administration and Systemization of Teaching Practice at MCE. - Database on all students developed to enable better organization of teacher training school assignments; supervisor teachers trained; behavioral assessment procedures developed; students involved in data collection activities for the Ministry of Education as part of teaching practice. An objective and systematic process for evaluation of the teacher's instructional performance was developed.

T5. Development of Communication and Study Skills Course for all First Year Students at MCE. - Required course for all first year students at MCE for preparation to take college level courses; developed by committee from Education and English Departments, assisted by JSEIP consultant; taught by lecturers from most departments at MCE.

T6. Curriculum Development Contributions to Education Department at MCE. - Contributed to the design of comprehensive curriculum for the Education Department; developed courses in Curriculum Development, Instructional Systems Design, and Test Construction (with a spin-off benefit of the creation of an item-bank that can be used in the formative evaluation activities of the CDU, and the construction of the new two-year JC examination); the ISD course is taken by all MCE students; ISD samples of self-instructional modules for teacher training; ISD reference books in library.

T7. Introduction of Microteaching Laboratories at MCE. - Conceptualized the scope and format of microteaching laboratories for six of the departments of MCE; program evaluated

positively within the college); four tape recorders to be provided by the project.

d. Education Systems Planning, Management and Evaluation

In addition to developing new instructional materials and training teachers to use them, the project design recognized the need to help build the capacity of the MOE to plan, manage, monitor, and evaluate the curriculum development and implementation effort, especially at a time the junior secondary system is expanding rapidly. Activities undertaken by the team include:

P1. Innovative Masters Degree Program. - Cooperative degree course combining resources of the University of Botswana and the Florida State University, with the degree to be awarded by FSU; this is a model program which may have application to other USAID country programs (reviewed by a delegation from Lesotho); provided UB with experience for accrediting coursework from other universities and new perspective on its own internal Master of Education program; double course in Educational Research developed; practical field research project carried out by students to assist the evaluation activities of the Ministry of Education; only two semesters of course spent overseas (nine months), thus rapidly increasing the pool of graduate trained manpower; thirteen students now enrolled, with a new group to be selected soon.

P2. Infrastructural Support for Molopolole College. - Provided vehicles, secretarial support, library acquisitions, computers, and staff support for teacher training curriculum development activities; staff development activities provided on volunteer basis.

P3. Secondary School Regulations. - Working group, assisted by JSEIP (including word processing and editorial reviews from FSU,) reworked the secondary school regulations; draft submitted in January, 1987, to the Attorney General's office for review and approval.

P4. Development of Headmaster's Manual. - JSEIP consultant worked with reference group of headmasters and staff of the Secondary Department to produce working draft of manual, which incorporates new regulations.

P5. Headmaster's Inservice Workshops. - New headmaster's appointed to CJJS given intensive training to begin their assignments.

P6. Evaluation Task Force. - Organizational mechanism to initiate and coordinate evaluation activities associated with the nine year program; activities include classroom observations, school staff surveys, assessment of aims for nine year program, national IEA testing program to establish achievement baseline for CJJS, reading comprehension assessment program, tracer studies, and video programming of community and school opinion.

P7. National Curriculum Consultative Conferences. - Planned series of conferences to provide community consultation on the basic education program; approved by the MOE Policy Advisory Committee to begin April 25, 1988; to be held at Gabarone, Lobatse, and Francistown; conferences will provide useful information to the evaluation and curriculum development processes.

P8. Development of Databases for Planning Management and Evaluation of the Junior Secondary Program. - A number of databases have been established in the Planning Unit, the Secondary Education Department, and the Department of Curriculum Development and Evaluation; so far, school mapping, Form I student admission, and bursaries awards exercises have been facilitated by computerized databases in the Planning Unit microcomputer; discussions begun with the Employment Policy Unit to coordinate information on employment opportunities with education information.

P9. Development and Installation of Computerized Tracking System for Non-Formal Education. - IEES consultant designed, developed and implemented a computerized tracking system for the Correspondence Education Unit of NFE to improve the management of the distance education program; three week typing course provided for three professional officers who will work with the database.

P10. Research Initiative on Community Capacity to Support Local Education. - IEES supported project under the direction of Dr. Patrick Molutsi, from the University of Botswana, to analyze the community capacity to manage and finance education at the local level; project to be part of the Evaluation Task Force.

P11. Drafted Policy Papers in Evaluation Methodology, Curriculum Development, Small Schools, School Fees, CJSS Location. - A number of papers written by JSEIP advisors for Ministry policy formulation and evaluation.

P12. Botswana Educational Research Association Support.  
- Keynote address and several papers presented at first Botswana Educational Research Association (BERA) conference; two UB/FSU graduate students presented papers at later BERA meeting.

#### 4. PROJECT ACTIVITIES IN TERMS OF THE LOGICAL FRAMEWORK

Table 1 summarizes JSEIP team members' reports of the activities in which they have been involved. These are coded back to the earlier description of these activities. Table 2 arrays these claims across the specific objectives and anticipated outcomes described in the Project Agreement and summarized in the logical framework. Table 2 also presents a subjective scale developed by team members to indicate the extent of progress (e.g., "penetration") on the objective. A "one" indicates an early stage of work while a "10" indicates the objective has been met. The data provided by these tables are combined with information collected through interviews with key personnel in the MOE, MCE, USAID, and JSEIP as the basis for the following discussion. An analysis of the activities underway and their relationship to the logical framework of the project supports five observations:

a. JSEIP staff are engaged in a wide variety of activities related to educational development in Botswana. The team's activities are regarded by the MOE, the USAID Mission, and by the teams members themselves to be of high quality and to be important contributions to development and improvement of the educational system.

b. Some of the activities, while useful contributions to educational development, are outside the scope of the original project.

c. A number of objectives central to the success of the development and implementation of a new junior secondary curriculum are not yet being addressed or are only at early stages of development.

d. Given the current status of activities and the projected time necessary to complete the the new instructional materials, JSEIP needs a revised strategy for reaching project objectives. The JSEIP staff have devised such a strategy, which will be presented later.

e. Without modification of project staff activities and work priorities, it is unlikely that JSEIP can meet the objectives outlined in the Project Paper, particularly

Table 1

## JSEIP Project Activities to date, by Type of Activity

Claims <sup>1</sup>	Management <sup>2</sup>	Instruction	Institutional
C1: MDTs		X	X
C2: Materials Production		X	X
C3: CD&E Building			X
C4: Curriculum Library			X
C5: Communications	X		
C6: Needs Assessment		X	
C7: Education Centres (6)			X
C8: Syllabus Rationalisation		X	
C9: Social Studies JCE		X	
C10: CCSC	X		X
T1: ACT Department			X
T2: Technical Studies Inservice		X	
T3: Social Studies Inservice		X	
T4: Teaching Practice MCE	X		
T5: Comm & StSkills Course		X	
T6: CD in Education Dept.		X	
T7: Microteaching Labs		X	
T8: PE Department			X
P1: Joint Masters Programme			X
P2: Infrastructural Support MCE			X
P3: Sec School Regulations	X		X
P4: Headmaster's Manual	X		X
P5: Hdmasters' Inservice	X		
P6: Eval Task Force	X		X
P7: National Conferences	X	X	
P8: Databases	X		
P9: NFE Computerised	X		
P10: Community Research	X		
P11: Policy Papers	X		
P12: BERA Support	X		

Notes: 1. C = Curriculum & Instructional Materials Development; T = Teacher Development; P = Education Systems Planning, Management, and Supervision.  
 2. Management = Systematic Planning and Efficient Management of the Expansion; Instruction = Implementation of an Effective Instructional System; Institutional = Strengthening of the MOE Institutional Capacity.

Table 2

## LogFrame Objectives by Project Activities to Date

Purpose/Specific Outputs of LogFrame	Claim No.	Penetration
<i>Increase Quality and Efficiency of System</i>		
Adapted curriculum incorporating basic education and projected workforce needs.	C1, C5, C10, C6, P6, P11	1
Effectively organised instructional objectives, learning strategies, and achievement measures.	C1, C8, C9	1
Identified, adapted, or developed instructional materials to support the revised curriculum.	C2, C6, C8	1
Established strategies for field testing, formative evaluation, revision, implementation, and improvement of the instructional programme.	T6, P6	1
Teachers trained to implement the new instructional programme.	T1, T2, T3, T4, T5, T6, T7, T8, P2	5*
Developed teacher guides with instructional strategies to support the revised curriculum.		
Produced and distributed teacher guides for the entire junior secondary programme.		
Developed student instructional packages (learning guides and associated instructional materials) to support the revised curriculum.		
<i>Institutionalise the capacity to develop, manage, and support the JS system</i>		
Improved MOE organisational structure and staff skills to manage the junior secondary system.	P1, P3, P4, P5, P6, P10, P11, P12	2
Strengthened Curriculum Development and Evaluation (CD/E) Unit.	C1, C2, C5, C10, P6	2

Notes: Penetration is a subjective rating (1-10) of the extent to which the output can be claimed, where 1 = beginning made to 10 = completed.

\* MCE operating, but not largely JSEIP; inservice programme negligible.

Table 2 Continued

## LogFrame Objectives by Project Activities to Date

Purpose/Specific Outputs of LogFrame	Claim No.	Penetration
Trained MOE staff in management information techniques for continuous assessment and improvement of the system.	P6, P8, P9, P11	3
Improved inservice programme to support the new junior secondary instructional programme.	T2, T3	1
Improved preservice programme to support the new instructional programme.	T4, T5, T6, T7, T8	2
Training workshops for inspectors, education officers, and headmasters on implementing the revised instructional programme.		
Effective procedures established for procuring and distributing instructional materials including teacher guides.		
CD/E Building constructed.	C3	8
Education Centres (6) for inservice training constructed.	C7	1

Notes: Penetration is a subjective rating (1-10) of the extent to which the output can be claimed, where 1 = beginning made to 10 = completed.

with respect to the development of a revised junior secondary curriculum. However, this observation must be understood within the context of the valuable contributions the project has made already and the constraints on the project and the MOE in responding to the original project design.

Five reasons help explain the current status of project activities. That some activities go beyond the scope of the project while other key objectives have not yet been addressed, is largely an adaptive response by the team members to the conditions and context encountered by the team during early implementation.

(1) The MOE encountered more difficulty than it anticipated in providing counterpart staff to work with the JSEIP project. Consequently, MDTs have only recently begun to operate, though they are still short one teacher on each team. Since these MDTs were seen as doing most of the content selection/writing, delays in implementing these teams delayed the entire curriculum development effort. Three issues have posed particular difficulty for the MOE in assigning counterparts: (a) The assignment of education officers to the MDTs drained key personnel from administrative/supervisory duties in the MOE. (b) The problem was exacerbated by 13 MOE staff leaving to enroll in the Masters program at FSU. (c) The interaction of GOB and AID regulations poses problems regarding the assignment and provision of housing and/or travel reimbursement for seconded personnel. In some cases, the issue regards which office of the MOE has jurisdiction and financial responsibility for seconded personnel; in other cases, the issue regards the general lack of government housing in the Gaborone area. General restrictions on what types of financial support AID funded projects can provide to GOB employees, has contributed to the problem. Project staff have developed a strategy to respond to these issues which will be discussed later.

(2) The allocation of JSEIP staff across units of the MOE varied from the original plan in order for JSEIP staff to be placed in established "lines" that were open at the time the project was initiated. This meant that certain functions, particularly curriculum and materials development, were understaffed relative to what was recognized in the project plan as a necessary level of effort. Other functions, such as those at MCE, were overstaffed. At present, there is only one instructional design specialist assigned to the Curriculum Development Unit. This is an insufficient level of effort if instructional materials development is seen as the core of the project.

(3) Team members and the MOE perceived a greater need to emphasize capacity building activities than was originally anticipated in the project design.

(4) Certain project functions could not be meaningfully undertaken until the materials development process was further underway (e.g., materials production; in-service and pre-service teacher training designed to introduce the new materials). In the interim, team members invested their time in other useful activities. Similarly, the inservice staff development functions provided for MCE, presupposed that a greater percentage of the MCE faculty would be Batswana than is currently the case.

(5) Key personnel hold differing views about the role of JSEIP advisors at the MCE. This is particularly important, since MCE received a larger number of JSEIP advisors than anticipated in the original plan. Specifically, the MCE Principal asked them to carry a course load greater than anticipated in the original project design, which has limited their ability to contribute to the materials development activities in the CDU. Since JSEIP advisors hold establishment lines at MCE a reduction in their teaching load could mean that the College would not have enough teaching faculty nor unfilled lines in which to hire additional faculty.

Five factors are now converging that provide JSEIP an opportunity to redirect activities toward the curriculum and instructional materials development.

(1) The MDTs are now formed for all seven subject areas and operating in six of the seven subject areas. (The math MDT has not yet met.)

(2) Housing for MDT members from outside Gaborone is expected to be available by October. In the meantime, the JSEIP team, working with USAID, is exploring the possibility of providing some assistance to MDT members with housing and/or transportation until those permanent homes are available. This plan would involve USAID providing a training allowance that would cover mileage costs for the two MDT members who live out of Gaborone but who could commute and

curriculum and instructional materials development effort.

(4) The MDTs, working with JSEIP staff have identified local content experts and writers who could assist the team in materials development. There are, however, AID regulations that constrain the use of local personnel who are not hired through GOB. Developing an appropriate mechanism for using these people would: (a) reduce the delays experienced in bringing in U.S. consultants; (b) involve people who already are well informed about Botswana; and (c) help support and extend Botswana ownership of the new curriculum. Additionally, the use of local personnel uses project resources more efficiently, since these personnel would not require international transportation or local housing.

(5) The JSEIP project team has developed a proposal for reorganizing staff time and project resources to give more emphasis to the curriculum development activities. The proposal offers a procedure for focussing more project resources on the curriculum and materials development activities within JSEIP. The purpose of the procedure is to increase the rate of curriculum and materials development. This, in turn, will help ensure that the obligations under the Project Agreement can be met within the remaining time of the project. The proposed flow of activities is portrayed in Figure 3. The key issues in the new proposal are that materials development will continue even while objectives are undergoing the review process, an RTA will facilitate the ISD activities in each subject area, and RTAs' other assignments will be modified to free them up for this task.

Essential elements of the proposal are as follows:

(a) An RTA will be assigned to work as instructional development manager/facilitator in each subject area. In this role, the RTA will work with the MDT team to: (a) delineate topics; (b) specify aims, objectives, scope, and sequence of the curriculum; (c) handle MDT logistics and logistics related to securing necessary content and ISD support; (d) help the MDT gather local resources; and (e) coordinate the instructional design process.

(b) Lists of objectives will be submitted to the subject review panels and Curriculum Panels for their review and approval. However, during the time these objectives are being reviewed, MDTs will continue to prepare curriculum guides, teacher guides, and student materials. If objectives are modified by the Curriculum Panels, corresponding adjustments will be made in the materials.

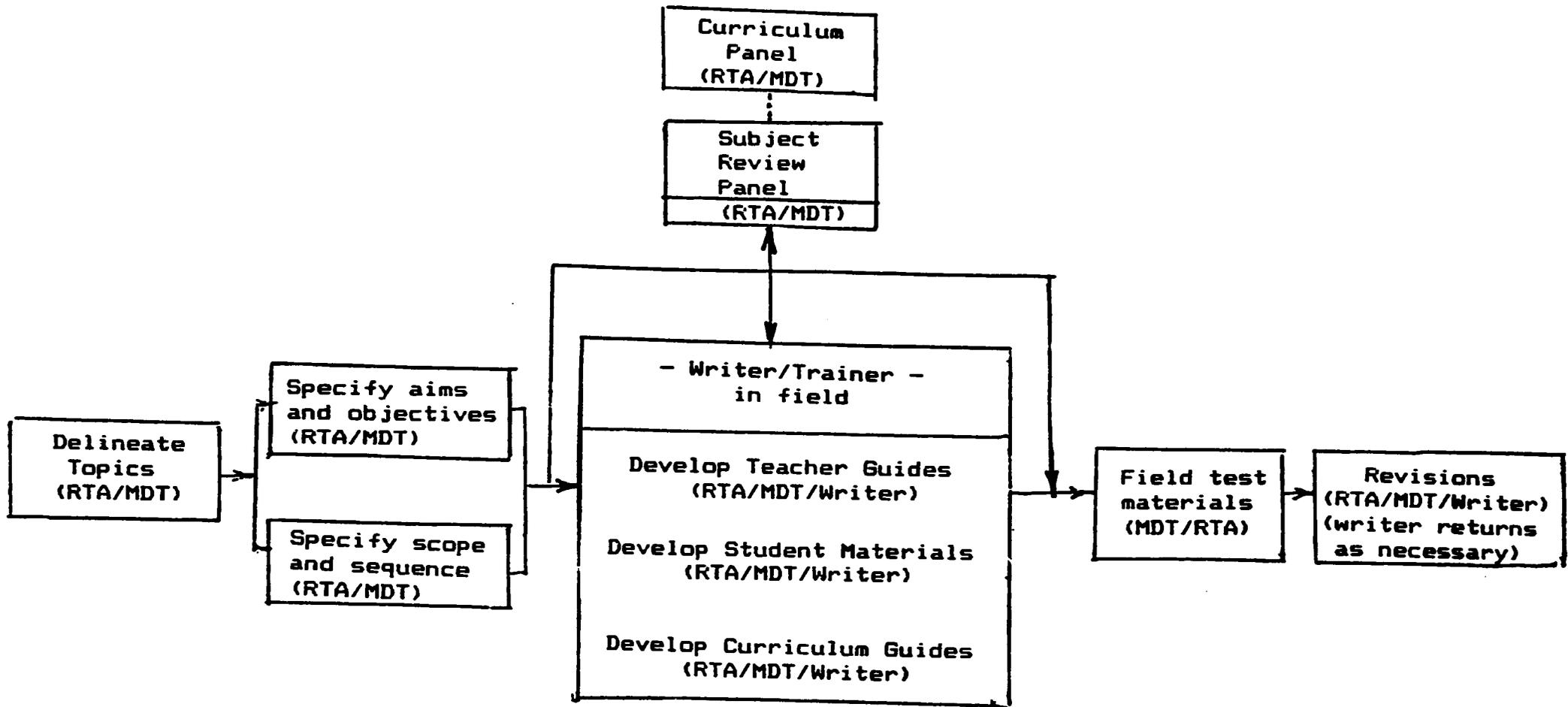


Figure 3. Revised Procedures for Curriculum and Instructional Development under JSEIP

(c) Subject review panels will be used primarily to review and critique draft materials. This shifts their primary role from the beginning to the end of the instructional development process.

(d) Short-term trainers/writers will be employed to work with the MDTs to: (a) help train MDT members in materials preparation; (b) to assist MDTs in selecting/adapting existing content appropriate for teacher guides and student materials; and (c) writing content for the teacher guides and student materials, as appropriate. These trainers will be hired both locally and from the U.S. In addition, local writers will be hired, as needed, to assist in the development process.

(e) Field testing of draft materials will be coordinated by the RTA working with the MDT. The trainer/writer will return to assist with revision, as needed, and only after a sufficient number of modules have been field tested to allow the most efficient use of the short-term consultant.

(f) A Curriculum Development Manager will be designated, with responsibilities for supervising RTA work with the MDTs and coordinating the ISD process across all the subject areas.

(g) It may be appropriate for the short-term trainer/writers to work in separate JSEIP project office maintained outside of the CDU. This would (a) help reduce project demands on CDU staff and (b) help sustain Botswana ownership of the materials. The trainers/writers will work in the CDU only when judged appropriate by the cognizant RTA and Curriculum Development Manager.

One consequence of this reorganization of RTA responsibilities is that it places more demands on the project administration to coordinate RTA activities and the increased flow of local and U.S. content experts and writers. To accommodate this increased need, the JSEIP team would reorganize staff functions as presented in Figure 4. Under the new plan, overall project administration is shared by three people, the Chief of Party (Ash Hartwell), a Curriculum Development Coordinator (Barry Vogeli), and an Evaluation Coordinator (Wes Snyder). These three people would share in project policy formulation, administration of project activities, and representation of these activities to GOB and USAID. The Curriculum Development Coordinator will coordinate and supervise the activities of the RTAs assigned to each MDT team. Those RTAs will have primary responsibility for management and logistical support of the MDT with which they are working. Under this revised curriculum development

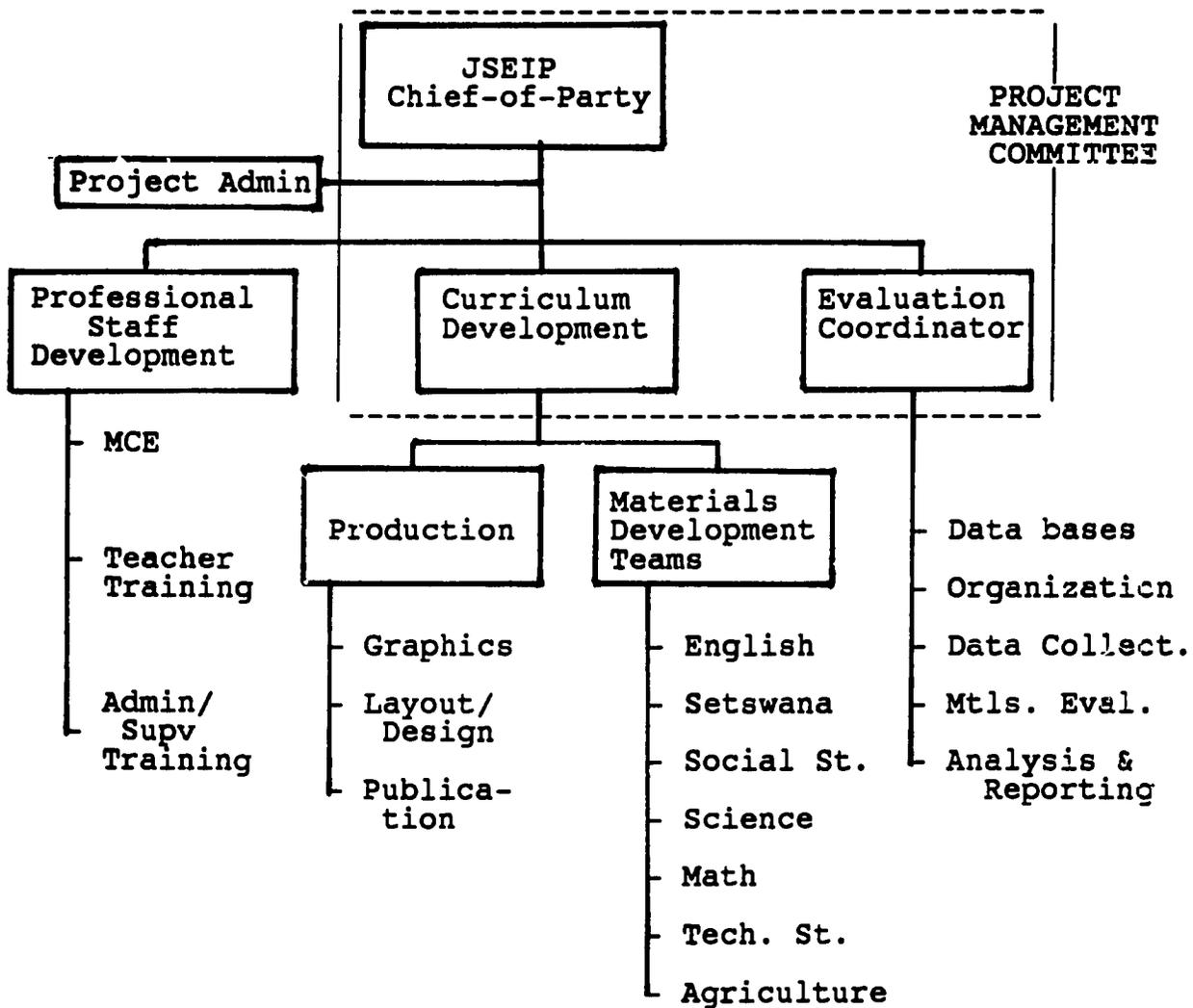


Figure 4. Proposed Reallocation of JSEIP Staff Responsibilities.

plan, roles would be as follows:

(1) Curriculum Panels - Specify subject matter content, review and critique objectives.

(2) Subject Review Panels - Review and critique draft materials.

(3) Materials Development Teams - Help delineate topics aims, and objectives; help gather local resources for materials writers; develop draft instructional materials, test, revise, and validate materials.

(4) Short-term Consultants - trainers/writers; train MDT members in ISD and subject matter expertise; as appropriate, select, revise, and as necessary, write instructional materials.

(5) JSEIP RTAs - Handle logistics related to ISD activities for MDT team; gather resources for materials development; assist team in topic generation, specification of objectives, aims, scope, and sequencing; coordinate their activities with the Curriculum Development Coordinator; identify appropriate trainer/writer/ISD specialists to work with team as short-term consultants.

(6) Curriculum Development Coordinator - Provides overall management and coordination of the activities of the Curriculum Development Teams; reports weekly curriculum development progress to JSEIP Chief-of-Party.

(7) Curriculum Evaluator - Develops criterion referenced test items, coordinates test development by others; plans and conducts formative evaluation of instructional materials.

(8) FSU Campus Coordinator - Identifies and gathers resources for use by materials developers in each content area; ensures the prompt delivery of such materials; identifies and nominates short-term consultants as requested.

#### Internal and External Project Communications

The preceding discussion addressed the extent project activities have been consistent with project goals, and the modifications in project operations proposed by the JSEIP team, to give more emphasis to the instructional development component of the project. The success of this revised strategy will be linked, in part, to the effectiveness of communications within the team and between JSEIP and key

audiences.

Internal team communications have been shaped both by physical factors in RTA placement and functional factors related to the early emphasis on capacity building activities. In capacity building, team members often worked independently on the projects they had identified as important. The importance of the capacity building activities and the acknowledged success of the team in addressing them, reinforced team members' activities in pursuing their separate objectives. This occurred at the expense of team building and resulted in a general loss of a shared understanding of project goals or strategy. Compounding this effect was that differences in team members views about the project may not have been articulated fully to the team leadership. In some cases, team decisions were not implemented by the leadership when they were articulated.

Physical constraints on team communications interacted with the functional constraints to impair the development of informal mechanisms that might have compensated for more formal communications. Specifically, due to office location, members do not often see each other during the normal course of their work and there has not been a central project office that could have facilitated communications among team members. Further, team members live in different areas of the city and some of them do not have phones. The cumulative impact of the constraints on both formal and informal communications within the team has been a loss of shared perspective on project accomplishments and a lack of shared vision of project coherence and direction.

The proposed changes in project operations are expected to result in positive changes in both the formal and informal communications patterns within the team. At the formal level, as staff time and other resources are focussed more directly on instructional development, the coherence and cumulative impact of activities will be more evident. This informal system is expected to reinforce this coherence as RTAs shift time to the CDU and have more contact with each other. The informal contact will be enhanced further with the completion of the new curriculum development building and the consolidation of some JSEIP staff offices.

External communications between JSEIP and the various audiences it serves also needs strengthening. All educational development projects address the needs of multiple groups, which in turn, differ in the priority and interest they assign to project activities. JSEIP operates within a particularly complex administrative structure. While most construction and commodities procurement are handled directly

by USAID, the provision of technical assistance is contracted to FSU. This mechanism inserts levels of control and approval that go beyond that which is typical of usual mission-funded projects. In particular, approval and support for technical assistance activities and personnel must be secured from AID S&T/ED, as well as the MOE and USAID.

The complexity of the reporting and oversight process places special demands on JSEIP to articulate the cohesion and focus of project activities and how they each contribute to project goals. During the early emphasis on capacity building activities, the linkage among activities and between activities and goals were not always clearly presented in the standard project reporting mechanisms. Reports have tended to underplay the extent to which project goals are being attained, the rationale and need for the capacity building activities that have been undertaken, and the strategy through which the revised junior secondary educational materials will be developed within the remaining time of the project.

Contributions to the complexity in external project communications are factors within the design of JSEIP itself. The revised junior secondary curriculum must articulate with both the primary and secondary curricula already in place. Hence, effective JSEIP instructional development requires substantial communications with, and agreement of, several different departments, groups, and functions with the MOE. This communications has occurred both formally and informally and, for the most part, appears to be effective. It may not always be clear to MOE officials how various capacity building activities link together to support project goals. JSEIP might benefit from an informal communications campaign to convey goals and revised strategies to Batswana and expatriate constituencies in the MOE, MCE, and other donor projects.

## 5. RECOMMENDATIONS

(1) Project activities should be redirected to focus more resources on curriculum and materials development. Initial capacity building activities appear to have been necessary and successful in creating a situation in which JSEIP resources can now be devoted more aggressively to developing instructional materials for the junior secondary level.

a. In order to focus on materials development, JSEIP should reduce staff time and other project resources being devoted to capacity building activities, even though those activities are recognized as important contributions to educational development in Botswana.

b. A detailed plan for meeting the instructional materials development goals described in the Project Agreement should be developed by the team. This plan should include a projected schedule and estimate of short-term consultant and other resource needs for the remainder of the project, with specific projections for the next year.

(2) Implement the proposed revisions in the materials development process and project management structure that was developed by the team (described earlier). High priority should be given to (a) having RTAs work with each MDT, (b) having overall JSEIP management shared by the Chief of Party, Curriculum Development Coordinator, and Evaluation Coordinator, and (c) operating the curriculum development process in a way that allows preliminary materials development to proceed concurrent with Subject Review Panel and Curriculum Panel review processes.

(3) Strengthen internal team communications. This can be accomplished in several ways - both formal and informal. There should be regular meetings of all the JSEIP RTAs to review progress on project work, and to share ideas on problems that are being encountered, and to agree on solutions that are proposed. Less frequently, but no less important, is a regular "Program and Evaluation Review" session, at which time progress by each team member is reviewed in terms of previously agreed upon task milestones for that member. As was noted earlier, the present focus on the curriculum development activities by the entire team will doubtless facilitate a closer and more targeted interaction between all the team members. Team morale is significantly effected by the degree to which members feel they are involved in the planning and decision-making process. Seeing

that this happens is primarily the responsibility of the Chief-of-Party.

(4) Arrange for a central project office. This need might be satisfied by the completion of the new curriculum development building, scheduled for September. If building completion is delayed, team members feel a central project office will be essential. Even when the new building opens, or the increased flow of short-term materials developers exceeds the capacity of the new building, a central project office outside the MOE may be needed to house staff to assist the work flow of the team and short-term consultant staff.

(5) Strengthen external project communications. Project leadership should give more attention to communicating the coherence and integration of work underway, particularly in showing how that work contributes to achieving the central purposes of JSEIP. Specifically,

a. More attention should be given to describing the coherence and integration of what has been accomplished already and the work underway as they contribute to project goals. Project reports should give more attention to explaining the substance, rather than just the administrative issues, of the project.

b. To adapt to the approval process for securing short-term consultants and commodities, JSEIP staff should engage in longer term planning. Specifically, RTAs working with MDTs should develop detailed and coherent written plans which identify tasks, resources, projected schedule, management plan, and projected consultant needs associated with the work of their MDT. This plan should include a PERT that ties these issues together, identifies dependencies among activities, and clearly shows how these activities will contribute to project goals.

(6) JSEIP should work with USAID (1) to secure necessary USAID approval to hire locally available curriculum development staff, (b) to have USAID provide support for housing or transportation for current UTS personnel seconded to the MDT until their government housing becomes available (An amount projected at approximately \$4000 between July and October, 1987), and (c) to gain forward approval of short-term consultants needed by the project during the next year.

## LIST OF ANNEXES

- A. Recommendations from the Education and Human Resources Sector Assessment for the Junior Secondary Program.
- B. National Commission on Education - Argument for the Nine Year Program.
- C. National Assembly Policy on Education - Changing the Goals of Secondary Education.
- D. Notes on ISD Curriculum Development.
- E. List of Persons Contacted.

## **Recommendations from the Education and Human Resources Sector Assessment for the Junior Secondary Programme**

**(Update: March, 1986)**

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### ***Teacher Education***

•Develop an inservice delivery system using the Education Centres as the starting point with staff selected from existing instructional staff in primary and secondary schools and trained in a special programme designed for this purpose.

•Develop a comprehensive curriculum at Molepolole College of Education consistent with the goals of NDP VI and the junior secondary expansion programme.

•Proceed with the establishment of a separate Department of Teacher Education and provide for transition to its operation.

•Provide additional staff for the Ministry units involved in the teacher education aspects of the primary and junior secondary expansion/improvement programme.

### **Curriculum**

•The MOE and Department of Curriculum Development and Evaluation (CD&E) and all participants in the curriculum development and implementation process should be actively aware of the need to conceive of this process as dynamic, constant, and iterative. Mechanisms should be designed, through the appointment of a national curriculum council, or some other entity, to insure active and continuing upgrading in the curriculum. Attention should be given towards ensuring that the syllabuses be considered, hand-in-hand, with the teacher's guides, textbooks, and other resource materials that have been produced for teaching purposes. Only then can it be assured that important considerations such as instructional objectives, teaching/learning methods, and other approaches have been adequately addressed.

•The professional staff of the CD&E must be increased and upgraded or the new nine year programme will fail to achieve its true potential. The lack of personnel in the CD&E and particularly in the CDU is a critical point. A curriculum development unit should have at least one senior and two regular curriculum specialists for each of the seven core subjects, and one specialist for each of the optional subjects. Obviously, these people should be trained in the latest and best techniques of curriculum development and should be receiving constant updating in training. Also, they should be constantly sharing their knowledge and skills with other members of the educational system.

**ANNEX A**  
**(Continued)**

**Recommendations from the Education and Human Resources  
Sector Assessment for the Junior Secondary Programme**

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•Broad scale training in curriculum development and instructional design concepts should begin immediately, for all professionals involved in the nine year programme. While the people who are responsible for the development of the new junior secondary syllabuses have done a laudable job, modern methods of curriculum development, particularly those using an instructional systems approach, have not been used in this process. Certainly the quality of the syllabuses could be improved significantly through the introduction and implementation of new techniques. This requires direct training of MOE personnel particularly in taxonomic analysis, learning hierarchy analysis, learning structure analysis, new approaches to the preparation of objectives, cognitive learning strategies, new methods of textbook design and development, formative evaluation techniques, affective variables in learning, etc. In particular, people who are directly responsible for developing syllabuses should be provided with training in specific techniques of writing syllabuses which teachers can understand and use. This may imply more in-depth formative evaluation of syllabuses. To the extent possible syllabuses together with teachers' guides should be designed as stand-alone devices.

•Preservice and inservice programmes should immediately begin to teach courses in educational philosophy, curriculum principles, formative evaluation, and methodological courses related to inquiry and guided discovery learning and other key aspects of the new philosophy. The methodological courses should be done directly within the subject matter (not taught as separate courses) and should not only teach appropriate methods but also employ those methods in order to provide sound teacher-models for students to emulate. Obviously, all of teacher preparation should be changed in such a way as to reflect the various elements of the new philosophy.

•The continuous assessment system must be given high priority in terms of adequate staffing, staff training as needed, and resources. Failure to implement this evaluation system may seriously jeopardise successful implementation of the new nine year curriculum.

•There is a noticeable lack of communication between the Ministry and its main constituencies, the parents and communities. Efforts should be taken to develop an efficient system for communicating changes in the curriculum and classroom practices, and develop support for these changes. Steps should be taken to establish a community communication function within the MOE which will have the responsibility and the resources to develop a full-scale plan for communicating intentions and stimulating support from community leaders and parents in general.

•Steps should be taken to develop programmes which would stimulate parents to take a more active part in helping their children have success in school. This is particularly important in a transition period such as this where over 60 percent of parents have less education than their children. A number of innovative procedures might be possible, including enlisting head teachers' support, using distance education programmes, etc.

**ANNEX A**  
(Continued)

**Recommendations from the Education and Human Resources  
Sector Assessment for the Junior Secondary Programme**

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•A systematic plan for the diffusion and institutionalisation of more appropriate teaching methods should be developed. This plan should then be incorporated and implemented with a plan for more efficient channels of communications and transport. Certainly, the scarcity of personnel in many MOE units and the difficulties in field visits, examination of distance teaching methodologies should be fully explored.

•The system should develop new techniques for remedial and corrective teaching, to help obtain a more constant flow through the system and reduce the psychological and economic costs of the repeaters at Standards Four and Seven.

•A limited but intense research study should be made concerning the nature of the Batswana cognitive and affective learning and thinking "styles" in order to take advantage of them, and to avoid teaching in forms which may be incompatible with them.

**General**

•It will be necessary for the MOE to give high priority to the design and implementation of an evaluation strategy for the CJSS programme. Such an evaluation would permit the ongoing review and modification of CJSS and provide some measure of the effectiveness of the joint government-community programme of junior secondary education.

•The critical role of examinations in the school programme requires that the examinations be assessed in terms of validity and reliability and in terms of the congruence of the examinations with the curriculum.

•Tracer studies of junior secondary graduates are required as an informational input to the EHR planning process. A joint effort by the MOE, Ministry of Home Affairs, the Central Statistics Office, and the University's research staff would be the best means for dealing with this need.

## ANNEX B

### National Commission on Education

#### *Argument for the Nine Year Programme*

##### Context

• Approximately 34% of Std 7 pupils from both public and private schools gain places in Form I; approximately 20% of Std 7 pupils from the public schools gain places in Form I.

• Government will add only 875 new Form I places by 1980, which would reduce public school student opportunity for Form I to 17% by 1979/80 and to 14% by 1981/82.

• The age of primary entry is falling, bringing a "wave" of increased enrollment to Std 7 by 1979.

• There is high social demand from parents for places for their children in secondary school.

• Government cannot afford universal secondary education for some time to come, even though the country is seen as relatively prosperous. Secondary schools cost approximately P1000 per place compared to primary schools at P45 per place. Universal lower secondary education (3 years at an "average" boarding-day school) would cost 50% more than the total projected recurrent budget for education in 1981.

• Comparison of projected recurrent costs of alternative strategies for the JS level: present structure/20% of age cohorts limited access = P30 million; present structure/increased to 50% access = P42 million; and modified 7-2 structure/universal JS = P40 million.

• In the Primary Level some children are being promoted from class to class without mastering the basic foundation on which further learning can be built. Many children are virtually illiterate at Standard 7 when they have nearly completed the primary course. The number who cannot read the most simple sentences is as high as 30% to 40%.

• An IDM study found that 10% of the A Grade candidates and 10% of the B Grade candidates who should have been eligible for admission to secondary school according to their marks on the 1975 PSLE did not receive offers of admission and of all the students who appeared on the original selections list 17% (about 380) did not in fact enter Form I.

• Studies have indicated that the secondary school selection procedure discriminates against pupils from rural schools in gaining admission to Form I. However, for A Grade students, urban residents are disadvantaged: 16% of A students from towns did not appear on any offer list, compared to 10% of the A candidates from villages and only 4% of those from district headquarters, who missed receiving offers. The problem for town A students seems to be the numbers of them and the quotas of local schools. Once local schools fill their quota of day students, the remaining A candidates in the area must wait for boarding places elsewhere to be offered to them, even though A students from other areas who cannot attend school as day pupils get first priority in the allocation of boarding places.

• The Somerset Report on the PSLE indicated that Kalanga-speaking schools performed about as well as other schools on the PSLE exams, except in the Setswana exam, where Kalanga schools performed considerably worse (11 point difference between averages for Mostly-Non-Kalanga vs. Pure Kalanga). Also, 35 pupils who sat the Setswana exam but attended English-medium schools performed at least one standard deviation better than the national average on all exams, but only performed at the average level in Setswana.

• Standards, as measured by performance on the JC Exams, for unaided schools are much below standards in Government Schools. Some private schools (not counting Maru-a-Pula) compare favourably with some Government Schools.

35

•The academic performance of secondary students is far from satisfactory. In the Husen Survey of achievement, Form III students with an average age of 17 had an average score of 31% on an international test of reading comprehension designed for 14 year olds. Form V students, a more select group, averaged only 50% on the same test. Form III students are also below the pass-rate of British 13-14 year old students in mathematics (60% for British versus 50% for Botswana Government schools and 37% for private schools. In science, Form III private schools performed closer to 10 year olds in India and Chile, while Government schools performed on average better than India 14 year olds and below Chile 14 year olds and British 10 year olds.

•The results on the Junior Certificate examination have been improving in recent years, but the Cambridge School Certificate pass rate has, in contrast, shown a long-term downward trend, which was reversed only in 1975. However, JC marks were standardised on the population taking the test, so that in one subject, for example, a raw score of 0% was credited with a standardised score of 23, possibly enabling a student to obtain a good overall JC. Also, marks were set at predetermined percentage pass levels across the BLS countries, leading to adjustment of scores to obtain desired grade splits. The UBLS Exams Council promised to discontinue this practice in the future, but the JC was not regarded in any case as a credible instrument of measuring the abilities of candidates.

•The Commission heard many complaints that students were listless and poorly motivated towards work, that they had little commitment to the nation or to the local community, and that they showed little initiative or ability to solve practical problems.

•The Commission heard many criticisms of ineffectiveness and delays on the part of the Ministry of Education. This was confirmed by direct observations.

•In 1966, 173 bursaries were awarded to 11% of the secondary school enrollment, totalling P10,380; by 1975, 2420 bursaries were awarded (28%), totalling P131,390. Of all the students enrolled in Form I in 1976, 31% were receiving bursaries.

•Given the median family income in the North West District is no higher than in other districts, this district received far fewer bursary awards (11% of enrolled compared to overall average of 31%).

•Report of the Secondary Curriculum Task Force indicated that the existing JS curriculum was too academic, not practical enough and not sufficiently related to the needs of Botswana. The Task Force noted problems in the current subject areas, made specific recommendations for each subject area, recommended a new JS curriculum, but did not favour the introduction of a two-year JS course.

•According to the Husen Survey, at the secondary level, Government schools had approximately 22% untrained teachers, whereas private schools had approximately 54%. In a path analysis on Standard 7 achievement information, the teacher effect on student achievement was found to be substantially larger than that found in industrialised countries, but just more than half the magnitude of the regional effect.

•The Husen Survey found that over half the secondary teachers (59% Government and 67% private) reported rarely or never discussed work with authorities; 37% Government and 49% private reported rarely or never discussed work with subject advisor.

•At secondary level, an average of 22% of trained Botswana left service each year from 1972 - 1975 and untrained teachers left service had an even higher wastage rate.

## Claims

•"... over the long term, Botswana should move towards nine years of virtually universal education." This is an important part of the "new strategy for educational development in Botswana," which will address the following national needs:

1. The need to modify the content and improve the quality of education at all levels to ensure that it provides both the fundamental competencies that will enable young

Botswana to contribute to development; and the attitudes and understanding that will foster democracy, development, self-reliance, unity, and *kagisano*.

2. The need to consider the education of all the people, as implied by the principle of democracy. Sharp differences in geographical or financial accessibility of education to different sections of the population should be removed in so far as possible.

3. The need to conserve financial resources and to promote economic growth while cultivating the nation's human resources. The principle of development requires an education system that is economic and productive.

4. The need to encourage effort on the part of individual learners in their studies and on the part of communities in the provision of education. The principle of self-reliance demands this.

5. The need for the education system to be a continuum; and for the differences and distinctions between the different levels of education, between in-school and out-of-school learning, between government schools and independent schools, to be reduced or eliminated as quickly as possible. This is the implication of the principle of unity.

•The NCE proposal is a development strategy that will utilise the talents and energies of Botswana's youth, provide for a wider view of the country's educational needs, and entails a more equitable balance in the future distribution of resources and rewards.

#### **Bases for Claims**

•Universal JS education is desirable and necessary at some future stage in Botswana's educational development.

•Seven years of primary does not by itself provide an adequate educational foundation for either specialized training or life in the modern world.

•The demand by parents for places for their children in further education cannot be denied by Government for many more years. The question is not whether to expand but how to do so in a rational fashion that will not involve impossibly high costs.

•Students don't attain physical and emotional maturity until the age of 15 or 16.

•Secondary education should not be expanded through the creation of a "dualistic structure," in which there is a "small but expensive" academic stream for those selected by examination and a large "practical" stream for the system's "rejects."

•Restructuring the system from 7-3-2 pattern to 6-3-3 should provide a financially viable universal nine year programme by 1990.

•Those who have the privilege of receiving secondary, technical, and higher education should consume less of and contribute more to the nation's resources, particularly if they are being supported by the community in full-time study. A greater share of the resources available for second stage education should be directed towards helping the majority.

•Manpower plans are questionable which assume that economic growth depends chiefly on high-level manpower and specialised technical skills rather than on the knowledge and skills of the majority of farmers, traders, craftsmen, and manual workers.

•When compared to formal education programmes, full-time training courses are seen as second best consolation prizes.

•At worst, the lack of second level academic and vocational channels for students could be a source of social problems.

•Universal lower secondary education will not simply "move the school leaver problem" to an older age group. The nature of the problem will be different because the school leavers will now be 16 or 17 years old and physically, intellectually, and socially more mature than the 13 or 14 year olds presently emerging from primary schools.

•The country should also provide other opportunities for secondary school leavers so that educative experiences are available to the whole age group.

•The NCE proposal is consistent with the inevitable long term expansion of the educational system.

•Stopping universal education at the primary level or streaming some students into practical courses at the second level discriminates against those 12 or 13 year-olds who may be late developers and makes the last years of primary education stressful.

#### *Programme Assumptions*

•The primary school course should be shortened, by 1990, to six years as part of the restructuring of the school system.

•The new JC programme will end at Form II instead of Form III, consisting of a two-year programme until 1990 and becoming a three-year programme after that.

•The junior secondary school will be a modest day secondary school, linked closely with the primary schools from which their children are drawn. Day school buildings required for the JS will be less elaborate and correspondingly less expensive than previous boarding or day secondary schools.

•Present secondary schools will serve as senior secondary schools for a three-year course leading to Senior Certificate level.

•Change in the nature of the Junior Certificate Examination and the level at which students sit this examination to fit the new programme.

•The JC Examination should contain more items testing explanatory and reasoning powers.

•The actual grade in each subject on the JC Exam should conform with international standards in terms of the level of performance they denote in order that Botswana can use their certificate where necessary to gain admission to courses abroad.

•Development of a new syllabus and curriculum for the junior secondary course, incorporating wider objectives and a practical orientation, will be undertaken by the proposed Curriculum Development and Testing Unit.

•Emphasis must be placed throughout the curriculum on the local Botswana context -- in art, music, literature, language, history, geography, science, practical studies, and especially in civics or development studies.

•Although all curricular areas are important, fundamental competencies in mathematics and in language communication (including Setswana) are of special importance. Setswana must be mastered by all.

•The curriculum areas which all students should study throughout their courses are Tswana Culture, English, mathematics, science, social studies, and practical subjects. At the junior secondary level

the curriculum would consist of the same six basic elements for all, except that schools might vary their practical subject offerings according to the particular location and facilities of the school.

- All students should take at least one practical subject throughout their course. In addition all subject teaching should be given a practical orientation, and 2 or 3 hours per week of practical work for the school or community should be included in the curriculum.

- French should no longer be offered as a normal school subject.

- The curriculum should include teaching about democratic institutions and the way they work, and education should incorporate practical experience in democratic institutions through visits to *kgotla*, council, or Parliament.

- There must be continuity between the junior and senior levels. This means attending to the problems relating to sequencing of material, the occurrences of overlaps, duplications, and gaps, the failure in some cases of the JC course to cover material which the Cambridge course assumes as a starting point in its syllabus, and the differences in orientation between the two courses in regard to the type of intellectual skill being developed.

- Schools should develop and make very much more use of their libraries, both as part of the regular curriculum and for recreational purposes. Libraries can play a major role in improving reading competence and fostering self-study skills.

- A library advisor should be included on the Inspectorate, and headmasters should appoint teachers and students as library assistants.

- The Research and Testing Centre will undertake the development and setting of the JC exam as a national testing centre under the auspices of the proposed Curriculum Development and Testing Unit.

- A separate National Examinations Council would provide direction on examination policy and independent oversight of the administration of the examinations and the maintenance of standards of marking. This Council should include representatives from the Ministry of Education, the University, and possibly the secondary schools, the teacher's union, and other institutions.

- Necessary changes must be made in the primary syllabus and curriculum and PSLE, providing a six year primary cycle that will link closely with the new junior secondary course.

- Separate elite streams of students within the public education system are precluded.

- Standards will be maintained for entry to JS. Students must pass a competency test or repeat the sixth year of primary school.

- Schools and training courses in different parts of the country must be properly linked to a national system so that learners can qualify themselves appropriately to move from one institution or level to the next without undue hindrance. Unaided schools and continuation classes should also be linked with the public system so that young people who follow a self-help path will not be blocked from re-entering the public school if they demonstrate academic ability. Furthermore, local curricular modifications designed to suit local circumstances are desirable but should not be allowed to impair mobility.

- Teachers and other educational personnel must be prepared to serve wherever they are needed in Botswana.

- The national flag, wall charts, and maps of Botswana should be displayed in every school, and national events should be commemorated. Modest funds should be put aside for students to travel beyond their locality to other parts of Botswana. National competitions and festivals in sports, music, and arts should be organised.

•Schools themselves are small communities and they must accordingly serve as examples of Botswana's national values. It will be meaningless to speak of democracy, development, self-reliance, and unity if the schools themselves show quite opposite tendencies.

•Communities must have a direct voice through school committees, through parent-teacher associations, and through the formal structure of government in the way their schools are run. Teachers and other educational professionals must be consulted about changes in their conditions of service. They must be given the opportunity to comment on impending changes, and to participate in the work of syllabus change and curriculum reform.

•The necessary legal provisions for setting up autonomous Boards of governors at each secondary school should be instituted. Boards of governors should be established for all secondary schools and should be legally empowered to receive and spend funds, an arrangement which would give the boards flexibility in buying, selling, or renting, raising money, or owning and repairing vehicles for example. The Boards would have the responsibility for the planning and management of the school facilities and for relating the school to the community.

•Public information programmes should be implemented to inform parents, employers, and others about the nature of the structural change and the reasons for carrying it out.

•Students should have every facility for information about opportunities for further study, training careers, and their expressed wishes in these regards should as far as possible be respected.

•Careers advice and counseling services for students should be improved. Each school should have a male and female member of staff designated as careers staff, and allowance should be made for this work in the form of periods free from teaching.

•Courses and conferences should be arranged each year for careers staff by the Ministry of Education in conjunction with other agencies.

•Active encouragement should be given to all employing agencies, whether Government departments, parastatal bodies, or private firms, to visit schools with career information.

•The education system must conserve resources. It must use finance and skilled personnel as sparingly as possible, for these could alternatively be employed elsewhere in the economy, perhaps in more productive uses. Ways to reduce the cost of educating people in secondary, technical, and higher institutions must be found.

•More emphasis should be placed on educating people whilst at work. The Brigades, on-the-job training in BEDU enterprises, in firms, and in government, and evening classes for workers already provide interesting prototypes for a system that could be developed further.

•These must be courses and institutions that provide people with skills valuable in occupations.

•Schools should look beyond their own fences to the community and consider how they may contribute to community improvement, for example through literacy classes and construction work.

•Any plans to enforce limits on the age of entry to primary school should be postponed as long as conditions in rural areas make it difficult for young children to attend school. The maximum permitted age of entry into primary school should be raised to 9 years. All secondary schools should admit pupils to Form I up to 19 years of age (in fact, it has been argued that there should not be maximum entry age limits or other requirements that discriminate against part-time students who many have taken longer to complete their prerequisite course).

•Financial barriers to school attendance should be removed as far as possible. Primary school fees should be abolished in 1980. Secondary school fees for full-time schooling should remain, so long as access to secondary school has to be rationed, but a generous system of bursaries extending to the full costs of attending school should be available.

•The administrative procedures for bursary assessments need to be overhauled and a consistent and realistic value put on parental incomes.

•Bursary awards should reflect the family's financial situation in the light of the current costs of secondary schooling to the student. The maximum award should cover the entire cost of schooling to the student.

•A reassessment of eligibility for bursaries should be possible after Forms I, II, and IV, in the event that family circumstances change after the original assessment has been made.

•There must be careful organisation and high quality provision of out-of-school education. There must be a network of learning opportunities -- alternative pathways -- including part time or correspondence study for formal certificates, vocational skills training, extension programmes to improve skills, productivity, and the quality of life, general information programmes to familiarise citizens with government policies and services, and purely recreational learning.

•A coherent system of technical and vocational education should be created in Botswana.

•For the purpose of admission to secondary school, a quota system should be introduced such that between 5% and 10% of the children with the greatest ability, as demonstrated on the PSLE, from every Standard 7 school should be admitted into Form I. The great majority of Form I places should however continue to be filled as at present on strict order of merit.

•The Ministry of Education should review and revise the secondary schools selection and admission procedures so as to ensure that all eligible applicants receive offers of places and are enabled to take them up.

•For the junior secondary level, self-help construction of school buildings should become a major source of classroom space for the schools.

•Communities that start schools, training activities, and courses with self-help should receive moral and material encouragement from Government.

•Lower staffing ratios, of the order of 1.4 teachers per class rather than 1.6 (or one teacher to 21.6 students) in present junior secondary schools, should prevail. Class size should be of the order of 40, where population density permits.

•The normal JS school size will be well below 600 students. For those schools that are already over 600 enrollment, there should be at least 2 deputy heads, and an academic structure of subject heads and subject teachers. A parallel structure of staff with pastoral and student welfare responsibilities is also necessary.

•Headmasters should be encouraged and assisted in modifying school timetables to permit more small group work, especially in laboratory and practical classes.

•JS teachers should be prepared in a new two-year course at the post-Form V level.

•Junior Certificate completers who indicate a preference for teaching should be encouraged to enter the teacher training colleges, even if their JC pass would qualify them for admission to Form IV or other training courses.

•It should be possible to provide JS education at a recurrent cost of approximately P180 per pupil year at 1976 prices, less than half the average annual cost of junior secondary education (Forms I-III) as presently offered.

•Tuition fees at Forms I to III of public secondary schools should be restored to the 1965 level, adjusted for inflation (this would be about P40 or about 10% of the cost of education in junior secondary

classes, at P387 per year per day place). The money so raised should finance bursaries at unaided as well as aided schools.

- Employers and training organisations will have to review their training programmes to take account of the new nine year (rather than ten year) JC structure and make any necessary adjustments in their training courses.

- Provision should be made and publicised, for headmasters to have power to withdraw pupils from the schools for poor academic performance, but only with the sanction of their own board of governors. Parents should have the right of appeal to the Ministry of Education in each case.

- There should be provision of information and education programmes to encourage sexual responsibility and reduce the occurrence of unwanted pregnancies among young people still in school.

- School premises should be made available for use by clubs, Brigades, evening classes, and even by the unaided secondary schools for academic or recreational activities during evenings and vacations.

- Members of the District Development Committee should regularly visit the schools and take an active interest in their welfare.

- Teachers should participate in community committees to plan development or recreational activities for the area.

- Members of the community should sit on boards or trusts to oversee the affairs of the school.

- Communities should contribute finance, materials, labour, and skills to development projects at their schools, while students and staff can reciprocate with aid to the community projects.

- Schools should be graded by size, and different salary scales for heads and deputy heads should attach to each category.

- A career ladder should be constructed that would enable any teacher to progress to the highest point in the profession. Promotion criteria should include competence and ability to cope with responsibility. Where possession of any qualification is also stipulated, opportunities should be available for teachers to acquire this through personal study.

- Government should provide support, including financial support, for the professional activities of the Botswana Teachers Union.

- There should be establishment of or more regular use of consultative machinery at all levels of the education system, including regular professional meetings in the field for teachers and heads to express their views on educational policy issues and to exchange ideas.

- The Botswana Teachers Journal should be published regularly and every teacher should receive a copy free of charge.

- There should be the creation of permanent displays, at suitably accessible teachers' centres, of educational books and materials for use in the classroom.

- The supervisory and in-service training services should be strengthened to maintain much closer links between serving teachers and the administration and to bring more frequent help and professional stimulation to the teacher in the classroom.

- Regular conferences and courses should be held at local, district, and national levels.

- A new post-secondary course should be launched to prepare teachers for the junior secondary level. It should last for two years and lead to the Botswana Teachers' Certificate. Although begun at the University, the new BTC courses should be transferred as soon as possible to a training college.

•The Ministry of Education should establish teacher training courses for practical instructors, utilising the resources of the Faculty of Education and the relevant training institutions (NCVT, BAC, BTC), jointly.

•High priority should be given to the training of vocational and practical instructors, and their schemes of service should be adjusted so as to improve the possibilities of attracting and retaining instructors.

•Botswana should develop a comprehensive range of in-service courses, including upgrading of teachers at all levels as an integral part of the teachers career structure, specialist courses, refresher courses, and courses on new techniques and curricula.

•The University should develop its role of providing professional leadership and support for the teacher education system in Botswana.

•Botswana needs to build up, through training and work experience, the capacity in various branches of applied education, such as curriculum development and course design, testing, career counseling, communication and teaching method, schools broadcasting, inspection, and so on. It also needs statistical, planning, and financial expertise.

•So far as possible decision making powers should be devolved to the level where people are most affected by the policies and decisions.

•The Ministry of Education should provide leadership in education, but should not have exclusive responsibility. Many parts of the system are managed, and indeed are best managed, by other agencies, both public and private.

•The Ministry of Education should codify its administrative procedures and responsibilities to assist in the delegation of authority.

•Policy and advisory committees, such as the National Committee on Educational Policy, should become more effective.

•A Policy Advisory Committee, composed of senior officers and serviced by the Planning Unit staff should be established in the Ministry of Education and should meet regularly.

•The professional wing of the Ministry of Education should be headed by a professional officer at the Deputy Permanent Secretary level. This wing should incorporate the officers responsible for the various levels and types of education, for professional education services, and for the inspectorate. The administrative wing of the Ministry of Education should cover resource provision to schools and organisation/staffing of the Ministry.

•Greater use should be made of educational statistics and closer liaison should be established between the Central Statistics Office and the Ministry of Education.

•Improved financial planning should be developed, to include the restructuring of the education estimates to make calculation of unit costs easier.

•Clarification of roles and specification of procedures for cooperation should be issued for the District Education Officer and local councils/education committees.

•There should be a clear definition of the respective roles of the Councils and the Unified Teaching Service in regard to teachers.

•A career structure in educational administration should be developed.

•Short training courses should be mounted in Botswana in educational administration and supervision, with more extended courses in other countries for selected persons.

### **Qualifications**

•Education -- even the best school system one might imagine -- cannot on its own change society, and does not hold the only key to solving all the nation's problems. One should not expect too much of teachers and schools. Even if education in Botswana operated in full support of the national principles, it could not by itself bring about social change. It can only assist in the process.

•Government must ensure that costs of the junior secondary level are in fact kept low. Failure will undermine the aim of the strategy.

•Government must plan and regulate the development of junior secondary schools to avoid inefficient proliferation of schools.

•Junior secondary schools should have a distinct identity. They should be neither primary continuation classes nor watered down versions of present senior secondary schools. Present secondary schools should give up their junior secondary classes in the long run to preserve the distinctness of the junior secondary course. Otherwise, it will be difficult to establish a new, more relevant curriculum.

## ANNEX C

### National Assembly Policy on Education

#### *Changing the Goals of Secondary Education*

#### Context

•The National Commission on Education produced the document *Education for Kagisano*. It identified a number of fundamental problems:

- a. There is a gap between the quality of primary schools and the much better provided for and more costly secondary schools.
- b. Schools are too separated from the world of work. There are not enough opportunities to combine study and work.
- c. Most emphasis at present is given to full-time education in schools, with too few opportunities for people to continue their learning outside the formal education system.
- d. Syllabuses and curricula are too academic.
- e. Numerous unaided schools have been established which are of lower quality than government schools. Yet students in the unaided schools often pay more for the education they receive.
- f. There is a gap in quality levels and educational opportunities between schools in rural and urban areas.

•Government has been conscious of the importance of education and the need for change, as indicated by statements in BDP Manifestos and resolutions and speeches of His Excellency the President. Criticisms from various quarters, including the National Assembly, have made clear the need for a thorough review of the education system.

#### Claims

•Nine years of education will be made available to all children, at first by adding two years above primary level, and later (after primary is reduced to six years) through a three-year intermediate cycle. This intermediate (junior secondary) form will narrow the present large gap between primary and secondary schools in terms of costs, standards, and orientation.

•The change from the present type of JC education does not mean a reduction in quality but rather a change in purpose. Its aims will be to provide all children with:

- a. language tools needed in either further study or work.
- b. a solid foundation in mathematics skills.
- c. an understanding of scientific and technical subjects, based on examples in their own environment.
- d. a sense of the nature of their society and their role in it.
- e. an orientation toward further learning, whether formal or non-formal.
- f. an orientation toward work in the real world.

•Access to secondary places will be made more equitable.

### **Bases for Claims**

•Many of the problems are interrelated and require a combination of actions to solve them. The National Commission on Education has provided a clear set of *goals* to guide action and a *strategy* to achieve those goals.

•The Commission consulted widely with people throughout the country -- both educators and others concerned about how education should develop in Botswana -- and gathered a great deal of information.

•The result of the Commission's work is a very complete assessment of Botswana's education system (the first comprehensive review since independence).

### ***Programme Assumptions***

•The intermediate schools will be more similar to primary schools in class size, physical facilities, level of training of teachers, and in the educational objectives they seek to accomplish.

•The JS schools will be day schools rather than boarding schools, thus reducing boarding costs and increasing the links between school and community.

•The unaided secondary schools will receive gradually increasing public assistance until they are fully absorbed into the public intermediate system.

•The present system of selection will be reviewed to ensure that all qualified candidates have an equal chance to attend. During the coming years, when places in JS schools will still have to be limited, a quota system will be established to take the top students (approximately 5%) from every Council primary school into Form I.

•Those who gain entry to senior secondary must bear a portion of the cost. The present secondary school tuition fees will be adjusted upward (approximately double).

•The bursaries system will be reviewed so that no student will be excluded on economic grounds.

•Programmes of information and education will be developed to encourage personal responsibility on the part of young people to reduce drop-outs due to unwanted pregnancies.

•There will be substantial revisions in the syllabus and curriculum under the direction of a new Curriculum Development and Testing Unit at the Ministry of Education.

•The examinations system at secondary level will be substantially modified to take account of the changed goals, strategy, and structure of junior secondary education.

•The system of careers guidance in secondary schools will be strengthened.

•The respective roles of local officials (Education Secretaries of Councils, and Education Officers of the Ministry of Education) will be more clearly defined than hitherto and a circular outlining procedures for co-operation at local level will be issued.

•Administrative procedures and responsibilities will be codified as recommended by the Commission.

•Procedures for financial planning and control will be strengthened, in consultation with the Ministry of Finance and Development Planning.

•The inspectorial and supervisory cadres will be strengthened as recommended by the Commission.

- An officer will be assigned responsibility for liaison with unaided secondary schools.
- Staffing and career structure measures recommended by the Commission will be implemented.

### **Qualifications**

•If it appears that implementation will cause the recurrent budget to grow faster than the guidelines, then the rate of implementation may need to be altered (and primary education should have top priority).

•It is essential that the costs of intermediate education be kept under tight control. Otherwise it will not be possible to make nine years of education available to all, and an important part of the total strategy will be weakened.

•While agreed in principle, the expansion of intermediate education to provide nine years education for all in the long run (including the detailed procedure for transition from the present system to the new) must be subject to much more detailed planning and analysis than provided in the Commission's report. Government has decided to accept this part of the Commission strategy provisionally, subject to the results of consultations with the public and the findings of more detailed planning.

•The concept of nine years of education for all and how to make the transition to the new system will be subject to continuing consultation with the views of parties concerned: parents, teachers, students, local authorities, and others. There will also be information campaigns and arrangements for two-way communication on the objectives of the new educational development strategy.

•How to create employment opportunities for increasing numbers who will emerge from intermediate schools so as to avoid "educated unemployment" will be subject to continuing planning and consultation. It will be extremely important for the success of the education policy to maintain a rational policy toward incomes and employment. We must avoid a situation in which incomes for a fortunate few, who receive the benefits of higher levels of education, get out of line with the general level of incomes.

•In order to make proper decisions and keep the policy moving in the right direction, it will be necessary to monitor the implementation of the proposed programme carefully, both in educational and financial terms. In addition to the continuing processes of budget estimates (annual) and planning (every three years), Government will conduct a major reassessment of educational policy and strategy in 1980, 1985, and 1990.

## ANNEX D

### Notes on ISD Curriculum Development

The central purpose of the JSEIP project is to assist the Ministry of Education with the development of a new three year curriculum. Under development are six subject areas. Not all the courses or subjects have the same instructional time dedicated to them, but a reasonable estimate is that about 3,000 hours of instruction - in one form or another - must be prepared. For some of this instruction, conventional, and already available, instructional resources may be judged suitable by the Ministry of Education. It is essential that the educational goals and purposes of the junior secondary sequence be analyzed in terms of the intended learning outcomes for each subject and grade, and that decisions be made as soon as possible as to what instructional resources can (or must) be acquired from existing commercial sources, and which ones must be developed by the Curriculum Development Unit with project assistance.

#### Teaching/Learning Modules

It is assumed that for some of nearly all courses, and nearly all of some courses, teaching/learning modules will have to be developed. Minimally, what are the constituent elements of a typical module?

- (1) Narrative statement of the educational goal or purpose of the unit or module;
- (2) A list of the specific learning objectives to be attained by the intended learners;
- (3) A brief description of prerequisites, entry level competencies of the learners;
- (4) The provision of appropriate learning activities and instructional resources;
- (5) Student self-test for learning progress checks;
- (6) Criterion referenced tests for achievement verification for administration by the teacher; and
- (7) Suggested teacher-directed instructional activities.

The first five of these instructional elements should be incorporated into a modularized Student Learning Guide for each course unit. All seven of the elements should be included in the Teacher's Guide. Regarding the fourth element, some instructional sequences may be included right in the Student Learning Guide. More often the Guide would

refer the learner to resources, such as class texts or workbooks, which are external to the Guide.

### Teaching/Learning Modules - The Development Sequence

There are three steps which are crucial, and should precede the design and development of the instructional program. These steps should be taken with all subjects in all grades, even in those instructional blocks where traditional teacher-centered, group instruction is the expected mode. These three steps are:

- (1) The subject matter or content must be described and defined for each course for the three year period;
- (2) This subject matter content must be allocated to one of the three grade levels; and
- (3) Within each grade year the subject matter content must be divided into logical and manageable units, which are then sequenced with regard to contingent hierarchies of learning.

Once these steps are taken, the instructional development effort is ready to begin. Following are some steps in the development process which have been found to be critical to the building of instructional programs which will have demonstrable and predictable effectiveness.

- (1) The subject matter content for each unit of instructional must be operationally defined in terms of the expected learning outcomes;
- (2) Available "off-the-shelf" instructional materials should be surveyed and analyzed to determine the suitability of commercially available materials for teaching the unit objectives (A good rule is don't "make" new materials if adequate materials are otherwise available);
- (3) Decide for which objectives new instructional materials must be developed, and what media for is optimum;
- (4) Secure or reproduce available materials;
- (5) Write/develop other needed materials;
- (6) Describe and develop guidelines for appropriate teacher-directed activities;
- (7) Write self-progress test items;

- (8) Develop criterion referenced examination items for teacher administered assessment;
- (9) Cast the above into provisional student and teacher guides;
- (10) Tryout unit teaching/learning module in small number of cooperating schools with appropriate level of learners;
- (11) Revise as appropriate and retry if needed; and
- (12) Reproduce for large-scale demonstration/tryout.

## ANNEX E

### List of Persons Contacted

John Hummon, Director, USAID, Botswana

Ann Domidion, HRDO, USAID, Botswana

John Roberts, Deputy Director, USAID, Botswana

Jakes Swartland, Deputy Permanent Secretary, Ministry of Education

G. H. Kgomanyane, Chief Education Officer, Secondary Education, MOE.

Hope Phillips, Director, Unified Teaching Services, MOE

Tina Mojami, Principal Training Officer, MOE

Philomen Ramatsuo, Chief Education Officer, Curriculum Development and Evaluation Unit, MOE

Eric Odotei, Principal Planning Officer, MOE

Ash Hartwell, Chief of Party, JSEIP

Joe McDonald, Resident Technical Adviser, JSEIP

Kent Noel, Resident Technical Adviser, JSEIP

John Bowers, Resident Technical Adviser, JSEIP

Johnson Odharo, Resident Technical Adviser, JSEIP

Dwight Allen, Resident Technical Adviser, JSEIP

C. Wesley Snider, Resident Technical Adviser, JSEIP

Frank Walton, Resident Technical Adviser, JSEIP

Barry Vogeli, Resident Technical Adviser, JSEIP

Johanna Carter, Short Term Consultant, JSEIP

Zylpha Mapp-Robinson, Short Term Consultant, JSEIP

Francis Cammaerts, Principal, Molepolole College of Education

Changu Mannathoka, Head, Department of Education, Molepolole College of Education

Thomas Tlou, Vice Chancellor, University of Botswana

**Terence Davis, Deputy Vice Chancellor, University of Botswana**

**Derek Lindfield, Dean, College of Education, University of Botswana**

**John Yoder, PEIP project, University of Botswana**

**Dr. Sepuma, Chief Education Officer, Primary Education, MOE**

**Dr. Masogo, Permanent Secretary, MOE**

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