

A Project ABEL Information Bulletin

THE AGRICULTURAL TEACHER EDUCATION PROGRAMME OF THE NATIONAL TEACHER TRAINING COLLEGE

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

Agriculture is part of the standard curriculum in Lesotho's primary and secondary schools. Advanced agricultural training is offered at the Lesotho Agricultural College (LAC), the National Teacher Training College (NTTC) and a programme of Agricultural Education at the National University of Lesotho (NUL). The Ministry of Agriculture is responsible for LAC, where students are primarily trained for employment either within the Ministry of Agriculture or in the private sector (i.e., agriculture business or industry). The Ministry of Education is responsible for agricultural education programmes at NTTC and NUL. Students attending NTTC receive agricultural training they will use as primary and secondary teachers.

Agriculture is LAC's principal focus, and the grounds, buildings and support facilities are far more expansive than NTTC's, offering greater opportunities for

practical skills training. As a result, NTTC's Agricultural Education (Ag Ed) students have, in the past, spent more time studying theory than applying practical applications to agricultural teaching methods.

Agricultural knowledge for development of small scale agriculture industries and community development are critical to Lesotho's growth. The formation of the Lesotho Agricultural Teachers Association demonstrates the professional commitment shared by agriculture teachers to improve and influence agricultural education in the schools. NTTC's Ag Ed Programme is working hard to upgrade its teacher training format, recognizing that there are many problems teaching agriculture in schools that need to be overcome. Additionally, teachers need to be equipped with appropriate knowledge and skills if they are to have a positive impact on their students.

THE AGRICULTURAL TEACHER EDUCATION PROGRAMME OF THE NATIONAL TEACHER TRAINING COLLEGE

Agricultural education has been part of NTTC's curriculum since the College opened in 1975. The programme prepares teachers for primary and secondary schools to teach in the following areas:

- soil and water conservation
- crop and vegetable production

- animal production
- horticulture
- teaching methods and classroom management.

In an effort to become more practical oriented, NTTC's Ag Ed programme has revised its curriculum. The new curriculum has specific performance objectives so the teachers and students know the tasks they will be engaged in and whether the goals of the lessons have been achieved. Under the new curriculum, students will spend more than half their time doing practical applications as opposed to studying theory. However, lack of sufficient agricultural facilities has hindered the Agriculture Department's ability to teach courses on a more practical level.

BANFES has allocated funds to NTTC's Ag Ed Programme which will enable them to expand their current physical facilities. The BANFES funds will be used to build animal shelters for sheep, goats, cows, pigs, chickens, rabbits and fish, plus a greenhouse for experimentation with different crops.

Building construction will be completed during 1988. The new facilities will allow NTTC to train agricultural students more effectively. Increased animal and crop production will also be used for income generation by the Agriculture Department. Additionally, agriculture students may have a share of what they helped produce.

BANFES funds have also helped NTTC's Agriculture Department to purchase support materials such as tools, fertilizers, laboratory equipment and irrigation equipment. Funds have also been

allocated to provide support personnel, including a farm assistant and an instructional materials development assistant. BANFES' support for improving NTTC's Ag Ed curriculum will assist the College in its goal toward producing new instructional materials that are current with the revised curriculum. These materials will be used as part of teacher training at NTTC and will also be available to graduating teachers to take with them to their assigned schools.

BANFES funds have also provided short and long term training. Members of the NTTC Ag Ed Department made significant contributions to the improvement of the programme's practical skill curriculum and instructional materials following a regional study tour of other educational and agricultural colleges in the region. Additionally, one teacher from NTTC is currently in the United States studying for a B.Sc. in Agricultural Education and another teacher has been selected for overseas training in September, 1988.

NTTC and LAC have been discussing possible 'bridge' programmes whereby NTTC students can receive the most appropriate education by using both facilities. For example, NTTC teacher trainees may spend their first two years at LAC, developing strong agricultural skills, techniques and knowledge, and then apply these skills to a one-year intensive teacher training preparation at NTTC.

As NTTC continues to grow and adapt its programmes to meet students needs, BANFES' commitment to NTTC through specific contributions and initiatives has helped the College realize some of their goals.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

BANFES TRAINING

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

BANFES TRAINING OFFICE

Few BANFES activities have such a broad impact on the entire project as training. The BANFES Training Office coordinates training activities within the four BANFES components. By doing so, it helps strengthen all the institutions under the Ministry of Education (MOE) and helps upgrade its professional and support staff.

Over several years, Lesotho's Ministry of Education has participated in various training activities, including the overseas training of select personnel. Training, however, was often focused on specific MOE divisions or activities with limited impact on the whole education sector. In participation with BANFES, the Ministry is now engaged in a comprehensive, highly coordinated in-country training programme that affects the entire education sector. All training, including

students studying in the United States under BANFES sponsorship, is focused on present and future responsibilities that need to be met by MOE.

The training accomplished by MOE and BANFES to date is impressive. Approximately 3000 education professionals and support staff have participated in some form of training. There have been over 70 in-country workshops and courses, 15 regional study tours and over five study tours to the United States. Additionally, 35 people will be on long term training in the U.S. soon.

Including Ministry Headquarters, MOE has 350 employees located in several divisions such as the Teacher Service Unit, National Curriculum Development Centre and the National Teacher Training College. In addition, 7000 primary and secondary teachers, most of whom work in private mission schools, are paid by MOE, thus making MOE's payroll the largest among all of Lesotho's ministries. Training programmes, therefore, must address the needs of a large, diverse group and must be planned for long-term effectiveness.

When BANFES began its activities in Lesotho in mid-1985, members of the Training Office met with several MOE officials to outline training needs and how BANFES could assist. As a result,

learning experiences and programmes were created, modes of delivery explored (i.e., workshops, conferences, etc.), instructors identified and resources allocated (i.e., classroom space, local instructors, training materials, etc.).

An MOE Advisory Training Committee was formed, including MOE's Deputy Principal Secretary, the Principal Education Officer, the head of the Teacher Service Unit, directors of the National Teacher Training College and the Thaba-Tseka Skills Training Centre as well as other senior MOE officials. As one of its first initiatives, the MOE Training Committee asked each division of MOE to submit a two-year training plan, including a statement of purpose, problem areas, training needs, expected outcomes, candidates for training, kinds of training needed (i.e., workshops, on-the-job training, etc.) and a suggested timetable for training. These training plans are updated annually by the divisions, reflecting training that has been accomplished and identifying new training needs.

The Training Committee reviews all training proposals and makes recommendations to the Ministry that include training priorities, allocation of resources, how training can best be delivered and the usefulness of the activity once training is completed.

Under this training model, the Ministry is involved in the most comprehensive training plan to date, extending through the entire education community. Clients include:

1. professional and support staff who work at MOE Headquarters, the Teacher Service Unit, the Book Service Unit and the Inspectorate;

2. professional and support staff at the National Curriculum Development Centre and the Instructional Materials Resource Centre;
3. professional and support staff at the National Teacher Training College; and
4. professional and support staff at Thaba-Tseka Skills Training Centre.

Additionally, numerous outreach and inservice activities encompass Lesotho's primary school teachers, school managers and headmasters. In addition to the people who have been training in Lesotho since BANFES began, 20 people are currently being trained in the United States, and another 15 are being considered for study in September, 1988. Basotho studying in the U.S. include lecturers from the National Teacher Training College, senior Planning Unit officers, the MOE Director of Personnel, instructional materials designers and primary teacher educators. Areas of study include personnel management, radio production, computer programming and education planning. Of the fifteen people who will go to the States in September, several are teachers and headmasters. Their inclusion in overseas training marks a new approach to a broader outreach of people for study in the States. The University of Massachusetts, a member of the BANFES Consortium, is responsible for placing trainees in the most appropriate U.S. universities and other training institutions.

An elaborate computer system specially designed for the BANFES Training Office has enabled MOE and BANFES to obtain quick data in several formats. One can look at training by:

- chronological order; personnel record keeping, curriculum dissemination, etc.).
- BANFES Project component;
- output (required by the BANFES contract); The system also produces records on training costs and a quarterly calendar of events. For the first time, MOE has an accurate record of who has been trained in what areas and at what cost. All training is focussed on essential skills that will enable MOE's personnel to best meet the management and administrative needs of the Ministry for years to come.
- who initiated (NTTC, NCDC, TSU); and
- specific skill areas (there are 60 skill areas such as audio visual training, data base management training,

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
 Project ABEL
 Academy for Educational Development
 1255 23rd Street, N.W.
 Washington, DC 20037
 (202) 862-1956

A Project ABEL Information Bulletin

BREAKTHROUGH TO LITERACY

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

The highest failure rate in Lesotho's primary school system is in the first three standards (grades). Approximately 25% of all repeaters (students who fail a standard) are first graders, representing the highest repeat rate for all seven standards. There are many reasons for this high failure rate: the classes hold too many students, the student-teacher ratio is too high, and the least qualified teachers are often assigned to the first three standards. Perhaps the most important reason for this failure rate, and the one that stems from the given factors, is that the students have not learned how to read and write. As a result, they cannot pass basic exams enabling them to graduate to higher standards. Of students who enter standard one, two-thirds eventually enter the fourth standard, but only one-fourth do so within four years.

What happens to children who cannot read and write? They become handicapped for life. Menial jobs at very low wages may be all they can ever hope for. Every aspect of their life is severely

affected. They cannot read labels, road signs, newspapers, or instructions; nor can they write a letter, fill out a form or perhaps even sign their name. In a country with one of the worlds lowest per capita incomes, they will remain among the poorest of the poor.

Someday these children will have children of their own. What are the chances of their children learning how to read and write?

BREAKTHROUGH TO LITERACY is a method which teaches children to read and write in their mother tongue. BREAKTHROUGH is based on the concept that small children start school already well based in language skills. The child uses familiar words to express personal experiences of life. The child can express likes and dislikes and relate wonderful stories full of imaginary characters using past, present and future tense. BREAKTHROUGH is a system for teaching literacy to small children using the language experience approach. A child is asked to tell a story. As the child expresses the story in a vocabulary already mastered verbally, the child is taught how to use words in a sentence to transform the story into written language. The child reads what has been written, producing his or her own first reading material. The child "breakthrough" to literacy and soon learns to read what other students have written as well as traditional reader textbooks.

The National Curriculum Development Centre (NCDC) has introduced the **BREAKTHROUGH** model as a pilot programme in eight primary schools in Maseru and Teyateyaneng. Approximately six-hundred standard one students were selected at random to attend **BREAKTHROUGH** classes with teachers specially trained in the **BREAKTHROUGH** method. The teaching aids include:

- four conversation posters each containing a multitude of activities familiar to the children; the students create personal stories based on what they see in the posters (family supper-time, playing together, etc.);
- forty-four phonic frieze posters, each containing a picture familiar to the children, showing how a familiar sound appears as a letter or group of letters;
- teacher and student word cards from which students learn to apply the right word to a picture, and eventually to a series of words to form a sentence;
- teacher and student word card holders, or sentence holders;
- a word store; as a child learns a new word, he or she can go to the word store and put the word in his or her individual word card (called sentence maker);
- **BREAKTHROUGH** readers; and
- student story books. The students can draw pictures or paste magazine pictures into their books. As a student learns to write the words they have already learned with their word cards and sentence holders, they can begin to write sentences describing

their illustrations. The students have now begun to create their own reading material and will soon know how to read other students storybooks as well as traditional readers, magazines, library books and a host of other appropriate reading material.

What makes **BREAKTHROUGH** unique? Word cards and colourful posters alone cannot teach children how to read and write, and **BREAKTHROUGH** cannot solve the dilemma of overcrowded classrooms. **BREAKTHROUGH** is an approach, however, that can turn an overcrowded class with one teacher into a teaching environment where children are constantly engaged in a learning activity. Divided into four groups, a class of eighty students can be learning language skills, practicing letter shapes and writing and illustrating personal stories. **BREAKTHROUGH** teaches work directly with one group of students at a time, rotating groups throughout the day so that each group has several opportunities to be with the teacher in a small group then put into practice what has been taught. Although **BREAKTHROUGH** focuses on language skills, teachers are able to use the **BREAKTHROUGH** method in other courses such as basic math, science and home economics. Furthermore, while **BREAKTHROUGH** is used primarily in the first standard with students learning how to read and write, the method can be used in other standards as an excellent teaching technique for all courses.

BREAKTHROUGH was developed in England and is currently being widely used in several English-speaking countries around the world. In Southern Africa, **BREAKTHROUGH** has been adapted to teach several African languages, including Sesotho. **BREAKTHROUGH** was not specifically designed as an approach to solve teaching problems in over-crowded

and in under-staffed classrooms with limited teaching aids. BREAKTHROUGH is designed as a small-group method, a seemingly impossible goal in countries faced with such conditions. However, as one Basotho educator states: "Even given our constraints, BREAKTHROUGH is a far better method than the traditional chalk-n-talk approach". When asked to explain, the educator described a classroom of eighty students all sitting in one large group as the teacher writes on the chalkboard, then talks, writes on the chalkboard, then talks, to children who are falling quickly asleep mentally.

- teachers must be properly trained;
- complete materials must be either provided or developed;
- classes need to be monitored by BREAKTHROUGH Teacher Advisors;
- regular meetings and workshops with BREAKTHROUGH teachers must be held to share ideas and solve problems; and
- teachers must be dedicated.

BREAKTHROUGH was first piloted in Botswana in 1983. By 1985 BREAKTHROUGH proved so successful that the Botswana Ministry of Education decided that all primary schools must be prepared to teach the BREAKTHROUGH method. Where it is currently employed, students demonstrate a capability to write coherent two-page stories before the end of their first year in school.

As BREAKTHROUGH proceeds with its pilot programme in Lesotho, NCDC is committed to training more teachers in the BREAKTHROUGH method. It is anticipated that one-hundred teachers will be trained by 1989. As additional teachers become trained, more children in Lesotho will benefit from the successes of BREAKTHROUGH's teaching method. As a result, BREAKTHROUGH will be a lasting chance to develop the most critical skill essential to these children's lives - the ability to read and write.

To be successful, BREAKTHROUGH needs support:

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assis USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

DACUM: DEVELOPING A CURRICULUM

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

Lesotho's National Teacher Training College (NTTC) is the only institution in the country whose primary purpose is to train students to become primary and secondary teachers. NTTC currently has 942 students, 647 on campus and 295 serving one-year teaching internship. At the end of a three-year academic programme, the students are qualified to apply for professional teaching positions.

Because of its special responsibility, NTTC has addressed the critical question of how well qualified the students are who graduate from their training programmes. Are new teachers equipped with the appropriate knowledge and skills to teach students what they need to know in various courses? Are NTTC students receiving the most relevant course study applicable to become the best possible qualified teachers? Is NTTC using time spent with students in training to the best advantage?

Component II of the BANFES project is to "Strengthen the National Teacher Training College". Output II of the Component calls for "revising NTTC Curriculum". Given these objectives, BANFES is committed to assisting NTTC toward improving its teacher training programme and ensuring better qualified teachers as a result.

DACUM, or Developing a Curriculum, is a technique that is based on task analysis; that is breaking down a job into specific, observable tasks. The idea is to understand exactly what it takes to perform a particular job.

DACUM was first used in the Job Corps Programme in the United States. One of Job Corps functions was to train inner-city youth for practical jobs, primarily in the trades. Rather than designing training programmes based on assumptions, Job Corps used the DACUM methodology to break down specific tasks students would need to know within several trades. For example, course designers worked closely with auto mechanics, identifying specifically what auto mechanics did and needed to know in order to do basic tune-ups, engine repairs, electrical work, welding, etc. Based on this analysis, curriculum planners listed course work and on-the-job training the students needed to become qualified auto mechanics. DACUM enabled Job Corps course designers to develop curriculums that would best prepare students for jobs upon completion of a course.

DACUM was first introduced in Lesotho as a methodology for planning teacher training at a May 1986 workshop for NTTC's Home Economics Department. Home Economics curriculum developers from the National Curriculum Development Centre (NCDC), selected school teachers and a representative of Lesotho's Food and Nutrition Coordinating Office were also invited to attend the workshop. The DACUM workshop was designed and facilitated by the Instructional Systems Designer at NCDC, the Practical Studies Specialist at NTTC and the Instructional Materials Resource Centre (IMRC) Instructional Designer.

The professionals attending the workshop were invited as experts in the field of home economics. Most important were school teachers and headteachers who have the most direct and current knowledge of what really happens in classrooms. During the workshop's initial brainstorming session, these experts identified the lessons or skills actually taught in home economics, and why. Any idea presented was written on a 5 x 7 card in blue ink and posted on the wall; i.e., teach food hygiene, teach mending, teach about childhood illness, teach fabric selection. Taken as a whole, the ideas represented a large collection of related but uncoordinated teaching tasks. Workshop participants were then asked to group lessons under specific headings, or Terminal Performance Objectives (TPO's). For example, all ideas related to food and nutrition. Immunizations, pre-natal care and child development were listed under the TPO Teach about Child Care. The participants identified nine specific TPOs that a home economics student needs to learn. Each task under the TPOs was listed as Intermediate Performance Objectives (IPOs). A new chart was drafted as the various teaching skills were

organized: the TPOs were listed in black ink and the IPOs were listed in red ink.

At the end of the workshop, the participants had completed a task analysis of the major objectives that a home economics teacher must be qualified to teach, and with each of these objectives the various related skills. By using the major objectives or TPOs, combined with the IPOs, NTTC faculty and NCDC curriculum developers are now able to define instructional objectives that apply to each task. For example, if one of the tasks of the TPO 'Teach about Fashion and Fabrics' is 'Teach about fibres and fabrics', the IPO is further broken down into specific instructional objectives:

1. define fibres and fabrics;
2. classify fibres as natural (vegetable, animal or mineral) or man-made/artificial;
3. for each fabric treatment, explain the purpose and tell where it is most commonly used;
4. identify the characteristics of different types of fabric by construction and fibre content; and
5. recognize and collect sample materials of different fibres.

Defining individual instructional objectives is the final step in creating the necessary course syllabus.

The last requirement in designing an instructional system is to determine how to teach the instructional objectives:

1. how much course time needs to be spent for each objective;
2. what is the best teaching method (i.e., independent study, lecture, practicum, etc.); and

3. what are the pre-requisite instructional objectives.

DACUM offers an organized, relevant approach to identifying what people need to know in order to perform a job. While DACUM has been used internationally to develop appropriate curriculum for job training programmes, this is the first time it has been used for a teacher training programme. The response to DACUM at NTTC's Home Economics Department has been so positive that NTTC's Professional Studies, English and Health Departments have also used DACUM in workshops to revise their departments curriculum; additionally, the Science Department has scheduled a workshop and other departments are considering the method.

The DACUM workshops have also provided training opportunities for people to learn how to conduct similar

workshops. Instructional designers at IMRC, assisted by the BANFES Agricultural Specialist, facilitated a DACUM workshop to help the Agriculture Division at NCDC develop the primary school Agriculture curriculum.

The workshop was conducted in Sesotho and included village chiefs, progressive farmers, field teachers, teacher trainers and agricultural staff from NCDC and NTTC. Brainstorming focused on one central question; when a child graduates from primary school, what does the village expect the child to know in terms of agricultural skills. The task analysis and resulting TPOs and IPOs provided the necessary information for NCDC's agricultural division to design an appropriate, useful syllabus. DACUM's success in Lesotho is demonstrated in the growing number of requests for workshops. It is a valid and extremely useful technique applicable to a large number of training and educational programmes.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

DESIGNING SUPPLEMENTARY TEACHING MATERIALS

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

The problems within Lesotho's primary school system are particularly severe in the lower primary grades - i.e., Standards I, II and III. Frequently, the least qualified teachers are assigned to the lower Standards where the pupil-teacher ratios, failure and drop-out rates are the highest. Therefore, the educational needs for the lower primary pupils are the greatest. In addition to schools being overcrowded and understaffed, the majority of the classrooms do not have enough seats or desks. As a result, 43% of the children sit on the floor and several Standards are often taught by one or two teachers in the same classroom. Not only are physical facilities lacking, but teaching/learning materials are also very limited.

SUPPLEMENTARY TEACHING MATERIALS

Developing appropriate supplementary teaching materials is part of the BANFES Basic Education Programme (BEP). The design and development of supplementary

teaching materials is coordinated by curriculum developers and BANFES education specialists at Lesotho's National Curriculum Development Centre (NCDC). The overall goal of BANFES' Basic Education Programme is to improve the mother tongue literacy and numeracy of pupils in lower primary Standards. Developing supplementary teaching materials is one strategy towards accomplishing that goal.

Another goal of BEP is reduce the effective class sizes in the lower primary grades (that is, how many pupils a teacher is dealing with face to face) by designing teaching materials that the pupils can work on in small groups independent of their teacher.

An action Research Survey on Basic Education and Practical Studies confirmed that classroom instruction in Lesotho is highly teacher centered. Teachers are active about 70% of the time. The teachers do 90% of the talking in a classroom. Most of this talking is restricted to giving information or asking questions. The pupils' role is largely that of passive listening and sometimes responding to questions.

Supplementary teaching materials have been designed to encourage the greatest degree of active learning by lower primary pupils and to provide critical assistance to Lesotho's teachers. Active learning means that pupils participate actively in their learning through use of a variety of teaching/learning materials used individually or in groups.

Local Intervention in the Design of Supplementary Teaching Materials

Developing supplementary teaching materials has taken place not only centrally (at NCDC) but also at the local level.

Local, or school-based, efforts involve the schools in producing materials for their own use. Learning to read involves acquiring skills through active learning and practicing those skills using appropriate materials. Practicing reading skills means that vast quantities of attractive, interesting and simple reading materials must be available to pupils. One resource for the production of consumable teaching aids and practice reading materials for Standard I through III is teachers and upper primary pupils.

In July, 1986, a series of five lessons plans was developed by primary teachers at a writers' workshop. These plans are to be used by teachers of upper primary pupils as part of their Sesotho composition lessons. The objective of these lesson plans is to teach pupils how to write for a purpose. The lesson plans were tested in fourteen schools and then disseminated to every primary school in Lesotho via a children's monthly reader.

To move towards localization of teaching aid production, teachers from about one hundred schools were trained in how to use a set of instructional games for Sesotho, Maths and English. During the workshop they were encouraged to use the games as prototypes and make copies for their pupils or develop similar games for classroom use.

To help illustrate the pupils' stories and to facilitate the production of consumable teaching aids, sets of ten rubber stamps depicting people, scenes and objects typical to Lesotho were developed. These stamps are presently part of Materials

Resource Kits that have been distributed to sixty-six subdistricts throughout Lesotho.

Central Intervention in the Design of Supplementary Teaching Materials

Some of the materials developed to improve pupil performance in lower primary schools are standardized and produced centrally. Implementation, however, is up to each school and teacher who receives the materials. In other words, the "what" to teach remains the same, as the materials were developed to supplement the existing curriculum and require slight or no modification of current curricular content or classroom management schemes. What changes is the "how" to teach, the teaching methods. Basic Education Supplementary Materials (BESM) are an example of central level intervention.

Self-correcting learning materials developed by the BEP and contained in the Basic Education Supplementary Materials enable teachers to work with pupils in groups rather than with the entire assemblage at a time. By using games and other materials demanding pupil activity, the teaching method changes from one in which pupils are passive learners to one in which pupils are active participants in their own learning.

The Basic Education Supplementary Materials have been mimeographed and stapled together. The materials will go to every school in 1988 to be included in the ring binder that has been provided to each teacher. As new games or activities are developed, prototypes will be mailed to the schools. Games needing revision can be removed from the ring binder and replaced by improved versions.

The format includes three skills checklists on which the competencies for English, maths or Sesotho are presented along with space for the pupil roster. In this way it

becomes possible for the teachers to monitor the progress of individual pupils. Each section contains a set of games which will help pupils master certain skills. Each game has instructions for the teacher explaining the learning objectives as well as the game's rules. Teachers have been trained to use these materials in the ongoing National Dissemination Programme (NDP) workshops held bi-annually in each district.

The supplementary teaching materials have proved to be very popular among Lesotho's primary teachers. While all teachers who attend an NDP workshop are trained in the use of the supplementary teaching materials, not all teachers receive these teaching aids. The major problem is meeting demand with supply. The teaching materials can be viewed as prototypes centrally designed so that all teachers can share and benefit from them, yet the materials can be produced locally.

To facilitate local production of teaching materials, NCDC is supplying each of the sixty-six subdistricts of Lesotho with a Materials Resource Kit and is training subdistrict representatives in its use. These Kits contain all the equipment necessary to make supplementary teaching materials at local teacher workshops (i.e., glue, scissors, paper, rubber bands, rulers, pencils, paints, etc.). The workshops are coordinated by the Sub-District Dissemination Committee (SDDC) of the NDP.

Among the supplementary materials produced centrally are materials designed to assist the learning of basic

mathematical concepts. Makhona-tsohle is an exciting self-instructional activity which can be used to teach maths. The materials consist of a game box with 12 squares numbered 1-12, a question booklet and a set of answer cards. The only skill required of the pupils to use Makhona-tsohle is the ability to identify the numerals 1-12. Once a child can do that consistently, Makhona-tsohle can be used to practice basic concepts, not only in maths, but also in English, Sesotho, science, etc.

Another example of a central intervention is the Loop Abacus, a useful aid for teaching place value and for the operations of addition and subtraction, especially when they involve "carrying" or "borrowing." The Abacus can be used for the teaching of numbers in bases other than ten.

Teachers have been trained in the use of Makhona-tsohle and the Loop Abacus through the NDP network, and multiple sets of the materials will be distributed to all Standards One through Three in the country.

Teachers at the local school level have taken great responsibility in ensuring that their schools have supplementary teaching aids designed by NCDC. The teachers have become part of a critical information network sharing ideas and resources locally, regionally and nationally, ideas that can positively impact the education of their children.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

USAID/ED

A Project ABEL Information Bulletin

DEVELOPMENT COMMUNICATIONS

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

Radio plays an important role in the daily lives of the Basotho by providing entertainment, news and information. It is also a vital link between families and communities separated by long distances and steep mountains. Accurate figures are not available as to the total number of radios in Lesotho; however, estimates indicate that upwards to 70% of Lesotho's households own at least one radio.

Radio Lesotho is the country's only broadcast radio station. Based in the Ministry of Information and Broadcasting, Radio Lesotho's signal reach Lesotho's 1.5 million population as well as Basotho miners working in South Africa. Due to Radio Lesotho's popularity among its listening audience, many donor agencies request time on the station to broadcast information relevant to development issues. Immunizations to combat communicable childhood diseases and construction of village water supplies and latrines have achieved tremendous success

in part by using the radio as a campaign tool.

Once valuable time is allotted, it is the responsibility of the Ministry or Agency to format their presentation. While the radio is a successful campaign tool, news, information and interviews are only as useful as the way they are presented. Effective radio production and broadcasting involves special skills and training that enables broadcasters and script writers to 'get the message across' in a concise, informative and interesting format. Before 1986, no formal training was offered in Lesotho to assist professional communicators who are responsible for designing and delivering radio broadcast programmes specifically related to development issues.

DEVELOPMENT COMMUNICATIONS

Development Communications involves the use of radio as a development tool to improve the environment and daily lives of the population it is serving; it includes the ability to professionally communicate relevant information about development issues that affect a given constituency using broadcast media techniques and skills to the best possible advantage, thus making development issues "radio active."

BANFES, in coordination with San Diego State University (SDSU) in California, USA, and the Academy for Educational Development (AED), has developed a two-year series of modules for a Development Communications course.

The programme is being offered to improve standards of radio production, and the preparation and presentation of media programmes in support of development issues. It will also contribute to the efficiency of the formal and non-formal educational delivery system.

A major advantage of this course is that it is offered in Lesotho. The local offering makes it possible to train many more people than would be possible by sending candidates to the United States. The training and topics are pertinent to the development needs in Lesotho and SDSU has modified six existing courses to fit Lesotho's needs. Courses are given in a series of six three-week modules, one every three months, so that participants do not need to be absent from their jobs for an extended period of time to attend training. With satisfactory completion of the six modules, participants earn eighteen credits of university level work.

The programme began in November, 1986 and is offered primarily for personnel working in Ministries and non-governmental organizations (NGOs) involved in development projects.

The programme consists of six modules:

- Development Communications, Theory Practice and Planning
- Fundamentals of Writing and Journalism
- Research and Evaluation
- Fundamentals of Radio Production
- Advanced Radio Production
- Advanced Radio Script Writing

Students also receive three hours of instruction per week in Oral Sesotho in

order to improve their language capabilities.

Modules are taught by an international team of instructors from SDSU, other American universities, AED and Lesotho. They are seconded to the University as adjunct professors. Students who successfully complete all six modules of the programme are awarded an academic certificate (not a certificate of attendance) from San Diego State University. Eventually, the course sequence will be institutionalized locally with the Institute for Extra-Mural Studies (part of the National University of Lesotho). It will be a diploma programme.

The Development Communications programme is the first step in establishing communications as a recognized profession in Lesotho. Candidates submitted by Ministries and NGOs are expected to be already involved as professionals in the field of communications. Furthermore, since course work is given at the university level, all applicants are required to take a written and oral suitability/aptitude test before being accepted into the programme. The test evaluates applicant's ability to undertake university level academic work and their aptitude for the communications profession. The test is both in Sesotho and English.

The first graduation for the Development Communications course will be held in June, 1988. Twenty-four participants will receive a Certificate. The success rate is very high. Only two participants have not been able to complete the programme. An additional twenty-five students will begin a new series of modules starting in April, 1988.

The programme's effectiveness is evident from discussions with supervisors of the students participating in the course. According to their feedback, radio

production skills of participants have greatly increased; their writing and editing skills have improved and they are better trained radio production technicians. Broadcasters are producing better planned and researched

programmes and their articulation and broadcasting techniques have improved. Overall, the participants show greater confidence as professional communicators in their daily work. The course is providing Lesotho with a cadre of trained professional communicators. Additionally, it places Lesotho in the forefront of Development Communications in Africa.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

DEVELOPMENT OF A CONTINUOUS ASSESSMENT PROGRAMME FOR THE PRIMARY SCHOOLS

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

Approximately 30% of all primary students in Lesotho are in Standards Four, Five and Six. The average student-teacher ratio is 55.1. Most Basotho who do attend school will not remain in school past Standard Seven; in fact, many have less than a Standard Seven level of education. Therefore, it is critical that primary school students learn and master basic elements of reading, writing and math. Additionally, students must develop applicable knowledge in science, health, home economics, agriculture and social studies as they relate to their daily living and working needs.

How do schools determine that students are learning subjects taught in the classroom? Tests are the most frequent measure of assessing whether teaching objectives are being met per Standard. There is no uniform system for continuous assessment. Furthermore, the assessment systems used vary not only from school to

school, but often by standard within a school.

CONTINUOUS ASSESSMENT FOR LESOTHO'S PRIMARY SCHOOLS

BANFES is working with the Ministry of Education (MOE) and specifically the National Curriculum Development Centre (NCDC) to help the MOE develop a standardized format for continuous assessment for Standards Four, Five and Six. The purpose of this programme is to help determine whether teaching objectives per standard are being met by using a measurement tool that have uniformity of quality and method used for all participating schools. The results of the assessment will help tell teachers and schools whether students are learning from the teaching material and methods used. For example, Standard Six teachers will know from the test results where the strengths and weaknesses lie in math skills with incoming students from Standard Five. In addition to improving teaching methods, results of a continuous assessment programme will provide information on the effectiveness of current textbooks, what additional teaching materials are necessary, and what changes may need to be made to the syllabus.

Several thousand Standard Four, Five and Six students from one hundred schools across five districts will participate in the initial pilot phase development of the

The programme is being offered to improve standards of radio production, and the preparation and presentation of media programmes in support of development issues. It will also contribute to the efficiency of the formal and non-formal educational delivery system.

A major advantage of this course is that it is offered in Lesotho. The local offering makes it possible to train many more people than would be possible by sending candidates to the United States. The training and topics are pertinent to the development needs in Lesotho and SDSU has modified six existing courses to fit Lesotho's needs. Courses are given in a series of six three-week modules, one every three months, so that participants do not need to be absent from their jobs for an extended period of time to attend training. With satisfactory completion of the six modules, participants earn eighteen credits of university level work.

The programme began in November, 1986 and is offered primarily for personnel working in Ministries and non-governmental organizations (NGOs) involved in development projects.

The programme consists of six modules:

- Development Communications, Theory Practice and Planning
- Fundamentals of Writing and Journalism
- Research and Evaluation
- Fundamentals of Radio Production
- Advanced Radio Production
- Advanced Radio Script Writing

Students also receive three hours of instruction per week in Oral Sesotho in order to improve their language capabilities.

Modules are taught by an international team of instructors from SDSU, other American universities, AED and Lesotho. They are seconded to the University as adjunct professors. Students who successfully complete all six modules of the programme are awarded an academic certificate (not a certificate of attendance) from San Diego State University. Eventually, the course sequence will be institutionalized locally with the Institute for Extra-Mural Studies (part of the National University of Lesotho). It will be a diploma programme.

The Development Communications programme is the first step in establishing communications as a recognized profession in Lesotho. Candidates submitted by Ministries and NGOs are expected to be already involved as professionals in the field of communications. Furthermore, since course work is given at the university level, all applicants are required to take a written and oral suitability/aptitude test before being accepted into the programme. The test evaluates applicant's ability to undertake university level academic work and their aptitude for the communications profession. The test is both in Sesotho and English.

The first graduation for the Development Communications course will be held in June, 1988. Twenty-four participants will receive a Certificate. The success rate is very high. Only two participants have not been able to complete the programme. An additional twenty-five students will begin a new series of modules starting in April, 1988.

The programme's effectiveness is evident from discussions with supervisors of the students participating in the course. According to their feedback, radio production skills of participants have greatly increased; their writing and editing skills have improved and they are better trained radio production technicians. Broadcasters are producing better planned and researched

programmes and their articulation and broadcasting techniques have improved. Overall, the participants show greater confidence as professional communicators in their daily work. The course is providing Lesotho with a cadre of trained professional communicators. Additionally, it places Lesotho in the forefront of Development Communications in Africa.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

EDUCATIONAL LIBRARY SERVICES

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

For the first time, a professional education resource library is available to help support the development of curriculum activities for Lesotho's primary and secondary schools. BANFES has been instrumental in developing the library for Instructional Materials Resource Centre (IMRC) and the National Curriculum Development Centre (NCDC). The collection is presently kept at IMRC but used at both institutions. The library currently has 1500 books plus 1000 additional resource materials, including professional periodicals, development materials and IMRC produced materials.

Prior to 1985, NCDC had attempted to create a resource library for use in curriculum development. The idea was excellent but there were problems in operating the library. Books disappeared as "borrowers" tended to borrow books for a very long period of time with no penalties. There was no catalogue system or librarian to monitor lending activity.

Furthermore, funds were not available to purchase a sufficient number of up-to-date books on curriculum development.

IMRC had provided the initial resources for the development of a library to be located at IMRC and shared with NCDC. BANFES funds provided the critical means by which the library could acquire a larger collection of books and resource materials. BANFES assistance also provided a professional librarian to help set up a proper library facility. Today, the library offers a wide selection of topics, ranging from basic technical repairs to teaching techniques. Books were specifically selected for the library to support all sections of IMRC and NCDC, including audiovisual, printing, photography, curriculum materials, broadcasting, writing and art skills and instructional texts for the classroom.

In addition to its service as a professional resource, the library is also an archive collection of instructional materials produced by IMRC plus a collection of sample materials designed and produced in other African countries. While many of the books come from the United States and England, much of the instructional materials come from corresponding agencies to IMRC and commercial publishers throughout Africa. Textbooks and resource materials for use in local classrooms, in vocational education and in practical studies have been purchased from Kenya, Botswana, Malawi and Zimbabwe. Magazine subscriptions to

education professional journals such as **Science, Reading Teacher and Basic Education** help provide an up-to-date flow of information on events and new techniques in curriculum development for primary and secondary schools throughout the world.

BANFES funds are also providing two computer programs which assist in creating access to the collection. The computerized catalogue card program produces sets of cards for each book which are listed by author, title and subject matter. Additionally, an annotated bibliography program creates book lists by selected specialized subjects for use by the various departments and sections of IMRC and NCDC. Users will find these two

guides helpful in locating the materials and information they need for their work.

Development of the library will be complete by December, 1988 and may be used by anyone in the education field; i.e., teachers, curriculum developers, administrators, etc. The value of the library's collection is significant because:

- it is the first library of its kind in Lesotho
- it serves a community that would otherwise not have access to the types of materials the library has obtained, and
- it may be widely used.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

ENGLISH IN ACTION

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

Radios are popular in Lesotho. Most homes have at least one radio, and walks down the street are usually to the accompaniment of radios heard from shops, taxis and other walkers. Radio brings music, entertainment, news and information to Lesotho' wide listening audience. To Standard I pupils in primary schools across the country, the radio is also a fun way to learn English.

ENGLISH IN ACTION, designed by the English Division of Lesotho's National Curriculum Development Centre (NCDC), is broadcast over Radio Lesotho Monday through Friday throughout the school year from 9:15 to 9:45 AM.

ENGLISH IN ACTION, is funded by the United States Agency for International Development under the BANFES Project (Basic and Non-Formal Education Systems). The lessons reflect the English syllabus for Standard I. "English is one of the basic courses taught in the lower

primary grades. Pupils who go to school must learn correct English as it is the medium of instruction used in all schools by Standard 5" states a member of the NCDC English Division. "Over the years, however, the standard of English has deteriorated. The ENGLISH IN ACTION programme comes at the right time."

A pilot programme was designed by NCDC's English Division in collaboration with the Primary English Panel, a group of primary school teachers who advise the English Division on special areas that need assistance within the primary schools. Five schools participated in a pilot test in February, 1987. The pilot test was successful and the Ministry of Education supported implementation of the programme to begin the next school year.

"Using the radio as a teaching tool made an immediate difference with the young pupils" states Kahliso Likotsi, a primary school teacher who participated in the pilot test at Maseru Methodist Primary School. "Within a month they could speak fluently the words and phrases they had learned. They used them in the school yard, teaching other children. They felt more confident about using English. And it was never difficult to get them to participate. They looked forward to the daily broadcast."

Based on the results of the pilot test, months of planning went into preparing the programme for introduction into all

primary schools by February, 1988. The Instructional Materials Resource Centre agreed to produce the tapes. Four radio actors (two female, two male) and one musician were hired to help create the tapes. The producers looked for people with excellent English skills and correct pronunciation. Their voices had to vary so the children could hear the difference when they spoke. Applicants also had to have some singing and musical ability. Since the radio actors are also asked to imitate a variety of sounds such as roosters crowing, one must also assume the producers were looking for people who were not afraid to 'ham it up' a bit.

1500 radios were ordered which could be purchased at discount by Lesotho's primary schools for M60 each. Teachers were trained to train other teachers on how to use ENGLISH IN ACTION as a teaching tool through NCDC's National Dissemination Network of national, district and subdistrict workshops. Teacher's notes and pupil work sheets were developed as an integral part of the programme. The radio actors and IMRC producers worked hard to produce a sufficient number of taped lessons for Radio Lesotho to begin broadcast by the time schools opened in late January. A medley of sounds, instructions, songs, music and words must be timed perfectly into 1/2 hour lesson. Each script often takes hours to write, edit and record. A full years lessons require 1275 scripts. Early scripts focus only on oral skills. Later scripts will introduce reading and writing skills. NCDC plans eventually to use ENGLISH IN ACTION for the first three Standards. In 1989, Standards I and II will participate, and by 1990 there will be sufficient scripts for the first three Standards. Radio Lesotho will have master copies of all tapes and Lesotho's primary schools will have access to this

exciting and innovative teaching tool for years to come.

ENGLISH IN ACTION is not a mandatory programme; schools may choose whether or not they want to use the radio broadcasts in their classrooms. There are approximately 1200 primary schools in Lesotho. Over 1100 schools have purchased radios. Schools who have chosen to use the programme have expressed positive results. "For the first time our rural schools and urban schools are receiving the same lessons in a particular course" states Alina 'Matebello Mokahlane, a member of the Primary English Panel who is responsible for overseeing the script writing of the lessons and their alignment to the syllabus and to Basotho culture. "It reduces the differences in teaching effectiveness that have existed in the past. The programmes also give teachers new ideas on how to teach other subjects such as math and science. Everyone participates, the pupils and the teachers, and everyone seems to be benefitting."

As during the pilot test, the Standard I pupils are still eager for their daily English lesson. "We have three Standard I classes at our school with three teachers and three radios. The radios are kept with the school manager or principal until just a few minutes before the broadcast" states Lydia Matsaba, primary school teacher at Maseru Methodist. "When the children see us coming with the radios, they quickly go to their classroom and tell everyone to hush. We can see already that these young children are developing better English skills than the older children through traditional teaching. The programme has just begun. By the end of three years, these children will be fluent."

GOOD MORNING! HOW ARE YOU?

By 9:10 AM, the children at Maseru Methodist Primary School have already been in school for over an hour. A brief recess allows them to run about out-doors, stretching their legs and lungs a bit as a teacher might say. The children see their teacher carrying the radio to the classroom and know that it is almost time to start their English lesson. They need little encouragement to return to their classroom.

By 9:15, the children are all quiet. The teacher turns on the radio and they immediately hear the familiar song "Good Morning! Good Morning! How are you?"

Songs and musical instruments, cows mooing, chickens clacking, babies crying, numbers, words and sentences stream forth from the radio. Children stand up, clap their hands, stamp their feet, point to each other saying "That is a girl", "That is a boy". They count, sing songs, and point their fingers while all the time listening and repeating, following instructions completely in English. If this sounds a bit wild, rest assured, it is. And fun. Certainly to the children. No chance of being bored and falling asleep in an ENGLISH IN ACTION class!

There are approximately 180 Standard I pupils at Maseru Methodist Primary School. Divided into three classrooms, these children are receiving the same lesson in English other Standard I pupils are receiving all across the country. The teacher is also carefully listening to the radio. The teacher is as much an active participant as the pupils, and must listen for specific instructions. The teacher must keep order, encourage all children to participate, see quickly who needs extra help, stop the children in the back row from chattering among themselves, all while pointing to pictures on the

blackboard as the children repeat: "It is a cow!" "It is a hen!"

Teaching Standard I students is not easy. Many are still young children just starting school and they have a short attention span. ENGLISH IN ACTION helps make the teachers job easier. The children like to participate. But still, the teacher has a class of sixty, seventy or more young ones. The teacher must be constantly alert, attentive and moving.

Today's lesson focuses on learning the names of certain animals and the numbers one to five. There are many activities in the 1/2 hour script. At first it seems too quick and confusing. However, by the end of the broadcast and activities have been repeated several times as they will be throughout the week and even longer. Repetition of instructions help reinforce new words and phrases. Additionally, since new activities are repeated for several days, children who miss school briefly do not fall behind their classmates.

When the broadcast is over, the teacher immediately begins a post broadcast activity lesson. The teacher focuses on what was taught that day, and is able to find out if any children had problems understanding the lesson. These problems can be solved right away. The radio is then returned to the head teachers office. In addition to purchasing their own radio, schools are responsible for batteries (in those schools which have no electricity). If the radio is used only for the ENGLISH IN ACTION broadcast, the batteries could last up to six months, possible longer. If the radio gets lost or stolen, the school must replace it with a commercial radio at regular store prices.

One observer at the Maseru Methodist school stated "I do believe this programme

is working. As I walk down the street now, rather than hearing "Give me

sweets", young children are beginning to say "How are you? What is your name? My name is Palesa, or Thabo. It's wonderful!" At this stage, the children's English is limited, but said with lots of confidence, and grins.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

THE EVENING AND WEEKEND COLLEGE PROGRAMME

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

For many working Basotho adults, the possibility of returning to school for additional education to enhance their work and personal lives is remote. Most cannot afford the loss of income and family obligations preclude long-term study programmes out-of-country.

Working adults, however, often have a clearer idea of what they want from a study programme than young people starting university with no work experience. Adult education for self-improvement and career development can have a greater impact since these students bring practical work experience into the classroom. What is needed is the opportunity.

BANFES EVENING AND WEEKEND COLLEGE

For the first time, Basotho working in the field of education have an opportunity to participate in an adult education Evening and Weekend College. Over 475

education professionals and teachers throughout Lesotho are currently enrolled in a course of study to improve their job performance. Most have not been in a structured school programme for many years and the College offers the only chance to get university level training while remaining on the job. Since there has long been a need for such a training programme, the College evolved quickly from the idea stage to an operating programme. A major advertising campaign was launched in late 1987 to promote the programme and classes began in January, 1988. The sizeable response reflects the interest and demand that exists.

The concept of an adult education Evening and Weekend College grew out of a series of discussions in early 1987 between BANFES and Lesotho's Ministry of Education (MOE) concerning the need for in-country training. MOE stressed several points:

1. it is desirable to train as many professionals as possible with the resources available;
2. it is inconvenient to have a large number of professionals away from their jobs; and
3. overseas training can be less relevant to the practical needs of local students.

As a result of these initial discussions, BANFES and MOE agreed to establish an

in-country training programme suitable for adults working as teachers and educational managers. The training aims to address the two basic objectives of the MOE/USAID Project: i.e., improved primary teaching and improved management practices across the education system. The College also meets specific training needs addressed in the MOE Three Year (1986-89) and Annual (1987) training plans.

Upon the arrival in September, 1987, of a BANFES Technical Advisor hired to assist in the development of the College, work began in earnest to deliver a top quality programme. Planning the programme involved two critical steps: developing the academic substance of the Evening and Weekend College and establishing a delivery mechanism. Lesotho's Institute of Extra-Mural Studies (IEMS) offered its assistance. IEMS main campus is located in Maseru and it has four regional campuses throughout the country. Having experience with a series of adult business courses, IEMS offered to market the courses and to provide classroom facilities, a full-time programme manager and clerical support at the main campus, in addition to use of support staff and facilities at the four IEMS regional centres. BANFES accepted their proposal and agreed to pay the faculty, purchase text books and reimburse IEMS for the use of their resources. A tremendous team effort was required to promote the programme; order and receive textbooks; recruit, interview and select faculty; review and approve class syllabi; process and respond to over 800 applications, schedule the courses and plan the Official Opening.

The Programme was officially opened on January 4, 1988 by the Deputy Principal Secretary of the MOE. The National University of Lesotho was represented by the Pro-Vice Chancellor and the Director

of IEMS, and BANFES was represented by the Chief of Party. Over 250 people attended the Opening. One hundred and seventy-five (175) students enrolled for classes which started May 7. Many of the students are attending classes offered at the IEMS regional centres. Currently, there are twenty-three faculty members teaching twenty-six classes throughout the week.

The Evening and Weekend College offers non-credit certificate programmes in Educational Management, Early Childhood Leadership for Lower Primary School Teachers and Primary Education Leadership. To earn a certificate for a sequence, consisting of 180 hours of instruction over two fifteen-week terms. Students can earn two of these certificates by completing eight courses over four terms. Some students may want to attend the fifth term of the College which consists of completing an approved field research project. The purpose of the research project is to link what each student has learned in the classroom to his or her daily work environment. Therefore, the field research project will be monitored and evaluated by each student's employer as well as a College instructor, students who complete the five terms of the College will participate in a formal graduation ceremony in Maseru and will be awarded a Certificate of Education Leadership. The most outstanding students from among this group, as identified by the College faculty, will be extended the opportunity to continue their studies for two more months in the United States. The study leave will be organized and facilitated by a recognized University in the United States. All classes are scheduled in late afternoons during the work week and all-day on Saturday. To ensure quality University level courses, the faculty team of Basotho and expatriate teachers have,

for the most part, Masters level academic backgrounds.

The excitement of the Evening and Weekend College lies not with the concept but with the students participating in the programme. The programme has been so popular that applications are exceeding space available by hundreds of students. The majority of adult students enrolled are primary school teachers with limited formal education but with a keen desire and commitment to improve professionally. Most are between 31 and 40 years of age, earn less than M4000 annually and have an average of 6-10 years of work experience.

Four hundred and seventy-five (475) professionals are attending the programme even after being told that these courses

require a full commitment to study, completion of homework and faithful attendance. It has also been made clear to them that these courses are solely for self-development, they confirm no credit, and do not lead to a pay increment.

All of the participants are working as educators in a country that faces severe problems in its school system. They are critical contributors in solving these problems. They want to address the problems and are taking advantage of a learning opportunity they would not otherwise have. The potential for change is clearly demonstrated as participants apply what they learn in their daily jobs. In bettering themselves, participants will impact the quality of education in their country now and for generations to come.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

FINANCIAL MANAGEMENT INITIATIVES AT LESOTHO'S NATIONAL TEACHER TRAINING COLLEGE

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

If one wish were granted to each college and university around the world, that wish would most likely be for more money. Increased student enrollments and staff, demands for more space and work materials, the need for newer, more efficient office technology and general maintenance of existing facilities all place a financial strain on educational institutions.

As a government institution, Lesotho's National Teacher Training College (NTTC), the only teacher training college in Lesotho, receives the majority of its budget from the Government of Lesotho through the Ministry of Education. Funds from the World Bank and the European Economic Community (via the Lesotho Science Pre-Entry Course) support NTTC's Inservice Programme.

There are 942 students enrolled in NTTC's three year teacher training

programme: 647 students study on campus and 295 students are completing their off-campus internship programme. In spite of the annual budget of M2.8 million, many of NTTC's department heads feel that more resources would promote improved college services. It is, of course, important that the very best use be made of the available resources.

Financial Management Initiatives at NTTC are part of the BANFES Project.

There are two major objectives:

1. to assist NTTC personnel in making the maximum use of its financial resources; and
2. to assist NTTC in identifying ways of obtaining additional funds.

The approach to date has been as follows: With the help of the BANFES Financial Management Specialist, one of the first tasks performed was a financial status report. This report gave NTTC a clear financial picture of how many funds it had received over the fiscal year, how much money was spent, and what funds remained.

The information contained in the financial status report enabled NTTC's Administration and Accounts Department to determine where most of the funds were being spent in the college and why.

A financial planning meeting was then held with the department heads of NTTC's support services (printing, dining hall, dormitories, etc.) Each department's budget was reviewed and plans were discussed about how best to use the remaining funds allocated to each department. The major achievement of the financial status report and subsequent meeting was determining that funds were available; it had been previously assumed that the college was operating with a deficit budget.

Several on-campus improvements resulted from the funds that were found remaining in NTTC's budget, funds that needed to be spent during that current fiscal year:

- the campus kitchen was upgraded, an inoperable exhaust system was replaced and, for the first time, an institutional oven was installed. Additional time-saving kitchen equipment was also purchased to help with the demands of preparing three meals daily for students and staff;
- security lighting is being installed throughout the campus;
- NTTC's electrical system is being upgraded. The old system was built to accommodate 250 students and was not capable of meeting the needs of a student enrollment four times that size or the demands of advanced technical office equipment (computers and printers, copy machines, electronic typewriters, etc.); and
- several student dormitories were renovated with repairs to rooms and to faulty fixtures and toilets; general aesthetic improvements were made.

Also for the first time, all department heads (support and academic services)

have an opportunity to prepare their own budget for the fiscal year 1988-89. With the help of the BANFES Financial Management Specialist and NTTC's Accounts Office, department heads were introduced to a new simplified financial bookkeeping system which is used in developing interdepartmental budgets. This will give the individual departments greater control over how funds are spent in their particular area.

The Financial Management Initiatives programme has helped NTTC's Admissions Office improve the collection of student fees and develop a student-monitoring system that identifies students as either day or resident students. With this new system, a student is issued a colour-coded ID card when he or she pays the school fee. The ID card contains the name and picture of the student. A resident student, or boarder, is issued a green laminated card; a day student, or non-boarder, is issued a card with a red background. The cards have made a tremendous difference in ensuring that students receive the correct services for which they paid. For example, a boarding student is entitled to three daily meals in the student dining room, whereas a day student is entitled to only the noon-day meal. Students produce their IDs before they are served a meal. Dormitory monitors can also tell from the IDs whether students are entitled to room privileges, thus preventing day students from lodging at the campus without paying.

Campus committees are being formed to help alleviate some of the college's problems. These committees include landscaping, staff welfare, and admissions. Because NTTC does not have enough personnel to handle all its needs, these committees are extremely helpful in sharing some of the responsibility for

maintaining facilities and services. There have been similar campus committees in the past; what is unique now is that these committees have budgets to work with - from funds found to be available as a result of the financial analysis.

Undoubtedly, NTTC's one wish, if one wish were granted, would still be for more

money. But through the BANFES Financial Management Initiatives, NTTC has discovered funds once concealed in financial data and records left unanalyzed, and has developed sound financial management practices in budgeting and allocating the funds. Furthermore, departments and committees representing all aspects of the NTTC community now, for the first time, share a responsible role in the college's financial management and growth.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

INCOME GENERATION AT THABA-TSEKA SKILLS TRAINING CENTRE

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

THABA TSEKA SKILLS TRAINING CENTRE

The Thaba-Tseka Skills Training Centre (TSTC) is located in Lesotho's Central Mountain Range. Thaba-Tseka is approximately 130 kilometres from the lowland capital city of Maseru. While the distance is not great in terms of kilometres, the unpaved, winding mountain road from Maseru necessitates an average of four to five hours' driving time.

Other roads far more steep and treacherous lead to Thaba-Tseka, which sits like a hub in the middle of the country. Thaba-Tseka is an important regional centre and the services it provides are critical to the smaller mountain communities which surround it. Thaba-Tseka has trading stores, a hospital and medical clinic, government facilities and training facilities.

The Thaba-Tseka Skills Training Centre plays an important role in the region as its main objective is to address the needs of the rural community. This vocational training and non-formal education institution first offered training in July, 1985 and principally serves students from rural mountain areas, although applications for enrollment are received from lowland communities.

Students who attend TSTC generally have very little formal education and TSTC focuses its training programmes on teaching meaningful skills or trades that can be used in finding employment. Courses include stone masonry, leatherwork, knitting and sewing, carpentry and furniture-making. Basic math, business and English courses are also offered. Its first year's graduates succeeded in finding employment within the trades they had trained for or went into business for themselves.

Funds from the World Bank provided the necessary capital to construct the TSTC facility and purchase basic equipment (i.e., office equipment, training machines, etc.). BANFES is providing technical assistance and operational funds to TSTC as the school develops vocational training programmes and services to the community. As TSTC grows, one of its mandates is to become more self-supporting; that is, TSTC must identify ways to generate a portion of its own income, using the skills and services

available at the school. While Thaba-Tseka is an important regional centre, and a community far larger than many of the rural villages and towns which surround it, it is a poor area, and available income is limited. Income-generating projects have to be created that best meet the needs of the community with goods and services that are affordable.

Income Generation at TSTC

TSTC is itself centrally located within the community, which expands over a large area of land. Several smaller villages are linked to Thaba-Tseka. As one service to the community and its graduates, TSTC operates a Tuck Shop. The Tuck Shop sells essential stock food items and household goods. It also sell items made by students in the TSTC training programmes and stocks supplies that students, graduates or other community members might need for their trades, such as hand tools, yarn, knitting needles, leather and carpentry supplies. Based on initial net revenues after several months of operation, the Tuck Shop has the potential of making a profit of M12,000 in its first year. In addition to providing a source of income, the Tuck Shop also provides an important opportunity for TSTC students to learn basic marketing skills. TSTC's students work in the Tuck Shop, selling goods and assisting with inventory and costing.

A weekly cinema, featuring video movies on Friday and Saturday nights, has become popular entertainment event at TSTC. While revenues derived from the cinema are low, its popularity ensures a constant source of income for a long time to come. It can also be a vehicle for providing business training for students.

TSTC is a modern structure, well equipped and furnished. As a community

based facility, TSTC rents out space for meetings and conferences. TSTC also contracts out students for work services, which in addition to generating income for the school gives the students practical work experience and allows them to meet potential employers.

The TSTC Business Centre and Community Liaison Office has played an important role in helping identify ways that TSTC can generate income. Ideas have included a poultry project and block-making. The Business Centre has also been critical in helping meet the needs of TSTC's graduates. TSTC's future success rests with the achievements of its graduates. If TSTC graduates are able to find work, or create their own work and thus generate their own income, then other students will be encouraged to enroll in the training programmes. TSTC's programmes last only ten months. While TSTC does not have much time with any one group, it is committed to helping its graduates succeed by continuing to work with them after they have left the school.

In July 1987, TSTC held a workshop for its first year's graduates. TSTC provided the financial assistance for transportation to the workshop and twenty-six out of thirty-eight graduates attended. The purpose of the workshop was to evaluate how effective TSTC's training had been for the graduates, what revisions to the training programme were necessary and why, what specific problems the graduates were having and how they could be solved. That so many graduates chose to attend the workshop demonstrates the continued interest graduates have in TSTC. Additionally it shows that many of the graduates want TSTC to help them in their work efforts.

The most critical problems identified in the graduate workshop included:

- need for additional start-up money for graduates who choose to be self-employed;
- need for more training;
- need for specific business training, such as basic bookkeeping; and
- help with job placement or information about where to find jobs.

TSTC intends to keep in contact with its graduates. Graduate information is being compiled into a database. As the Business Centre hears about job opportunities, appropriate graduates will be informed. The Business Centre is also in the process of forming a credit union to assist students who need loans to start their own businesses. A TSTC cooperative is also being planned to

generate business opportunities. The Business Centre is considering additional training programmes that former graduates can benefit from such as marketing, transport planning and costing, inventory control and product-costing.

TSTC is a fairly large facility, composed of classrooms, workshops, offices, and dining and dormitory halls. Utility rates for electricity, water and telephones are high. Equipment and office supply inventories need to be constantly maintained. Running any kind of educational institution is costly, and it is too soon to determine to what degree TSTC can become self-supporting. But TSTC's creative efforts toward generating a portion of its own income and its willingness to work closely with its graduates to help them generate their own income are a tribute to a school working partnership with the community it is committed to serving.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

INSTRUCTIONAL MATERIALS RESOURCE CENTRE

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

The Instructional Materials Resource Centre (IMRC) was established in the mid-70's as a service agency to Lesotho's Ministry of Education (MOE). IMRC's main purpose is to assist the MOE in designing and producing instructional materials including textbooks and audio/visual teaching aids and radio programs used in Lesotho's classrooms.

Today, IMRC is located in a modern facility using the most up-to-date equipment to support its various departments:

- audio/visual
- production studios
- photography/darkroom
- typesetting
- print shop
- education resource library
- accounts, and
- administration.

In addition to its support to MOE, IMRC offers its services to other government and

non-government agencies in Lesotho, specifically as related to education and training functions.

Audio/Visual programmes and products are perhaps the most visible evidence of IMRC's work. Simply defined, audio/visual is that which is composed of sight and sound. Audio/visual aids represent a broad range of products and services such as radio programmes, charts, computer graphics, posters, slides, photographs and video tapes.

Prior to 1980, an audio/visual department for IMRC had not been developed. IMRC was primarily printing teaching materials for MOE. In order to better meet Lesotho's educational needs for more creative and challenging instructional materials, IMRC requested technical assistance from the United States Agency for International Development. An audio/visual specialist was assigned to help IMRC identify what specific services it could offer, what equipment was required to support the services and who needed to be trained in what areas. Additionally, USAID provided technical assistance to support IMRC's printing, art and computer departments and administration.

Since 1985, BANFES has provided continued support to IMRC through:

- technical assistance
- equipment, and
- training.

The audio/visual specialist' duties have been expanded to encompass materials developed for production. This means that several stages of production are being included in an on-going training and development programme:

- editing
- script design
- shooting design
- computer graphics
- layout, and
- equipment identification, purchasing and installation.

The audio/visual department has become highly versatile. While textbook design and printing will always be one of IMRC's major tasks, IMRC has also met new and challenging tasks in print and radio production. For example, IMRC is working with the National Curriculum Development Centre (NCDC) to create taped radio scripts for a daily English lesson broadcast over Radio Lesotho into every Standard One classroom in Lesotho. The scripts are 1/2 hour long. IMRC and NCDC are editing and producing scripts for radio English lessons to Standards 1, 2 and 3. IMRC was responsible for finding and training the voice actors, musician and producer for the radio programme. A medley of sounds, instructions, songs, music and words must be timed perfectly into the 1/2 hour script, and each script often takes hours to write, edit and record.

BANFES funds have enabled IMRC to purchase the necessary equipment to accomplish many hightech assignments.

Equipment includes:

- all current IMRC computers
- laser printers
- image writer printers
- video cameras

- video tape recorders
- editing deck
- audio cassette units
- large studio reel-to-reel recorders
- microphones
- headphones
- steel cabinets
- audio tapes
- video tapes
- software.

Training is providing the necessary link between high-tech equipment and its appropriate use. Several IMRC professional staff members are involved in overseas training leading to professional degrees. The training includes Production Control, Audio/Visual Technical Science, Audio/Visual Education, Instructional Design/Education and Radio Broadcasting/Education.

Regional training has included:

- instructional design
- desk top publishing
- video production, and
- industrial silk screening techniques.

Several staff members have also been involved in on-the-job training in the following areas:

- computer graphics
- computer typesetting
- radio and video production
- colour slide photography
- development communications
- writing techniques for instructional materials, and
- silk screen production.

.....
Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

**Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956**

A Project ABEL Information Bulletin

MAHLASELI: SUN BEAMS

Lesotho Monthly Reader for Primary School Children

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

How does one motivate small children to learn how to read and write? This universal teaching challenge is compounded when a country's school system is financially restricted in purchasing even basic teaching materials such as books, writing tablets, pencils, chalkboards, chalk and other instructional materials.

By necessity, many of Lesotho's primary school teachers have had to create their own reading material. Faced with small school budgets, some have purchased books out of their own salaries. As a result, available reading materials have become inconsistent throughout the system, and some simply do not relate to the children's daily environment. One of the aims of the National Curriculum Development Center and the BANFES project is to solve this multi-faceted problem. In mid-1986, approximately twenty primary school teachers from twelve select schools with proven creative

writing skills were asked to contribute short stories that would ultimately be published in a school magazine for primary students. The idea was that perhaps stories written about events within Lesotho would spark interest in children learning how to read. The stories were edited for publication and then tested for readability with a number of children in the first three grades. The children failed the readability test. On review it was found that the teachers did not write to the student level, but rather approached the task as though they were writing to other teachers at a much higher, professional level.

In the meantime, written material had also been received by young students from the twelve schools. While NCDC's staff reviewed how the idea's initial set-back could be solved, the students stories seemed to leap forward with an answer. The students had written good material: why not publish it and see what happens?

MAHLASELI

MAHLASELI (Sun Beams) published its first edition in March, 1987. The newspaper, professionally printed on newsprint, was mailed out to all 1160 primary schools for distribution to 200,000 children in the first three primary grades. In addition to student submissions, the first edition outlined the purpose for MAHLASELI. Teachers were asked to encourage their students to submit material. The students could write with

free expression: MAHLASELI publishes stories, folk tales, poems, puzzles, jokes, riddles, games, recipes and drawings. All items selected for publication carry the student's name. MAHLASELI is published every month, and the best author's would be selected for an all-expense paid attendance at a writer's workshop for children and adults to be held during the next school summer holidays.

For the first time, Lesotho's primary school students had a publication of their own creation. It seems no exaggeration to say that the response was explosive. Letters poured into the MAHLASELI office from students, teachers and parents. The students were reading MAHLASELI and taking it home to share with their families. There is very little reading material in Lesotho's villages, and MAHLASELI became widely read. Imagine the pride felt by students and family when a child's submission appeared in MAHLASELI. A natural reaction was triggered. Since MAHLASELI will publish any good piece of creativity, NCDC and BANFES received hundreds of items for publication. MAHLASELI represents reading material of personal interest to Lesotho's primary school students. In order to have an article published, they would have to know how to write, or represent a drawing with a caption. In order to know what the excitement was all about, to know what all their friends were talking about, students would have to know how to read.

MAHLASELI is a fun newspaper. There has been no attempt to limit items to 'important development issues', though they also appear. MAHLASELI, however, is an important learning tool, perhaps proving once again that learning can be fun, and if fun, students learn. Amid the jokes and riddles and fun tales are also

stories about Lesotho's history, its important personalities, articles about growing food and taking care of animals, methods of transport and health. Favorite poems include praises of Lesotho's various clans, represented by different animals. Sometimes a story is so popular that students write asking for a picture of the author. MAHLASELI plans to start printing select authors pictures.

MAHLASELI also publishes material by teachers to be used as supplementary teaching aids. Again, the material must be interesting, such as short stories that include games and puzzles.

MAHLASELI has also served as a friendly link to home for Basotho men working in South African mines. Over 50% of Lesotho's male work force between the ages of sixteen and sixty work in the mines, and many are away from their families for weeks and months at a time. MAHLASELI has been distributed to these miners through recruiting offices in Maseru. Again, the response has been positive, as the miners see MAHLASELI as a bridge to keeping in touch with activities at home.

Funds for MAHLASELI have been provided by BANFES. However, the MAHLASELI editors have already begun to address the question of how to continue MAHLASELI once the BANFES project is finished. MAHLASELI is a BANFES product received with extraordinary results. Ultimately MAHLASELI will be self-supporting. MAHLASELI's popularity is evident to Lesotho's primary school teachers. Based on the overwhelming success of the first year's issues, teachers have offered to work with parents and students to seek small publishing fees. It is estimated that MAHLASELI can be published at approximately one loti per student per

year. For students who cannot afford the subscription costs, school concerts, festivals and other similar activities can help meet publishing costs.

MAHLASELI is currently distributed to students in the first three grades, where

the students are failing and dropping out of school in the highest numbers. When asked how effective MAHLASELI was for their young students, a teacher told the following story. One of her students was angry and crying, extremely upset. It seemed that an older student in a higher grade had taken the child's MAHLASELI and refused to return it. The story has repeated itself throughout Lesotho's schools as MAHLASELI has become a prized and guarded possession.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

THE NATIONAL DISSEMINATION PROGRAMME

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

THE LESOTHO MODEL FOR NATIONAL DISSEMINATION OF CURRICULUM DEVELOPMENT

Lesotho's National Curriculum Development Centre (NCDC) plays a very important role in the Ministry of Education's primary school system. NCDC is responsible for the design and field testing of all primary curriculum materials which include syllabuses, teacher's guides, textbooks and other supplementary materials such as charts and teaching aids. NCDC's subject divisions are Sesotho, English, mathematics, science, social studies, agriculture, home economics and health and physical education. The subject areas are supported by the Research and Evaluation section.

There are approximately 6000 primary school teachers working throughout

Lesotho's ten districts, further divided into an additional fifty-seven sub-districts. While Lesotho is a small country, steep mountains cover 80% of the land. Many schools can only be reached with a four-wheel drive vehicle, and travel between districts is often slow. Getting vital information to Lesotho's teachers in a timely and thus useful manner is a difficult and challenging task.

Due largely to manpower and financial constraints, there has been little coordination between NCDC's various divisions in disseminating information to Lesotho's 1160 primary schools. Some divisions have designed, field tested and disseminated subject material while other divisions have not been able to do so. Three subject areas - English, Sesotho and mathematics -- had attempted a national dissemination strategy. A small group of curriculum officers travelled around the country holding small workshops at local levels on the use of curriculum and supplementary materials designed by these divisions. Their efforts took two and a half years. This strategy proved costly and ineffective mainly because of the delay in passing valuable information to the teachers in the field. If NCDC's mandate to assist Lesotho's primary school teachers with valuable educational teaching tools was to be successful, it was critical that a far more effective national dissemination strategy be developed.

**NATIONAL DISSEMINATION
PROGRAMME**

The National Dissemination Programme (NDP) represents a highly interactive series of on-going information workshops and training programmes designed to impact educators throughout Lesotho, from the national level to the classroom, within a relatively short period of time. Coordination and timing are the key to NDP's structural goal. Divided into five steps -- national, district, sub-district, school and classroom levels -- a multiplier effect method is employed to get information through the system and ultimately to the teachers. Many participants have an opportunity to be trained to become trainers so that they may help implement the multiplier effect: i.e., this group of educators are receivers of information at one level, passing on the information at a sub-level, and training others on how to continue passing on the information.

	CHANGE AGENT	CLIENT
School Level	headteachers	teachers
Classroom	teachers	students
(key: CDCC:	Curriculum Dissem- ination Coordination Committee	
DEO:	District Education Officer	
DDC:	District Dissemination Committee	
SDDC:	Sub-District Dissemi- nation Committee)	

**NATIONAL DISSEMINATION
PROGRAMME MODEL**

	CHANGE AGENT	CLIENT
National Level	NCDC, CDCC	DEO, key
District Level	NCDC, DEO key teachers	DDC
Sub-District Committee	DDC	SDDC
Sub-District Level	SDDC	h e a d - teachers

The NDP model shows how a receiver of information, or client, at one level, may become a change agent at a sub-level (i.e., district education officers and key teachers). The CDCC at NCDC is the main change agent. The CDCC is supported by committees at the district and sub-district levels (DDC and SDDC) whose members are selected by their professional peers. Working in conjunction with NCDC, change agents also include the Instructional Materials Resource Centre, the National Teachers Training College, the Lesotho District Teaching Centre and other support agencies.

The first series of information and training workshops began in January, 1987. By April, dissemination had made its way

through the primary school system. The second series of workshops began in June, 1987, and were completed by September. For the first time, Lesotho's primary school teachers received information and training tools at approximately the same time throughout the country. These workshops will continue on a bi-annual basis.

Evaluation of the NDP has produced positive comments from trainers and participants:

"The workshop was really relevant to what we are doing at our schools; we need the information which was imparted to us. Regular workshops are necessary."

"I found how I will overcome certain problems in my class which I failed to solve before in so many years before this kind of workshop."

"After the presentation I now understand what kind of information I am expected to pass on as a member of DDC and SDDC."

"Had the workshop of this sort not been given, most teachers would leave this work."

People from NCDC are truly trying their best to bring some good information to teachers."

"It sweeps away our ignorance."

The evaluation also identified areas of teachers concerns and needs:

"There is no book to help teach efficiently in science and social studies."

"Participants time should not be wasted by incompetent personnel."

"Food was not enough for the first two days."

"Teachers were well prepared for their work, though they had insufficient materials."

NEEDS: "windows, benches, blackboards, centimeter squared paper and exercise books."

NEEDS: "more teachers and more equipment and more buildings and more teaching aids."

A great deal of planning went into developing the NDP. In early 1986, a small group of curriculum developers from NCDC formed the Curriculum Dissemination Coordinating Committee (CDCC). Other staff divisions at NCDC were consulted in order to begin organizing and managing the dissemination of up-dated curriculum activities. CDCC sought the assistance of the District and Circuit Education Officers in developing a delivery programme. In order to maximize the information output by using people who would be attending the workshop, a plan was designed to train select educators to become trainers. CDCC also studied methods to ensure that NDP would be continually evaluated to determine effectiveness and to provide on-going feedback.

A National Dissemination Workshop was held in July, 1986 which brought together representatives from all educational sectors -- Lesotho's Ministry of Education, District and Circuit Education Officers, school managers, teachers, NTTC, IMRC, National University of Lesotho, LDTC, and individual consultants and publishers. The Participants were asked to help to

define the best method of dissemination and to make recommendations for action on delivery methods and their implementation.

The NDP model has made a significant impact on how NCDC is getting educational information and teaching material to Lesotho's primary school teachers. Before NDP, several teachers were not able to benefit from NCDC's resource capabilities due to lack of dissemination.

Today, NDP has bridged that gap. The success of the first years dissemination workshops has encouraged NCDC's

subject divisions to generate up-dated and new teaching educational materials. Because teachers at the district and sub-district levels feel they are a part of the process, they have been encouraged to generate local materials, and for the first time, NCDC has embarked on a 'trainer of trainer' programme through the NDP network. NDP is well coordinated, organized, cost effective and it has solved a serious communication problem that once existed between NCDC and Lesotho's primary school teachers. NDP's success is best noted by Lesotho's educators: "We are aware that the Ministry has gone to great pain to improve the education of this country so the teachers will also be expected to do the same for the sake of the children".

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

THE NON-FORMAL EDUCATION SUBPROJECT

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

Non-formal education: a study programme conducted outside the framework of a formal classroom, although study can include the same subjects (i.e., how to read and write, add and subtract, etc.). Non-formal education programmes are generally developed for people who may not fit into a normal classroom structure: learning programmes for out-of-school people who dropped out or never went.

The BANFES Non-Formal Education Subproject (NFE) is being designed to assist Lesotho's Ministry of Education (MOE), and in particular the MOE's Lesotho Distant Teaching Centre, toward providing out-of-school education services to adult Basotho who lack adequate education for meaningful employment and personal growth.

The BANFES NFE Coordinator points out Lesotho's need for non-formal education programmes: "We have many adults in Lesotho who are not able to

participate fully in Lesotho's society because they cannot read and write and cannot count. For example, if a farmer cannot read and count how can he calculate the amount of seed and fertilizer plus costs that he will need for a year's supply of crops grown on his land? If he cannot read agricultural newsletters and farm information passed on by the Ministry of Agriculture, farmers associations and cooperatives then his income capability is affected. Furthermore, his family life is affected and their growth and opportunities are affected. We have many people in Lesotho who lack primary level education, yet they cannot return to school."

THE NEED

According to a 1985 study on Adult Literacy in Lesotho (*Results of an Assessment of Reading, Writing and Arithmetic Skills*, conducted by the Lesotho Distance Teaching Centre) those target groups who have had less than adequate educational opportunities and have the greatest need for literacy and numeracy training include:

- farmers
- herdboys
- miners
- adults over the age of 40
- food-for-work participants, and
- people living in the Senqu River valley, foothills and mountain region.

Other literacy and numeracy studies have identified additional groups with a profound need for training:

- prisoners
- women tending rural farms and small businesses
- young women who have dropped out of school for various reasons, including pregnancies.

COMMUNITY-BASED APPROACH

The BANFES NFE Subproject is designed to function as a community development approach at the village level. Six villages throughout Lesotho (including an area of Maseru) have been selected to participate in a pilot test to help establish the basis for an on-going NFE programme nationwide. Each village will form committees responsible for establishing Community Learning Systems (CLS). Each CLS committee will establish, at the village level:

- who needs to learn
- what kind of programme will work best in that particular village, and
- who is available to teach (i.e., are there appropriate resources within the village or must someone come from outside the village).

LITERACY PLUS PRACTICAL SKILLS

Literacy and numeracy training will be linked to employment opportunities. Committee members will include community leaders, teachers and village extension workers. The basis of the BANFES NFE Subproject is that villages must identify for themselves their specific problems regarding literacy and numeracy training and how the problems regarding literacy and numeracy training and how the problems can and will be solved. Using this approach, literacy and

numeracy programmes that are developed will have a greater chance of succeeding. The villages and committees, however, will receive all necessary support by organizations and resources available in Lesotho for this particular kind of training. NFE animators and extension workers from various ministries will work within the villages to help the CLS committees between the village and support institutions such as the Lesotho Distance Teaching Centre, the Institute of Extra-Mural Studies, the Ministries of Agriculture, Health and Interior and NGOs such as the Transformation Resource Centre.

The animators will also promote the integration of practical skills with literacy training; they will guide committees in identifying employment or production opportunities for literacy trainees. Additionally, the animators will promote the sharing of literacy resources between school and community (i.e., using community volunteers to teach Breakthrough to Literacy in the classroom).

BROAD INSTITUTIONAL SUPPORT

While the main work will be done at the village level, the CLS Committees and animators will also receive support from the Task Force and Core group composed of the BANFES Technical Assistant and educators from the National Teacher Training College, the National Curriculum Development Centre, various ministries and NGOs. While the villages will define what they want, the purpose of the Core Group is to determine the best literacy teaching methods and materials to use.

THE ULTIMATE AIM

The ultimate aim for the NFE Subproject is to help Lesotho's MOE work toward its

stated goal of "education with production", education that will help Lesotho's population develop toward more self-sufficiency. By working through already existing services such as LDTCs Learning Post Programme and the Ministries of Education, Agriculture and Health, BANFES hopes to encourage greater cooperation among NFE efforts in Lesotho, thereby increasing support for rural level NFE activities.

had been in prison for eight years came to my office with a problem. While in prison he had learned how to build... he had learned an employable trade. But he did not know how to read and write. He wanted to work for himself. By becoming literate he could negotiate his own contracts, get more jobs, better jobs, and increase his income. He asked me where he could go to learn how to read and write. This programme will help a person like that."

"We know there is a need" states the Coordinator. "Five years ago a man who

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

OPERATIONS MANAGEMENT AT THE NATIONAL TEACHER TRAINING COLLEGE

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

Lesotho's National Teacher Training College (NTTC) is a government institution employing over two-hundred full-time staff, making it the largest employer within the Ministry of Education. NTTC is the country's only teacher training college, with a current enrollment of 942 students: 647 students reside on campus and 295 students are working in off-campus teaching internships. NTTC maintains approximately 20 building facilities on campus and is responsible for the financial management of an annual budget of M2.8 million.

In the past, several problems have hampered NTTC's operational management: low staff morale, vacant posts, lack of training and supervision for support staff, inadequate maintenance and little provision for repair of NTTC's facilities. Inconsistent personnel policies and practices have contributed to low productivity by support staff. Job

descriptions and guidelines on supervisory relationships and responsibilities will help to remedy this.

NTTC's problems did not occur overnight but they are serious problems which require immediate steps. Since much is at stake, NTTC is committed to solving its problems in a way that will have a lasting effect on the overall management structure of the college. BANFES is committed to working closely with all levels of NTTC management to create long range strategies for NTTC's improvement and growth. "Strengthening the National Teacher Training College" is Component II of BANFES. Outputs I and IV call for "sufficiently trained staff" and "improved personnel and administrative and management systems."

NTTC OPERATIONS MANAGEMENT

Institutional management is about productive use of people, time and resources. A workplan with specific objectives is being followed in addressing the needs and problems of NTTC's staff and support facilities. The workplan identifies specific one-time tasks such as creating a computerized data base management system for student and personnel records and developing a scheme of service to include job descriptions and supervisory responsibilities. The workplan also suggests training programmes and workshops to meet present and future

needs. Designing an effective and useful workplan is not easy: one must avoid the temptation of solving immediate problems without giving sufficient thought to creating a system that will sustain itself as the institution grows and develops. Decisions must be made about which problems get immediate attention and which can wait.

A variety of training (i.e., seminars, short courses, on-the-job training, workshops) has addressed record management and supervision, clerical skills, support supervision, secretarial skills, management, computer literacy and basic typing.

Some of the training programmes have included staff that have never provided previous training.

NTTC's support staff do not have the college's most glamorous jobs, but it would be impossible to operate the college without them. These people include the clerical, dormitory, dining hall and maintenance staff. A special committee of support staff supervisors has been organized to provide for on-going exchange of ideas and decisions about training.

Over 75 job descriptions for all NTTC personnel have been completed toward a Schemes of Service. This is the first time NTTC will have a complete Scheme of Service with outlined department objectives and functions and supervisory responsibilities. The Schemes of Service will assist NTTC in identifying which posts need to be filled and which new posts need to be established.

To tackle the problems of maintenance and repairs, a Maintenance Work Order System has been established. In the past, repairs got done by making a verbal request, often at the risk of being forgotten. The Maintenance Work Order System allows emergencies to be handled immediately and routine requests to be handled in sequential order. Writing and prioritizing work requests have improved maintenance and repair services appreciably.

Other achievements within the BANFES operations management effort at NTTC include:

1. designing organizational development tools (i.e., charted relationships);
2. developing non-academic staff work plans; and
3. creating a workable management system for student residential affairs.

NTTC is currently working toward increased management independence. NTTC hopes to have more responsibility for managing its own budget, negotiating salary requirements, creating and filling new and existing posts, solving internal problems and charting future goals. A recent government Public Service Order granting freedom of employee negotiations within several professional rankings, including the academic staff at NTTC, is a step in the direction of more management responsibility for the College. Actions being taken for operations management improvement will help NTTC become a more efficient, effective and accountable institution.

.....

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

PRIMARY EDUCATION NEWS

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

There are six-thousand primary school teachers in 1160 primary schools throughout ten districts in Lesotho. While Lesotho is a small country (approximately the size of Belgium) travel and communication within Lesotho are impeded by steep mountains that cover 80% of Lesotho's countryside. One rural school manager responsible for six highland primary schools must travel by horseback to visit the schools in his jurisdiction. Visiting all schools requires five day travel time.

As professionals, Lesotho's primary school teachers need a forum with which to share ideas, solve problems, learn about new teaching materials and professional news. To meet this need, the first challenge is to identify an appropriate communication network that reaches all teachers.

PRIMARY EDUCATION NEWS

The Curriculum Dissemination Liaison Committee (CDLC) at Lesotho's National

Curriculum Development Centre (NCDC) has designed a journal for primary school teachers. Primary Education News, or PEN, will be a quarterly journal that will focus on education news in curriculum development, teacher training, workshop reports, examinations, teaching methods and materials, problem solving, supplementary teaching aids and classroom management. Contributors to PEN will include curriculum developers and teachers.

PEN is an outgrowth of NCDC's National Dissemination Programme (NDP). While NDP will continue as the main method of disseminating NCDC's curriculum information on a bi-annual workshop basis, PEN will be an additional dissemination method, one that invites teacher input and participation.

BANFES will subsidize PEN's first issues. Lesotho's primary school teachers will receive the first issue for free; thereafter subscription costs will be 35 lisente an issue, or M1.40 a year. The contribution BANFES is making to PEN's initial publication will enable PEN's editors to have a years start-up time for promoting PEN, securing subscribers and establishing a financial base from which to continue publishing. Commercial advertisements will help off-set publishing costs.

PEN intends to keep its content interesting to readers. In addition to education news and articles, PEN will publish humorous anecdotes, school sport news, book reviews, education problem

solving puzzles and a calendar of events of unique interest to Lesotho's primary teachers. Black and white photographs, diagrams, and well-illustrated drawings will highlight the articles. Advertisements will focus on the needs of the teachers as a community.

PEN represents the first primary school teacher-oriented publication in Lesotho for many decades. At one time Lesotho's teachers had a professional journal. This journal was viewed as a critical means of communication between Lesotho's teachers, particularly in a time when travel and communication within Lesotho were far more difficult than today.

Several teachers had the foresight to keep their journals and pass them on to their children, some of whom also became teachers. The journals in existence today are historical documents, describing teaching conditions in a country that has

changed dramatically due to sophisticated modern technology and the simple march of time. The journals are wonderful to read and are a part of Lesotho's legacy.

It is too early to predict PEN's future and the impact it will have among Lesotho's primary school teachers. However, the teachers know that PEN will soon be published. PEN's editors have already received a large volume of articles from teachers for publication review. As PEN circulates through the teaching community, more teachers will submit material for publication. PEN will become a publication Lesotho's teachers can look upon with professional pride. It will encourage participation and provide information and enjoyment. PEN will also help continue a 'very good idea' started many decades ago, providing a continuity and permanent record to Lesotho's educational legacy.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

PRIMARY IN-SERVICE EDUCATION PROGRAMME

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

Each of the ten districts in Lesotho has at least one District Education Officer (DEO). The DEOs, along with the Senior Education Officers and the Principal Education Officer, form the Inspectorate in Lesotho's Ministry of Education. In order to improve the teaching abilities of Lesotho's primary school teachers, each DEO travels throughout his or her district, visiting schools, observing classroom activities and consulting with and advising each teacher how to improve his or her professional activities. However, as the Inspectorate have several other responsibilities, it is often the case that the consulting and advising role is curtailed due to the demands of these other professional duties.

Consequently, teachers assigned to the lower primary grades, who in many cases are the least qualified of Lesotho's teachers and have the greatest need for classroom training, may not be visited enough. Paralleling this situation is the

high student failure and drop out rates in the first three standards.

Primary In-Service Education Programme

A Primary In-Service Education Programme has been established to strengthen the consultancy role of the Education Inspectorate by providing an in-class in-school programme to improve the classroom management and instructional skills of approximately 1200 lower primary school teachers.

Forty to forty-five District Resource Teachers (DRTs) are being selected from Lesotho's ten districts to participate in a two part eighteen month programme. The first part is a full-time study and training programme, broken into a five week block and five, one week blocks. In the second part, of some fifty weeks, the DRTs will work closely with the teachers in an on-going in-service education programme. Each DRT will be responsible for twenty-five to thirty lower primary teachers. In addition to in-class training, teachers and DRTs will be involved in up to six workshops. Depending on the size of the individual schools, DRTs could be working with all teachers in the smaller schools and, in larger schools, with selected teachers and their headteachers. The DRTs will know which specific teachers they will be working with and their particular backgrounds (i.e., years of teaching, educational backgrounds, level of certification).

The DRTs were nominated by District Education Officers and other education officials. Approval has been granted by MOE for study leave without pay for each DRT to participate in the eighteen-month programme. BANFES has agreed to pay the DRTs an amount equivalent to their normal salaries plus all costs associated with their formal study and training needs and field work (i.e., accommodations, meals, textbooks, travel, etc.) The DRTs will begin their study leave in July, 1988 and field work will begin in late 1988. This programme will end in December, 1989.

Training for DRTs will focus on:

1. classroom management;
2. use of tests for diagnostic purposes as well as summative purposes;
3. strengthening the teaching of Sesotho, Math and English; and
4. the role of a DRT.

There are approximately 3000 teachers teaching the lower standards in Lesotho's primary schools; of these 1200 are being selected for the in-service training. The target teachers include:

1. certificated and uncertificated teachers who have mixed standard classes of which Standard 1 is the lowest;
2. uncertificated teachers who have mixed standard classes, the lowest of which is Standard 2 or 3; and
3. uncertificated teachers in Standards 1, 2 and 3.

Information leading to the selection of the 1200 teachers was made available by the computerized Teacher Personnel Management Information System from the Teacher Service Unit. The Primary In-

Service Education Programme is being managed by a committee composed of the following members:

- the Principal Education Officer;
- the Senior Education Officer for Primary Schools;
- the Secretary of the Teacher Service Unit;
- the BANFES Primary In-Service Education Coordinator;
- the BANFES Training Coordinator; and
- the BANFES Coordinator for the National Dissemination Programme.

While the 1200 teachers will participate in approximately six workshops over a period of one year, the workshop time will be limited to one day thus ensuring that teachers are not away from their classrooms for long periods of time. The main purpose of the Primary In-Service Education Programme is to increase the amount of face-to-face contact that a teacher has with an advisor or consultant. Hence, DRT trainers and teachers together will be able to identify the most serious problems each individual teacher experiences and the best approach to solving the problems within the context of which the teachers must work on a daily basis. The workshops will provide opportunities for the DRTs and the teachers to share their experiences and to learn new ways to approach their own situations.

The Primary In-Service Education Programme cannot provide the type of professional training that can be found in longer teacher training programmes. However,

- given the combination of full time study, field work and field study over eighteen months,

- given that each DRT will be working with only twenty-five to thirty teachers, and
- given that the DRTs will be working on an individual face-to-face basis,

the primary In-Service Education Programme will be providing the best possible means of in-class training to teachers who need it the most. Ultimately, the training will impact students in the lower Standards, who, as the basis for their subsequent education, have the greatest need for receiving better classroom instruction.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

THE RESOURCES DIRECTORY FOR SELF-RELIANCE AND ENTERPRISE DEVELOPMENT IN LESOTHO

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

Today, Lesotho has numerous resources for self-reliance and enterprise development. These resources are services offered by government, non-government organizations, projects and the private sector. The range of resources available is broad and yet they share one common factor: most resources are under-utilized by the public at large and by schools in particular. This 'common factor' of under-utilization is predominantly due to limited promotion resulting in a lack of awareness by the general public and teachers as to **how, where, when and who** can access these important resources.

The promotion of Practical Studies in Lesotho's schools through the efforts of the Ministry of Education and the BANFES project is dependent upon teachers and the general public learning ways to maximize existing resources for self-reliance and enterprise development. The acquisition, by Basotho pupils, of

relevant skills for self-employment and increased self-reliance is a top priority of the Ministry of Education's Policy for Practical Education and a cornerstone of the BANFES project.

With contributions from numerous government, non-government and private sector agencies, a Resources Directory was compiled by the Practical Studies Section of the National Curriculum Development Centre (NCDC). The **Resources Directory for Self-Reliance and Enterprise Development in Lesotho** aims to promote utilization of existing resources in the country by teachers, pupils, students, miners and the general public. Although numerous resources are featured, the Directory does not claim to include all resources available in Lesotho. Instead it includes selected resources which serve the purpose of assisting self-reliance and enterprise development through income-generating activities. With selected resources arranged in specific categories, the Directory promotes utilization of the featured resources by:

1. providing information on Technical Assistance and Advice Services currently offered by many government, non-government and private offices;
2. offering current information on how to access the listed resources at their various locations throughout the country;

3. listing formal and non-formal courses and training programmes for skills development including on-the-job apprenticeship opportunities;
4. providing ideas and instructions on how to make use of locally available materials for the improvement of home and personal living; and
5. presenting self-employment and/or income generation possibilities and ideas for individual and group enterprise development in Lesotho.

The selected resources featured in the Directory are categorized in the following ways with cross-referencing where applicable so to achieve the purpose of promoting self-reliance and enterprise development:

AGRICULTURE

examples: gardening, crop rotation, intercropping, fertilization

ANIMALS

examples: raising chickens and rabbits, diary farming, care and feeding of animals, animal shelters

APPROPRIATE TECHNOLOGY

examples: drying food, cooking, solar energy and uses, construction

BUSINESS

examples: bookkeeping, accounting, cooperatives, grants, marketing, inventory, suppliers

CONSERVATION

examples: combatting soil erosion, preventing veld fires, wind power, dam construction

HEALTH AND NUTRITION

examples: immunizations, oral rehydration therapy, recipes, food preservation, family planning, child care facilities, care of the elderly

HOME INDUSTRIES

examples: clothing and tailoring, furniture and woodwork, shoe repair, crafts, metalwork, masonry, home repair

SANITATION

examples: latrines, latrine construction, sanitation related diseases and treatment, prevention

FORMAL AND NON FORMAL TRAINING OPPORTUNITIES

examples: apprenticeships, rural and farmer training centres, women's associations and groups

WATER

examples: water catchment tanks, water pumps, storage

The final Resources Directory will also include an Index and Glossary of Terms.

Each section of the Resources Directory includes both English and Sesotho copy

although Sesotho is the predominant language used. The resources featured appear on pages with the sub-category indicated at the top of the page (i.e., Small Animals) and the information provided for each is arranged in the following ways:

1. Technical Assistance and Advice Services offered; what specifically is offered, who may apply, how to apply and where, costs for services if any, frequency of service;
2. Financial Assistance offered: which kind of assistance is available for this particular sub-category listed;
3. Skills Training Opportunities: what training services and courses are offered by this particular resource, application procedures including costs, when to apply and where, apprenticeship information;
4. Information and pamphlets brochure: what is available and where it can be found; costs, how to access;
5. "Starting a Business" -- examples of others in business, ideas for potential enterprises, and sample enterprise budgets included.

Each page is illustrated and "How to" instructions and diagrams are presented to make the Resources Directory interesting for the reader and as a teaching resource. There are ideas on what practical projects can be done at schools (i.e., cabbage bag food dryers, composting, solar cookers, etc.). A special feature of the Resources Directory includes enlarged fold-out pages than can be used as supplementary materials by teachers in the classroom.

BANFES has funded the printing of the Resources Directory that will be field tested among teachers, pupils, youth groups such as Young Farmers Clubs and Girl Guides, miners and select community groups such as the Women's Association. The Resources Directory currently has 371 pages of information with 250 individual listings. The Directory will be tested for:

1. readability;
2. clarity;
3. accuracy; and
4. useability.

While field testing is underway, members of NCDC's Practical Studies staff are meeting with various private industries and organizations in Lesotho to secure advertising and sponsorship. Advertisers and sponsors will be listed in the final version of the Resources Directory. This crucial local support will enable the Resources Directory to be published in sufficient volume allowing for widespread distribution to educators, teachers, schools, youth groups, small business owners, miners, village cooperatives and training officers.

Radio and newspaper announcements, posters, plays and the National Dissemination workshops will be used to inform the community about the Resources Directory.

The Resources Directory is one of several instructional material developments by NCDC's Practical Studies staff. As a valuable reference tool, the Directory is a positive step in responding to the need of how to best help people toward helping themselves.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

SCHEMES OF SERVICE

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

Until independence in 1964, Lesotho's Ministry of Education (MOE) did not have direct responsibility for the administration of educational institutions. After independence, and especially since 1974, MOE assumed greater responsibility for the direction and support of education. Over the years while responsibilities and programmes grew rapidly, and the amount of the budget increased correspondingly, the general staffing of MOE did not grow in size at a comparable rate. This lack of comparable growth has been the cause of many staffing and organizational problems in Ministry. The Task Force Report on the Education Sector Survey, November 1982, noted that ".....it is essential to substantially improve the entire system of management and administration (for the Ministry)."

In recent years MOE has increased its programmes and responsibilities. When the project documents were prepared for BANFES, notice was taken of the need to

strengthen and improve the Ministry's management and administrative functions. Component I of the BANFES contract is labelled "institutional strengthening of the Ministry of Education." The strengthening would occur through:

1. training,
2. more efficient personnel systems, and
3. establishment of policies and procedures for internal management.

A "Schemes of Service" is an organization analysis personnel management tool that describes an organization, its functions and its staffing. It provides a clear mission statement, objectives, functions, organization charts, job descriptions and job specifications for each organizational component. A Schemes of Service enables an organization to clearly define lines of responsibility and is a valuable tool used in organizational analysis, manpower planning, recruitment, promotions, salary reviews and other personnel needs of the organization. Pioneering work with Schemes of Service began in Canada within private industry and the military. It is now employed internationally and government services worldwide have benefitted from its use.

MOE had made efforts toward designing a Schemes of Service for several years; however, the format was usually applied to select divisions and not to the overall Ministry. Additionally, the Ministry was still relying on outdated charts and job descriptions. In November, 1986,

BANFES proposed that a comprehensive Ministry-wide Schemes of Service be implemented that responded to all three areas of institutional strengthening identified in the BANFES contract.

While there may be some differences in format, a complete Schemes of Service generally includes:

1. a statement of mission, goals and objectives that are clearly derived from either more senior goals (Ministry level) or from laws or administrative mandates;
2. a delineation of major functions of the organization, unit by unit;
3. an organizational chart showing units and positions;
4. position descriptions for each of the positions or class of positions used in the organization; and
5. current qualifications and specifications for each of the positions or class of positions.

Once prepared and maintained through annual updates, the Schemes of Service becomes the basic document for organizational, personnel management and manpower analyses. The manual is a ready reference for the orientation of new employees, visitors or potential donors. It constitutes management's directory of services and personnel.

ESSENTIALLY, IT IS A CRITICAL MANAGEMENT TOOL.

The Schemes of Service project within Lesotho's MOE got underway with a five-day introductory seminar for all division-level heads in the Ministry. The initial seminar focused on the following items:

1. orientation of Schemes of Service model,
2. development of objectives from mission statements,
3. development of functional organizational charts,
4. discussion of MOE mission, goals, objectives and current Ministry-Level organization.

Lesotho's Honourable Minister of State for Education provided the official opening of the seminar on 17 November 1986. In his remarks the Minister noted the need for a "healthy organization," that is, one which constantly attends to and seeks improvement in such things as goal definition, organizational structure, leadership style, and staff selection. Further, he stated that the Schemes of Service Project "...will provide us with the documentation that we need for further organization and manpower analysis, it will provide us with a ready guide to the organization...and it will provide us with an important tool for orientating our employees regarding their place and role in the organization."

Since November, 1986 a series of ongoing seminars has been carried out by Schemes of Service Project. Heads of divisions met in early December to learn to prepare statements of objectives and to prepare functional and staffing organizational charts.

In late January, 1987, division heads met to focus on preparing job descriptions and qualifications. Following each seminar session, a "product critique" session was held in which participants returned with rough draft materials which were critiqued by the group, the trainer and the BANFES consultant for the project. Division heads

prepared job descriptions and qualifications for themselves and all section level persons reporting to them.

In early March, 1987, the entire process of setting objectives, defining functions, and preparing organizational charts, job descriptions and specifications was repeated for all heads of sections of the twelve units of the Ministry. The "product critique" session was held a month later. Re-writes and final submission followed this session. By the end of April a draft Schemes of Service manual was prepared and submitted to the Deputy Principal Secretary and the Chief Education Officer for their review and approval for submission to the Principal Secretary. Final editing and printing of the manual followed on the approval of the Principal Secretary and other Ministry officials.

The Schemes of Service Project and the exercises involving the Ministry personnel were not an easy task. Commitment was necessary from the Ministers, the Principal Secretary, the division heads and section heads. Work was often time-consuming. A Schemes of Service Manual for organizations as large as MOE cannot be produced overnight. Yet the exercise was critical in terms of improving the efficiency of MOE. The Principal Secretary noted in his opening remarks to the Heads of Section Seminar that the size of the Ministry, whose budget had increased from 25 million maloti in 1980-81 to 36 million maloti in 1986-87, made increased efficiency all the more critical.

To illustrate the difficulty of the task, the project planners had allowed two hours for division heads to develop a mission statement for MOE following discussion and panel presentations by experts in the field, a task that in fact took a day and a half. The new mission statement for MOE is only six lines long:

"The Ministry of Education was established and mandated to develop policies, identify education sector needs, provide educational opportunities, develop and manage pre-primary, primary, secondary, tertiary and special education programmes so as to enhance personal growth, productivity and foster economic, social and cultural development of Lesotho."

The twelve objectives and functions of the Ministry clearly spell out how this mission will be achieved.

Approximately twenty percent of MOE's professional staff were involved in training during preparation of the Schemes of Service. As MOE grows and changes, taking on new responsibilities, staff and programmes, these trained professionals are now equipped with the necessary tools to monitor personnel changes within their own divisions. This is a radical departure from MOE's reliance in the past on three personnel officers and three assistants.

When the question is asked "What business are we in?" MOE now has the answer in the form of the mission which provides basically the reason for existence. The goals and objectives follow, as do the functions, the organizational charts, the job descriptions and the job specifications. Additionally, MOE's Schemes of Service Manual contains the critical raw material for making rational decisions about organizational structure can be carried out on the basis of increased efficiency and clearer line of reporting. The need for new positions or the need to eliminate positions can have a rational basis.

For the first time, the MOE Schemes of Service Manual provides the Ministry a comprehensive personnel organization structure. Every employee in MOE will

have a better understanding of what it is he or she is supposed to be doing. A "healthy organization" will be in place, ready to meet its responsibilities. The

Ministry can move ahead with its mission, confident that its staff know what they are about: they know their business.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

SCHOOL SUPPLY UNIT

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

Prior to 1983, parents of Lesotho's primary school children had to purchase their children's school textbooks. At an average cost of M5 a book times five subjects (Math, Science, Social Studies, Sesotho and English) plus an extra book for Science, parents paid approximately M30 a year per child in school for textbooks. The annual average per capita income in 1983 was M350. The cost of textbooks, plus uniforms and other essential school supplies, was more than many Basotho families could afford.

School textbooks were generally available through local cafes or book sellers. Demand often exceeded supply. It was not uncommon that a school year would end before half of a class would have the required number of textbooks.

In 1983, Lesotho's Ministry of Education established a Book Supply Unit with the purpose of ensuring that each student had the required number of textbooks and

science supplies. Funded by the World Bank, the Book Supply Unit conducted a pilot project in Thaba-Tseka. Based on the results of that pilot project, schools were supplied with textbooks countrywide.

Rather than purchasing the books, each parent was asked to pay a rental fee of M2 a year for Standard 1 books, M3 a year for Standards 2, 3 and 4 books, and M5 a year for Standards 5, 6 and 7 books. All rental fees went into a revolving fund. The purpose of the revolving fund is to purchase new textbooks when current supplies become obsolete or damaged. Thus, the Ministry of Education has established a system that makes good books available to all on an affordable basis.

The revolving fund is kept in an interesting bearing account. Collection of rental fees has been so successful that M3 million was recently spent to replace all primary school textbooks in Lesotho with distribution starting in April, 1988. The projected lifetime of the new textbooks is three years. It is estimated that eventually new textbooks can be purchased out of the interest in the revolving fund. The fund is also used to purchase science supplies and atlases and may one day be used to purchase other school equipment such as desks, blackboards, chalks and student writing supplies.

World Bank Funds are also being used to build a two-story 500 square metre warehouse. The warehouse will store

textbooks, atlases, science supplies and eventually other school equipment serving Lesotho's 1200 primary schools and 350,000 primary school children.

Today, the Book Supply Unit is known as the School Supply Unit (SSU), a component of the Education Inspectorate. The SSU was established to perform the logistical functions required to supply the primary schools with textbooks and to maintain the revolving fund.

BANFES is providing support to the SSU through technical assistance, training, a fact-finding survey and the establishment of a computerized management and accounting information system.

Several SSU personnel involved in administrative functions have attended a BANFES training course on material management and stock control. Additionally, BANFES personnel are conducting a survey in 10% of Lesotho's primary schools to determine the quantity and condition of textbooks currently in Lesotho's schools. The survey has several purposes:

1. to determine how long textbooks last;
2. to establish causes of textbook deterioration (i.e., poor binding, etc.);
3. to determine if schools are receiving sufficient number of textbooks; and
4. to identify problems schools may be having with distribution, collection of rental fees, use of the revolving fund, etc.

The results of the survey will help SSU make projections for further textbooks, Atlas and science supply purchases and solve problems related to distribution and the revolving fund.

Critical to the success of maintaining accurate stock control is the logistical support SSU will receive with the establishment of an inventory control and accounting system. BANFES is helping SSU develop a computerized inventory control system.

The system will provide the following:

1. a complete stock catalogue listing all items under SSU control;
2. the location of stocked items;
3. a school coding on the number and date of textbooks and other related supplies received;
4. historical data (i.e., old textbooks and supplies currently in which schools);
5. warehouse inventory;
6. cost accounting;
7. purchasing information; and
8. distribution records.

Data from the information system will enable SSU to maintain accurate records of inventory and financial management. Additionally, certain trends can be established that will be helpful for inventory control. For example, SSU can begin to determine the lifetime of certain textbooks and project future purchases.

The MOE is currently implementing approval for fifteen SSU positions, including an SSU manager, administrative support staff, storeman, stores controller and textbook and warehouse assistants. Additionally, the schools will be asked to assume greater responsibility concerning feedback on the condition of existing

textbooks and collection of book rental fees.

The School Supply Unit has been a success story for Lesotho's primary schools. It is well established that many of

Lesotho's primary schools suffer severe problems. In general, schools are overcrowded and under-staffed. Sixty-five percent of the school children must sit on the floor as most schools cannot afford enough desks for all the children. Despite these problems, the SSU is ensuring that students are receiving textbooks at a cost parents can afford. With textbooks in hand, Lesotho's primary school children have a necessary tool for learning.

.....

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

SMALL BUSINESS STUDIES SERIES

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

Creating employment opportunities is perhaps the single greatest challenge faced by Lesotho today. Developing productive income earning skills which can lead to self-employment is a major objective of BANFES' Practical Studies.

As preparation for employment upon finishing school, students in Lesotho's secondary schools are taught commercial studies. Course work includes bookkeeping, business correspondence, typing and record keeping. Secondary teachers, however, note that students are having difficulty grasping some of the basic principles being taught in commercial studies. Since upper primary students receive no course work in business studies, they lack basic preparation enabling them to make practical application of their commercial studies. Furthermore, only 28% of the students who initially enroll in primary school continue on to secondary school. It is critical that primary students receive basic business skills training enabling them

to compete for good jobs when they leave school.

Commercial studies are part of the Social Development Studies Division at the National Curriculum Development Centre (NCDC). In response to the need for developing an appropriate business studies curriculum for upper primary students, a special workshop was held. Workshop members included teachers, NCDC division staff, members from the National Teacher Training College, the Lesotho Distance Teaching Centre, the Institute of Extra-Mural Studies, and faculty and select students from the National University of Lesotho's School of Business Administration. The workshop participants represented the Social-Development Studies Curriculum Panel.

The workshop addressed a series of critical questions: what specifically are commercial studies; what is the linkage between commercial studies for secondary students and business studies for upper primary students; can upper primary students learn basic business skills; what do upper primary students need to know in order to consider self-employment as a career option?

The answer to these questions could not be found in textbooks; rather, the answer was found among those members of the community who had initiated small businesses and had to rely on specific business skills in order to succeed.

One-hundred small business owners from Lesotho's ten districts were interviewed about their businesses. Each employed less than six people, and the businesses represented entrepreneurial endeavors in food and agricultural production, health and social services, construction and manufacturing. Interviews were conducted by members of the Practical Studies Division at NCDC. By choosing to interview small business owners in all of Lesotho's districts, comparative information was collected regarding small businesses in low-land urban environments versus mountainous rural environments.

In addition to in-depth interviews, each small business owner was asked to fill out a questionnaire. The interviews worked closely with business owners often for hours at a time in order to ensure accuracy and completeness of the individual stories. This was important because stories the entrepreneurs shared were going to serve as the content in a series of textbooks created by the Practical Studies Division. The books would focus on business studies for upper primary school students. Lesotho's small business owners were providing answers as to what basic business skills students need in order to work in small business enterprises.

The background questions included many areas:

- how much start-up capital was needed;
- how did they acquire or raise start-up capital;
- what specific skills did they possess for their particular small business (i.e., shoe repair, dressmaking, etc.);
- how did they assess the market;

- what specific production and management skills were needed;
- did they advertise and how, and was advertising effective;
- how did they handle record keeping and bookkeeping;
- how did they choose their location;
- highest education grade level achieved;
- what specific courses did they take in school that helped them with their small business;
- what courses do they wish they had taken in school but did not, and why?

Information from the interviews and questionnaires was organized into seventy-five short stories (including five dramas) and divided into groups of ten to correspond to five reading levels. All the stories are written in English. The textbooks begin at Standard 4 in that teachers begin teaching classes in English at that level, and the levels continue on to Standard 5, Standard 6 and Standard 7 and Form A, the first year after primary school.

In addition to providing reading material, each of the stories introduces basic skills through correlated cross-curriculum objectives and exercises. For example, a story may describe how a dressmaker began her business. Exercises may require that students draft a weekly bookkeeping total of all receipts and expenses. They may also be asked to write a business letter in English or Sesotho to a shopping centre requesting information on renting commercial space. As a group, the students may be asked to determine how much inventory the dressmaker needs, and

what prices to apply to her various products in order to charge a fair price yet make a fair profit.

The stories are currently being edited into various reading levels. Additionally, cross-curriculum objectives are being identified for the skill building individual and group exercises. A local educational publisher has already expressed interest in printing the textbooks for distribution to Lesotho's primary schools. Once in the

classroom and used by the students, the textbooks will represent a departure from traditional textbooks often written half a world away and dealing in concepts that do not relate to the local environment. The Small Business Studies Series will provide an exciting and meaningful opportunity for students to participate in practical business skills that will assist them toward becoming able and competent community members and employees; perhaps even entrepreneurs.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

THE TEACHER PERSONNEL MANAGEMENT INFORMATION SYSTEM

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

TEACHER SERVICE UNIT

Remember the days before computers? Offices were crammed with large filing cabinets and bookcases stuffed with ledgers and account books. Finding individual files was time consuming and sometimes futile as records periodically 'got lost' (were they misplaced, misfiled, sitting in a corner somewhere, or truly lost?) Updated and current information, papers, memos, letter and vital statistics bulged out of tattered and worn paper folders, sometimes in order, sometimes not. Just getting information compiled into this disorderly system was headache enough: keeping the information updated, making changes, going into the same files over and over again required patience and perseverance.

Before 1985, the Teacher Service Unit (TSU) of Lesotho's Ministry of Education

was burdened with this very scenario as it attempted to handle the financial management and administration of Lesotho's 7200 primary and secondary school teachers, accommodate 16,000 individual personnel files, help recruit and evaluate prospective teacher candidates, provide accurate financial requirements for budgetary purposes, maintain a financial accounting system to record all monthly receipts and expenditures, and ensure that all teachers were paid on time. It is also TSU's responsibility to make certain that teachers are paid accurately, taking into account pay raises, maternity leaves, transfers, special allowances, deductions, resignations, promotions, demotions and other salary and employee adjustments. All of these functions were carried out without any computer assistance. TSU was unable to keep abreast of the frequent changes to teacher personnel records submitted by Lesotho's 1160 primary schools and 123 secondary schools. In fact, TSU was often the last to be informed of any substantive changes in teaching positions.

As a result, teachers did not always receive their paychecks on time, and payroll checks often did not reflect correct salaries. Furthermore, TSU could not produce accurate management reports to the Ministry of Education.

TEACHER PERSONNEL MANAGEMENT INFORMATION SYSTEM

In 1985, TSU began an intensive program to upgrade and improve how it was handling the continual flow of teacher information and statistics. Under BANFES, TSU was provided the technical assistance of a management specialist and systems analyst. Working in cooperation with the Ministry of Education and TSU's professional staff, a needs assessment was designed to determine what specifications had to be met to develop a computerized management information system.

Taking into account TSU's ministerial functions and the service it renders to Lesotho's teachers, data base needs were identified for the Teacher Personnel Management Information System (TPMIS). Computer hardware and software were acquired, and five TSU staff members were trained to operate the system.

TPMIS contains the following data base information:

1. employee number
2. name
3. qualifications*
4. year of birth
5. years of experience
6. sex
7. scale
8. paypoint
9. annual salary
10. mountain allowance
11. responsibility allowance
12. special allowance
13. other allowance
14. overpayment deductions
15. pay as you earn
16. insurance deductions
17. compulsory deduction
18. other deduction 5

19. other deduction 6
20. increment date
21. basic pay
22. net pay

* There are forty-two academic qualification levels, ranging from 1-Primary School Education, to 42-Honours Degree plus Post-Graduate Certificate in Education.

Reports generated from the data base provide managers and planners with relevant data needed to produce correct and timely salary payments and set accurate establishment lists and financial projections for every school in Lesotho. TPMIS can collect, organize, generate and analyze personnel information, producing such reports as:

- numbers of teachers who have reached their maximum salary level and which teachers are due increments, thus allowing TSU to determine cost projections on a monthly and annual basis;
- age profiles to determine projected staff needs due to such factors as retirement, enabling school managers to project cost-gain or loss involved in replacement;
- the number of teachers at each level, the cost of each level, and the total cost of all levels. With this information TSU and the Ministry of Education can determine if the education system is being diluted with too many lower-grade certificates or if they are spending too much because the curve is skewed to the high salaries. This report determines the real advantage salary and also provides additional information for preparation of estimates.

TPMIS is only as good as the information it receives from school managers. School managers receive a monthly package from TSU which includes payroll checks for teachers assigned to their school (or schools) and a computer printout of each teachers name and relevant data. Each teacher must sign his or her name next to their individual listing at the time they personally receive their paycheck. Before returning the printout to TSU, the school managers must also make corrections to the teacher list; i.e. adding or deleting names, salary adjustments, etc. School managers are also expected to notify TSU whenever other personnel changes occur, such as maternity leaves, retirements, deaths, changes in status with academic credentials and special allowance adjustments. This flow of communication between school managers and TSU is a vital link to the success of TPMIS. TSU has worked closely with Educational Secretaries at the Anglican, Catholic and Lesotho Evangelistic Churches (which

represent approximately 99% of Lesotho's primary and secondary schools) to help school managers become aware of the importance in keeping TSU informed about personnel changes. As a result, TSU's staff make 150 changes a day to the TPMIS data base, changes that can be made quickly and efficiently to ensure correct and timely paychecks to Lesotho's teachers.

Given the information provided by TSU, Lesotho's Treasury produce computerized paychecks. It is TSU's goal to be able to produce a disc on a monthly basis for the Treasury that includes all updated teacher data necessary to produce individual checks ready for send-out. With the help of the BANFES systems analyst, the statistics and planning division at the National Curriculum Development Center is developing a compatible link between computers at TSU and the Ministry of Education which will help allow this goal to become realized.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

THABA-TSEKA SKILLS TRAINING CENTRE

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe one of several significant initiatives of the Basic and Non-Formal Education Systems Project (BANFES). BANFES is a project of the Lesotho Ministry of Education in cooperation with USAID.

Thaba-Tseka is located in Lesotho's Central Mountain Range, approximately 170 kilometres from the lowland capital city of Maseru. While the distance is not great in terms of kilometres, the unpaved, winding mountain road from Maseru necessitates an average of four to five hours driving time.

Other roads far more steep and treacherous also lead to Thaba-Tseka, which sits like a hub in the middle of the country. Funds from the Lesotho and Canadian government helped Thaba-Tseka build an infrastructure of roads, schools, housing, government buildings and utilities. Today, Thaba-Tseka is an important regional centre and the services it provides are critical to the smaller mountain communities which surround it. Thaba-Tseka has trading stores, a hospital and medical clinic, several schools, government and training facilities.

The Thaba-Tseka Skills Training Centre (TSTE) plays an important role in the

region as its main objective is to address the needs of the rural community. This vocational training and non-formal education institution first offered training in July, 1985 and principally serves students from rural mountain areas, although applications for enrollment are also received from lowland communities. Based in the centre of the community, TSTC is a modern, attractive facility composed of classrooms, workshop, offices, dining and dormitory halls.

Students who attend TSTC generally have very limited formal education and work experience. As a result, most students have few options for advanced educational or skills training. TSTC focuses its training programmes on teaching meaningful skills or trades that can be used in finding employment. Due to limited employment opportunities in the mountain region, many graduates use their newly acquired skills to generate their own employment. Courses include leatherwork, knitting and sewing, carpentry and furniture-making, building construction and metal work. Basic math, business and English courses are also offered. The basic math and English courses upgrade and improve the English and mathematical skills of the students, and the business skills such as costing, estimating, recordkeeping and marketing. Additionally, these courses are taught to be compatible with the individual vocational courses.

Funds from the World Bank provided the necessary capital to construct the TSTC

facility and purchase basic equipment, tools and training materials. As a training institution, TSTC is administered by Lesotho's Ministry of Education. The Ministry asked the United States Agency for International Development (USAID) to assist the government in providing necessary operating costs to TSTC. Beginning in 1985, USAID-funded BANFES Project (Basic and Non-Formal Education Systems) provided technical assistance and operating funds to TSTC.

The policy of TSTC is to accept people of all ages, through priority is given to applicants (over 18 years). There are no minimum educational requirements. The average age of the trainees is twenty-three, and Standard Seven is the average level of education. Female applicants outnumber male applicants three to one. Although the majority of the students are females, who traditionally have more formal education than males, the school tries to maintain a fairly even student population of half male/half female. Most of the male trainees were herd boys whose formal schooling was often interrupted due to their responsibilities to family herds. M.C. Moteane, TSTC Director, states: "The trainees low education and skill levels prevent them from getting into other schools. For many, TSTC is the only answer to acquiring new or improved skills so they can find better jobs, or ANY job."

Because TSTC is a new institution, student enrollment is still low. There were thirty-eight graduates in 1986, and sixty graduates in 1987. It must be noted, however, that almost 90% of the students who initially enrolled graduated, a remarkable percentage. Radio announcements, brochures and village pitsos (village gatherings) have been used to 'spread the word' about TSTC; however, TSTC administrators realize that

the future image of the school will come from its own graduates.

Lepokola Qacha, TSTC Manager for the Business Centre and Community Liaison Office, states: "The graduates are our best advertisers. Because of the nature of our school, we receive several trainees who are considered unemployable. They have little to offer. A trainee can graduate from one of our programmes and do something the village never expected. The graduate has gained a new respect in his community and the community becomes interested in TSTC. Soon others want to come."

Approximately half of the trainees are resident boarders who pay 200 maloti (approximately US\$100) a year for room, board and tuition. Non-resident trainees pay 120 maloti a year. Courses range from three to twelve months duration, and actual tuition is prorated to the course selected by the student (i.e., basic building construction - 12 months, full tuition: basic metalwork - 6 months, 60 maloti for day students, 100 maloti for boarders).

Its a full week for all trainees, as classes begin at 8 AM and run through the whole day. Further, everyone is expected to participate in helping maintain the school. Students help with maintenance and repairs, construction, decorating, grounds keeping and gardening. One-half day of each week is specifically set aside for these student activities. This student participation helps TSTC keep its operational costs down, but more importantly students feel they are taking a responsible role in TSTCs maintenance and development.

In July, 1987, TSTC held a workshop for its first year's graduates. TSTC provided financial assistance for transportation to the workshop and twenty-six out of thirty-

eight graduates attended. The purpose of the workshop was to evaluate how effective TSTC's training had been for the graduates, what revisions to the training programmes were necessary and why, what specific problems the graduates were having and how they could be solved. That so many graduates chose to attend the workshop demonstrates the continued interest graduates have in TSTC. Additionally, it shows that many of the graduates want TSTC to help them in their work efforts.

The TSTC Business Centre and Community Liaison Office has played an important role in identifying how TSTC impacts the local community and region and what graduates need in order to succeed. The Business Centre attempts to link graduates with employment opportunities as well as keeping local employers informed about on-going training programmes. The Business Centre hopes to form a credit union to assist students who need loans to start their own businesses. A TSTC cooperative is also being planned to generate business opportunities. The Business Centre is considering additional training programmes that former graduates can benefit from such as

marketing, transport planning and costing, inventory control and product-costing.

"We are a new school. Sometimes we must simply test and try" states Moteane. "Each year we learn something new about what our graduates need. There was no blueprint in this country for this type of school, but I do believe we are succeeding. For example, we learned from our first graduates that several wanted training beyond a basic vocational course. For the first time we are now offering advanced courses."

Lesotho has several technical training schools with higher standards of admission. The schools offer a fixed curriculum in specific trades. Many of TSTC's students would not meet the basic admission requirements.

"We are unique" states Ache. "We are the only vocational school in the country focused on meeting the needs of a population that really has nowhere else to go for further job-skill training. We need to be flexible to meet their needs. We do not want to close doors to the rural people we are trying to serve. We are their only opportunity."

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Donovan Russell, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
(202) 862-1956

A Project ABEL Information Bulletin

LEARNING TECHNOLOGIES FOR BASIC EDUCATION

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs that follow describe the new Learning Technologies for Basic Education Project (LearnTech).

National commitment to universal and high-quality basic education continues to grow throughout the developing world. This commitment is constrained by too few and undertrained teachers, limited access to schools and insufficient or low-quality teaching materials.

The Learning Technologies for Basic Education Project (LearnTech) supports developing country Ministries of Education, international donors and non-governmental organizations in the appropriate use of technologies to address critical needs in basic education, teacher training and out-of-school learning for young people and adults. The project aims to assist these entities find, adapt, test and implement innovative and practical technologies to improve educational quality and pupil access.

Effective Applications of Learning Technologies

Technologies are not "the" answer to the myriad of educational problems in developing countries. If used wisely, however, they can be a powerful intervention to improve educational quality and access. Some of the guiding principles of LearnTech include:

- the technology must be a response to specific local educational needs;
- the technology must be appropriate in terms of level of available resources;
- from the beginning, activities must plan for wide-scale implementation and long-term sustainability;
- the curriculum must be created using a systematic and effective development process, drawing on sound pedagogical principles;
- the participation and support of teachers is essential.

LearnTech Matches Technologies to Conditions

LearnTech brings to existing and new projects and clients a wide range of innovative technology options and proven instructional methods. Creative strategies match or tailor the innovations to fit project designs reflecting strong cultural and environmental sensitivity to local participation.

LearnTech's experience and expertise concentrate on helping others to learn and apply an appropriate and sustainable mix of innovative instructional methods and learning technologies. In this way, local solutions are sought to meet the challenges facing many national educational systems.

Interactive Radio Instruction

Interactive radio instruction (IRI) is teaching 600,000 children in ten countries in Latin America, Africa and Asia. Highly effective and low cost IRI programs teach mathematics, health, science, English as a second language, and reading in Spanish. An environmental education program is planned for 1991.

A key to the success of the IRI programs is the active participation of the children. Through highly structured scripts, the children respond by speaking, writing, reading and manipulating materials.

IRI lessons are typically directed to traditional classrooms; but IRI is also used to provide primary school education in communities where there are no schools. In one Latin American village-based IRI project, radio lessons are the sole channel for basic primary education.

Solving Critical Needs with Other Technologies

The array of tools LearnTech draws on include:

- printed programmed materials,
- interactive distance education for teachers,
- audio and video tape training courses,
- self-instructional materials,
- small electronic learning devices,
- instructional television, and
- computers for instructional purposes.

For example, LearnTech will develop a low cost Expert Teacher's Guide to assist math teachers who are underqualified or who work in classrooms with few textbooks. The Guide is derived from the highly successful interactive radio mathematics curriculum and will be particularly useful where radios are not affordable.

In countries where the infrastructure exists for TV, LearnTech can apply its proven principles of instructional design to create highly effective programs.

For countries that wish to develop or expand the use of computers in schools, LearnTech brings extensive experience, from both the U.S. and overseas.

LearnTech is also combining technologies such as IRI with small electronic devices for teaching mathematics and reading.

Teacher Training -- A Key to Success

The LearnTech consortium has extensive experience in distance education and teacher training programs. The project uses cost-effective technologies to reach teachers in their own communities and to support supervisors who provide training at the local level. In one Central American country, LearnTech is creating a series of half-hour radio programs for teachers that focus on specific problem areas in teaching mathematics. The LearnTech Project will also develop

innovative teacher training programs using video technology.

LearnTech Project Services

LearnTech can provide **state-of-the-art information on learning technologies, instructional materials and short- and long-term assistance** in a wide spectrum of learning and instructional areas including: distance education, teacher training, curricula design, materials development, teacher/supervisor training, schools broadcasting, facilitation of workshops, costs and feasibility studies and project evaluation.

The LearnTech Project is funded through the Office of Education, Bureau for Science and Technology of the U.S. Agency for International Development. The project is administered by the Education Development Center (EDC), a highly respected organization with over thirty years of experience in educational innovation. For LearnTech, EDC has invited leading institutions from the United States, Canada, Chile, Ecuador, England and Honduras to provide expertise and skills to help meet the specialized needs of clients.

FOR MORE INFORMATION, CONTACT:

Dr. Thomas D. Tilson, Director
Learning Technologies for Basic Education Project
Education Development Center, Inc.
55 Chapel Street
Newton, MA 02160 USA
TEL (617)969-7100
FAX (617)332-6405
TELEX 6504446693 MCI VW

The members of the Educational Development Center consortium are: Academy for Educational Development, Institute for International Research, Friend Dialogues of North Carolina, Intercultural Communication, Inc., Applied Communication Technology, AVANCE, CIDE, CIESPAL, Commonwealth of Learning, Development Technologies, Electronic Learning Facilitators, Interactive Image Associates, Interlock Media, International Extension College and Real World Productions.

Prepared for:
The Advancing Basic Education and Literacy Project
Project No. 936-5832
Contract No. DPE 5832-Z-00-9032-00

A Project ABEL Information Bulletin

CLASSROOM IN A SUITCASE

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe a teacher training program developed by the Vikramshila Education Resource Center in the state of West Bengal, India.

Within India, standards of living vary greatly from urban to rural areas and from urban "developed" to urban "slum" areas. This duality is also apparent in the education sector. The quality of the urban slum and rural village schools lags far behind that of the urban "established" schools.

In recent years, the Government of India has set the goal of universal functional literacy in all areas of society. The government has had to rely increasingly upon Non-formal Education Programs. The Vikramshila Education Resource Center, working within the realm of non-formal education, has developed a program to train teachers in the slum and rural schools of West Bengal.

SCHOOL CONDITIONS

Conditions within these schools are not conducive to learning. There is: overcrowding, high teacher/student ratios; little to no instructional materials (those which exist are shoddy and unattractive);

and, ill-equipped teachers with little broadbased education themselves and no exposure to new pedagogical methods. The classrooms are filled with inertia and passive learning. The teacher drones. The child parrots. As a result, dropout rates are high, especially for girls.

To overcome these obstacles, workers at Vikramshila developed a program that: 1) trains teachers at the grassroots level, 2) develops materials to help the teacher use their newly acquired skills, and 3) monitors and evaluates teachers' performance to ensure quality--continuously modifying the program as necessary.

PRIMARY EDUCATION KIT

The Vikramshila program adapts Montessorian methods to the needs of Indian rural and slum schools. The program stresses activity, self-initiated learning, small group learning and hands-on manipulative learning. Realizing that non-formal education programs frequently lack the fixed space of a classroom, the workers designed a kit which acts as a mobile classroom--a classroom in a suitcase.

The kit had to be pedagogically sound, sturdy, easy to maintain and repair, easy to use and attractive. Attractiveness would make the child desire to use it and draw the child to it, so that while he considers it play, learning occurs.

The kit contains a myriad of materials which can be used to teach various concepts. The materials are colorful, bright, appealing to children and durable enough to endure extensive use. The kit stresses the development of concepts by the child doing for himself and actually manipulating the materials to see "how it happens".

The developers worked from the premise that even a three-year old has a fairly large number of words acquired from home and neighborhood. Working along the phonetics route, plastic squares with combinations of letters painted on them are used. By linking the squares to develop words, the child is able to go from familiar concrete words to the recognition of letters through sound.

In Mathematics, again, the child works from the concrete materials to the abstract numeral. First, cards which show objects in quantities from 1 to 9 are introduced. Then, corresponding cards with the symbols 1 through 9 are presented.

The immediate environment is used extensively for a variety of purposes. Flashcards depicting common items (e.g. animals, plants, toys...) easily slide in and out of a plastic display board. These can be used to illustrate the sounds of letters by grouping pictures with common vowel or consonant sounds. Or, the flashcards can be used simply to enhance topic discussions.

These are only a few examples of what can be taught. The kit also contains: spindles and beads for counting lessons; color tablets for color identification; and, a sequencing board for use in teaching numerical sequences and multiplication.

At this stage, the kit is geared toward the pre-primary level but can easily be built upon for upper levels. It can be used in any language and in any country because

it is designed to help establish "connection in the mind"— the essence of learning throughout the world.

TEACHER TRAINING

Year One of the Vikramshila teacher training program, centers on training teachers to use the kit within the four-fold curriculum content of: Mother Tongue, English, Mathematics and Environmental Studies.

The program consists of 18 days of training spaced over the year so as not to inundate the teachers with a plethora of new ideas causing faulty assimilation of skills. The semester of training would be as follows:

<u>Month</u>	<u># Days</u>	<u>Topic</u>
1	3	Mother tongue
3	3	Mathematics
5	2	Environment
7	2	English
9	2	Mother tongue Reinforcement
11	2	Mathematics Reinforcement
12	2	English & Environment Reinforcement
	2	Evaluative Techniques

The periods between trainings give teachers the chance to internalize new techniques and take active hold of them. These periods are also used for school visits and assessing teachers' growth and facility in using the new skills. If some of the techniques fail to take root, they are discussed in future sessions.

In Year Two of the program, 30 selected trainee teachers go through an intensive and exhaustive 52-day training, again, spaced out. This program has large inputs of theory, child psychology and pedagogical concepts underlying practical skills to ensure they have a broad and deep-rooted knowledge of Early

Childhood Education: This group of trainers would then replace the two Vikramshila trainers, repeating and thus expanding the program to new teachers.

RESULTS

The program has been in operation for one and one-half years. Thus far, results have been quite significant. In the 50 rural villages, 130 pre-primary teachers and 50 supervisors have completed the Year One phase of training; within the inner city slums, 65 teachers were trained. Class size within these schools averages 45 students per teacher. Therefore, over 11,000 children have benefitted from the program. In addition, 75 Early Childhood Learning Centers use the kit and 35 more have expressed interest.

Attitude of all involved have changed substantially. Children now enjoy school: they are more attentive and eager to learn. Teachers are much more enthusiastic. Even parents, who at first were quite concerned that their children were playing and not learning, notice marked improvement in their children.

The trainers at Vikramshila note that whatever materials, instruction, etc. they supply, it is the enthusiasm for the profession and the desire to be able practitioners that drives teachers to overcome the substandard conditions they face in order to supply quality education to children.

.....

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Chhanda Bose
Education Specialist
Vikramshila Education Resource Center
Flat 5E Avenue House
107 Southern Avenue
Calcutta 700 029 INDIA
91-33-460-729

or

Donovan Russell or Barbara Williams
Project ABEL
Academy for Educational Development
1255 23rd Street, NW
Washington, DC 20037 U.S.A.
202-862-1900

The Advancing Basic Education and Literacy Project
Project No. 936-5832
Contract No. DPE 5832-z-00-9032-00

BEST AVAILABLE COPY

A Project ABEL Information Bulletin

The Economic and Social Impact of Girls' Education in Developing Countries

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The following is a summary of the purpose and findings of a recent literature review entitled, "The Economic and Social Impact of Girls' Education in Developing Countries".

Since the 1960s, one of the principal goals of educational policy in African, Asian and Latin American countries has been to improve and extend access to education. In the last 25 years, both the absolute numbers and the percentages of children in school have risen in developing countries, with enrollments increasing from 298 million in 1965 to 482 million in 1985. In spite of these achievements, however, factors such as increasing numbers of school age children and high repeat rates among primary level enrollees support the need for continued educational expansion for children in developing countries.

In addition to the growing numbers of primary level children needing education, there is a wide range of educational experiences and a wide range of educational quality among and even within developing countries. Also, girls' education continues to lag well behind boys'. In periods characterized by slow economic growth, high population growth rates and severe budgetary constraints, the questions of education, access and expansion pose even greater challenges to governments and policymakers alike.

Although education access, quality and equity remain major concerns, recent research has begun to focus on the impact of education on the lives of those children who have received it. Obstacles to female education continue to persist in terms of perceived irrelevance of educating girls, cultural attitudes and expectation about girls, and educational practices utilized within the schools. If these obstacles are to be overcome, it is extremely important to bring together evidence about what the impact of schooling on girls has been. While there is an abundance of data to show that primary education has an impact on areas such as family health and infant mortality, evidence has not been compiled to show that girls' education can result in economic and social benefits as well.

In acknowledging this information gap, the U.S. Agency for International Development, under the ABEL Project, conducted a review of world literature on the relationship between girls' primary education and social and economic development.

PURPOSE

The purpose of the review was to explore the evidence that exists on the economic and social impacts of girls' education. Because the largest numbers of children in developing countries are in primary education, researchers focused on primary rather than secondary or tertiary education. Technical experts reviewed research not only in those areas where the impact of girls' primary education has already been established,

but also in those areas where the research is limited and scattered.

More specifically, this review addresses four major questions:

- 1) How does education affect women's productivity in the wide range of economic activities in which they are engaged, namely, as members of the labor force, as participants in the informal sector and as principal producers of home consumption goods and services?
- 2) In what context(s) and in what way(s) does girls' education increase women's contribution of the national objectives of economic growth and development and to the well-being of their communities (rural or urban), their families and themselves?
- 3) How does educating a girl affect her in such a manner that she causes changes in her society? What skills are acquired, what attitudes are changed and what shifts in status and power occur?
- 4) In what contexts and in what ways does educating girls lead to an impact on the larger society? What differences in impact are found according to variations in rural/urban setting, class or culture?

FINDINGS

The overall impact of girls' primary education is the result of an interplay of economic and social outcomes. Primary education enhances women's ability to perform the multitude of economic activities in which they are engaged and to learn new methods that vitally contribute to the economic development and well-being of their families and themselves. Mastery of literacy, numeracy, communication and information-processing skills prepares women to be more productive in the formal and informal sectors of the workforce. With these skills, women are more likely to assume new economic activities, search for jobs or engage in their own microbusinesses.

The private and social returns to education for women are (at least) likely to be as great as for men, when returns to education are defined in the narrow sense of monetary earnings. This means that women, like men, receive direct economic benefits from their education in the form of higher lifetime earnings and, society and the community benefit from their higher productivity as members of the labor force. But, this is only part of the story.

Women's nonmarket work also has a significant and positive economic value even though this is not usually measured for purposes of national income accounting. Thus, if some allowance is made for both the direct and indirect economic benefits of education to women as independent income earners, to their families and to the country as a whole, then even the high social and private returns to girls' primary education underestimates the true value of girls' primary education. These contributions are even more significant in countries experiencing economic recessions.

Recent findings leave little doubt that women's education also has a powerful social impact. In addition to the more traditionally measured impacts that focus on correlations between girls' education and decreased fertility, increased child health and decreased child mortality, there is a growing literature on the positive impact of education on a woman's own life. New skills and attitudes learned in school, plus the confidence-building social experience of schooling, change girls in ways that affect the society as a whole. Primary education not only provides girls with literacy and numeracy skills but also leads to desires for fewer children and the education of those children. In addition, schooling passes on skills that women can use to improve the health of their families. Education, and especially education plus an independent income, increases women's decision-making power. Women's ability to make decisions about their own fertility, their children's care and education and their own economic and social activities is essential in order for the skills and attitudes education has given them to have an impact on society.

More specifically, girls' primary education generally has the following impacts:

- o **Girls' primary education results in more active participation by women in the labor force, whether in rural or urban areas. The level of participation, however, is influenced by a variety of factors including age, culture, type of industrialization, gender discrimination and women's access to complementary resources, such as land, capital and technical training.**
- o **Girls' primary education results in better skills, making girls more able to learn new methods of operation that in turn make them more productive members of the labor force. Such potential is only realized, however, if the employment opportunities for women exist. These opportunities are afforded if broad-based rural development strategy, industry dispersal and gender discrimination in hiring women especially in semi-skilled and skilled jobs are addressed. Moreover, the type of industry promotion--whether labor-intensive or not, sex-stratified or not, sustainable or not--and the type of working conditions, i.e., the presence or absence of sex discrimination in promotions, health factors and the safety of the environment under which women workers operate, determine whether employment leads to higher wage earnings and to a longer productive life.**
- o **Girls' primary education is a necessary, but by no means, sufficient ingredient for increased access to credit and vocational and training programs. Girls' primary education can also lead to higher profits especially in self-employed and informal sector activities, which are more demanding in literacy, numeracy and problem-solving skills. Education may not make as much of a positive impact when women are engaged in traditional activities that primarily rely on hands-on experience or when the activities they are engaged in are constrained by the availability of capital resources.**
- o **As principals in home production activities, women with education increase their**

production of nonmarketed goods, leading to improved childrearing practices, better family health, greater consumer choice efficiency and lower fertility.

- o **Education alters girls skills, such as literacy and numeracy, and gives them specific knowledge, such as information that leads to improved health care. Education, in most cases, leads to a desire for fewer children and the education of those children. Education also leads to a preference for urban life and opportunities.**
- o **There may be a variation in the social impact of education on girls of different socioeconomic backgrounds. While on the one hand, high- and middle-class girls appear to demonstrate more beneficial consequences as a result of their education, especially secondary and tertiary, in terms of their ability to use it to secure jobs and increase income, on the other hand, the actual relative power and status changes in their lives as a result of schooling, may, in fact, be less than those experienced by working-class women.**
- o **The cultural context in which the girls receive their education influences their ability to use what they have learned and the type of education that they receive. When traditional cultural patterns include female control of resources and activities in the public sphere, then only access to education and opportunities to earn an independent income appear to be necessary for women to increase their status and have a social impact.**

The positive outcomes of girls' primary education are therefore conditioned by the prevailing economic, social and cultural environments. In particular, the degree to which the basic skills and attitude changes produced by education enhance social and economic development largely depend on several factors including, but not limited to, age; type of economic policies; distribution of resources, especially land and credit; gender discrimination; cultural and social norms; and, socioeconomic background.

The review, entitled The Economic and Social Impact of Girls' Education in Developing Countries, will be available May 1, 1991. To request a copy, or, for more information on girls' education, contact:

Ms. May Rihani
Associate Director, Project ABEL
Creative Associates International
5301 Wisconsin Avenue, NW
7th Floor
Washington, DC 20016 USA
(202) 966-5804

Sponsored by the S&T/ED Bureau of Agency for International Development, Project ABEL assists USAID Missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

Project No. 936-5832
Contract No. DPE 5832-z-00-9032-00

A Project ABEL Information Bulletin

RESTRUCTURING A U.S. SCHOOL

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

The paragraphs which follow describe a school in the United States--a special school, which, when faced with poor prospects, initiated an innovative project to improve the quality of education offered.

The perception in the United States is that its schools are not as effective as they could be, nor are they as good as they once were. To address this concern, a number of governmental agencies and foundations undertook studies in the 1980s to address concerns about schooling in the U.S.. One such study sponsored by the Carnegie Foundation, entitled A Nation Prepared: Teachers for the 21st Century, presented the idea that to make schools better, schools had to change what they taught, how teachers functioned, how principals functioned and how decisions were made.

As U.S. education has tried to reform itself, three major themes have become central to the reform effort:

Restructuring--the process whereby a school changes its basic organization, as well as the relationships among people in the organization;

Empowerment--the process of moving the decision-making power lower in the organization, so that the people in the best position to know how a decision will affect others are able to make those decisions;

Accountability--the process by which the organization verifies to its constituents that it is accomplishing what it has set out to accomplish.

These three major themes compelled the staff of Toler-Oak Hill School near Oxford, North Carolina to vote to become a lighthouse project in school reform.

TOLER-OAK HILL SCHOOL

Once a school for black students during the days of segregation, Toler-Oak Hill is a small, mostly minority school of approximately 270 students. Four years ago, the Oak Hill community was approximately 50% illiterate and most of the families lived below the poverty level. Over 90% of the children who attended school qualified for free or reduced-price lunch from the government. Toler-Oak Hill, being quite isolated from the mainstream of the surrounding community, had become the school that people forgot. It was a school that had every reason to fail, but, it didn't!

The reason the school refused to accept failure was due to its decision to enter into a new and challenging program, called PROJECT DESIGN. This program

established a basic exchange between Toler-Oak Hill and the School Board. The school staff would take on more responsibility for student performance and, in return, would be given near total freedom to organize the school as THEY thought best.

RESTRUCTURING & EMPOWERMENT

One of the first developments was the creation of a position called LEAD TEACHER. This person would be a master teacher with some time off from the classroom to assist other teachers and to assume more leadership in how the school's curriculum is organized. Toler-Oak Hill elected two lead teachers, dividing the teaching staff into two "teams". The two lead teachers along with the school principal became the leadership team for the school.

The lead teachers took the responsibility for building the master schedule, for helping teachers learn to use test scores better and for arranging staff development activities that teachers needed or requested. They conducted classroom observation, not to evaluate, but to learn what other teachers were doing. They handled textbook, instructional supply and instructional material orders, while still teaching students for half of the day.

The role of the principal changed because two other people now handled part of his previous duties. Toler-Oak Hill's principal began to focus on the managing aspects, e.g. budgets, reports, attendance, transportation, discipline, food services and teacher evaluations. The principal, however, did not abdicate responsibility for instructional leadership; rather, he shared it with the lead teachers, who, in turn, shared it with the members of their respective teams. The principal became an influencer of the curriculum, rather

than a director of the curriculum.

ACCOUNTABILITY

The next development was a far-reaching accountability plan that included much more than reports on standardized test scores. It included attendance reports, records of parent contacts, assessment of faculty morale, measures of student and parent attitudes toward school, incidence of discipline referrals and students' grades. Toler-Oak Hill also opened its doors to visitors who came to observe the new system and to learn first hand. It was a bold statement for a school to publicly reveal how it had performed on the goals it had set forth for itself.

Other elements of the plan included the use of an outside monitor, a person not in the school or school system who would make periodic visits, gather information on how the school seemed to be doing and report those findings to the leadership team and the faculty. The two teams of teachers developed a means to discuss and vote on major decisions that would affect them. Finally, the school agreed to define an annual critical objective, for example, "To increase parent involvement, I will make at least one face-to-face contact with each of my homeroom student's parents". Those who achieved the objective would receive a small bonus.

The excitement in implementing the plan was electric. Like anything new, the excitement became mixed with anxiety, as mistakes were made, as poor judgements were turned into poorer decisions and as the whole school grappled with the time-consuming effort of participating in the decision-making process. Teachers spent much more time involved in school improvement and accountability than before. However, frustration turned to satisfaction as the teachers became more adept at being in the middle of decisions, rather than on the outside. Students felt

positive effects as the teachers became more disciplined, better organized and more enthusiastic in their teaching. Even parents, who had seldom bothered to come to school for any reason (other than a negative one), were now participating and volunteering whenever they could. It took time, but the metamorphosis was happening--Toler-Oak Hill was becoming a "different" school.

ACCOMPLISHMENTS

In the four years since the implementation of PROJECT DESIGN, the school has accomplished many things. Among the most noteworthy are:

1. Increased parent involvement. When the project started, there were two parent volunteers--there are now over 40;
2. Modified grouping practices. The school moved from grade-level/ability grouping to grouping based on developmental considerations, such as, how ready the child is for the next set of concepts. In this way, students are more likely to be in classes where they can succeed;
3. Increased teacher involvement in the development of school policy. Teachers were involved in determining the school mission statement, instructional priorities and program initiatives;
4. Adoption of cooperative learning activities within the entire curriculum;

5. Development of a system for reporting to parents every 4 1/2 weeks, instead of every nine weeks;
6. Higher achievement scores, higher attendance and higher performance on state-mandated assessments.

The progress gained under this program was obvious when the superintendent told the faculty and community that they would be responsible for recommending the next principal. The faculty selected a search committee, arranged training, conducted the search, interviewed the candidates, visited the candidates home locations and made their recommendation to the superintendent and School Board. Their choice was selected and is the new principal.

The experiment is now over and the special funding for undertaking PROJECT DESIGN at Toler-Oak Hill School has ended. The flow of visitors has slowed to a trickle and the school district has a new superintendent. Yet, the spirit of Toler-Oak Hill is still very much in evidence. The faculty still engage in wonderful debates and the principal and lead teacher (now one) work in harmony to maintain the spirit that took four years to nurture. The children are happy and parents still turn out to visit their school. It is no longer the school people forgot: Toler-Oak Hill is a lighthouse, guiding others to better ways of teaching students.

For further information please contact:

Kenneth D. Jenkins, Ed.D.
School of Education
Appalachian State University
Boone, North Carolina 28608 USA

or

Barbara Williams
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037 USA
(202) 862-1900

Sponsored by the U.S. Agency for International Development S&T/ED and PPC/WID Offices in cooperation with the agency's regional bureaus, Project ABEL assists USAID Missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

Project No. 936-5832
Contract No. DPE 5832-Z-00-9032-00

A Project ABEL Information Bulletin

System to Help Access Reports of Effective Education (SHARE)

This is the latest in the series of Project ABEL Information Bulletins. The purpose of the bulletins is to share practical and relevant information on basic education initiatives worldwide with the end-result of generating dialogue about and inspiring innovation in basic education reform.

When developing an educational reform program, it is somewhat easy to determine the overall goals. But how do reformers know what policies to enact to best reach those goals? For most, cost-effectiveness is crucial; also, the timeframe for measured change can be vital.

The following paragraphs highlight a software system developed by the Harvard Institute for International Development that assists planners in conceptualizing the impact of certain policies on reaching educational goals.

GOAL-POLICY FRAMEWORK

In 1986, the Harvard Institute for International Development (HIID) set out to determine the cost-effectiveness of policies enacted under various basic education projects. In the process, the HIID group amassed a large body of knowledge on the efficacy of projects in realizing educational goals. The projects

studied differed in terms of the goals targeted. HIID noted that because of this difference, the policy areas emphasized differed as well. This insight led to the specification of a goal-policy framework. Using five general educational goals and eight broad policy areas through which the goals can be attained, the framework simulates the thought processes of an education practitioners' approach in developing educational initiatives.

The HIID staff abstracted the various projects classifying each in terms of the policies it emphasized in order to realize one or more of the five goals. HIID, in collaboration with the Research Triangle Institute, then designed a computer software program along the lines of the goal-policy framework to access these abstracts. The outcome is SHARE (A System to Help Access Reports of Effective Education), a compact knowledge base that can be readily installed in any IBM-compatible hard disk microcomputer and immediately utilized by a computer novice.

THE SHARE SYSTEM

SHARE helps educators access lessons learned on strategies for improving basic education in the developing world. Because of the original focus, the majority of the SHARE abstracts describe the "nuts and bolts" of educational projects that have been implemented over the past two

decades. HIID then expanded SHARE to include abstracts on research studies that rigorously examine the efficacy of particular practices, as well as, literature reviews which summarize varied experiences. Researchers around the world have contributed to the development of this system and because it is easy to update with new reports, it is hoped it will become a "SHARED" resource for the collection and the application of information on effective educational practices.

SIMPLE TO USE

SHARE's software begins with a brief description of procedures and then leads the user through six quick steps that access the relevant knowledge.

STEP 1: The user selects the goal area of greatest concern from a list of five goals--access/equity, quality, values education, internal efficiency or external efficiency.

STEP 2: The user identifies a policy domain germane to realizing the chosen goal from a list of eight widely recognized domains: family and community participation, facilities, teachers, curriculum, instructional technology, instructional methods, management/supervision or finance.

STEP 3: Several policy sub-areas then appear on the screen, from which, the user selects those of interest.

Upon completion of this step, the system summarizes the intersection of goal-policy-subpolicy choices that the user has made.

Next, the SHARE system displays the volume of knowledge accessible concerning the user's set of choices. It reports the number of project summaries, reports of research findings, literature reviews and theoretical studies. The user

may be encouraged by this report of knowledge availability and decide to proceed, or, the user may decide to go back and repeat the three steps to get an intersection with a greater volume of knowledge.

STEP 4: To proceed, the user chooses which (s)he wants to look at first: project reports, research findings, research reviews or theoretical studies.

If (s)he chooses project reports, a series of one sentence descriptive titles of relevant summaries appear on the screen.

For example, if the above intersection had been the goal of Access and the policy domain of Instructional Methods with the sub-area of Class size, the following descriptive titles might appear on the screen:

Class size was increased in order to improve access in Thailand.

Class size was reduced in order to improve access in Pakistan.

If the reader had indicated research findings, a similar list would appear except the titles would indicate the relational direction of the findings:

The reduction of class size led to increased access in Pakistan.

A request for research reviews would provide short summaries of the main theme of available reviews.

STEP 5: The user would then highlight those titles in which they are interested.

Upon completion of the highlighting, the system is prepared to exhibit the detailed descriptions of these projects, research findings, reviews and studies.

STEP 6: The user can view the information and has the option of printing the knowledge or storing it in a file for later retrieval. The system can also print a list of bibliographic references.

relevant literature. Librarians think of it as an indispensable resource for informing their users of studies that have been conducted but that are not readily available. SHARE also informs the user where to write to learn more about a relevant project or study.

EVALUATION

SHARE has been developed specifically by and for educational practitioners and is useful throughout all levels of education policy planning. Planners see it as a resource for stimulating ideas about new projects. Consultants think of it as an efficient way of reviewing available knowledge. For researchers it is a tool to ensure that they have covered all the

This system serves as a resource for all levels of educational policy development--from the initial research, through the planning stages on to actual enactment of policy by teachers within the classroom. Thus, the direct and immediate value of SHARE is to help active educators gain quick access to knowledge about what works in the challenging task of planning education for all.

The Advancing Basic Education and Literacy (ABEL) Project is funding HIID to continue updating the system's reports with the hope that it will soon come to include a significant proportion of all that is known about effective educational practices. It is sincerely hoped that more educators will contribute to improving this simple system for SHAREing vital knowledge about effective educational practices.

If you have reports that should be included, inquiries about the system or would like to request a copy of SHARE, please write to:

SHARE
Project ABEL
Harvard Institute for International Development
One Eliot Street
Cambridge, MA 02138

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

Project No. 936-5832
Contract No. DPE 5832-7-00-9032-00

A Project ABEL Information Bulletin

CURRICULUM REFORM IN EGYPT

This is one in a series of practical information bulletins disseminated by the Advancing Basic Education and Literacy Project (ABEL).

In recent years, the Egyptian Ministry of Education has enacted an education reform program to develop a basic education system that will produce a citizenry with the requisite skills for living productively in the dynamic society of present-day Egypt. The following paragraphs describe a curriculum development project undertaken as part of the overall reform. The process depicted can serve as a model for curriculum developers worldwide.

In Egypt, basic education was instituted for all citizens after the revolution of 1952. Today, primary schools enroll nearly 85% of those children eligible to attend. Yet the quality of education still falls short of national goals. One of the key problems faced by Egyptian schools reflects the cultural heritage of that society: with a long tradition of Qur'an schools as places where children were taught to read and recite the Qur'an. Today's schools apply this tradition of rote memorization and choral reading. Other obstacles reflect those of schools in many nations. The teacher/student ratio is high: some classrooms contain as many as 75 children. And, the curriculum is irrelevant to day-to-day Egyptian life.

Egypt's President Mubarek recently stated that the school's curriculum was overstuffed and in drastic need of reform. The government responded by instituting a reform program with the following long-range goals:

1. To make each Egyptian individual capable of coping with the changes of the future;
2. To develop a productive society;
3. To prepare a generation of scholars capable of inventing and adapting creative means to improving living standards.

The schools are now charged with training children for life by improving their problem-solving, decision-making and cooperative group work skills.

ENVIRONMENTAL STUDIES

The pre-existing curriculum for grades 1, 2 and 3 consisted of a textbook for each grade level that contained four chapters-- Social Studies, Science, Agriculture and Home Economics. There was no correlation across the subjects and the didactical nature of the texts' contents promoted rote memorization. What was needed was an integrated program that would link these four areas in ways that would help children see the relevance of their studies to their lives. Staff members from the Egypt National Center for

Curriculum Development chose Environmental Studies as the subject area under which the four areas would be integrated.

With the aforementioned larger goals of the Education Reform Program clearly enunciated, there were two primary objectives for the Environmental Studies Curriculum: 1) to devise a comprehensive scope and sequence chart that could direct curriculum development efforts and 2) to provide textbooks, teachers' guides and staff development programs for the implementation of these materials.

To accomplish the two goals, six specific tasks were completed.

First, the key ideas and topics were identified which were thought to reflect social studies, science, agriculture and home economics concepts suitable for primary age students.

Second, a conceptual framework was organized around themes that linked essential concepts with topics that would fit children's interests.

Third, syllabi were developed that included topics, objectives, explanation of concepts, suggested student activities and evaluation procedures. Those syllabi were then made available to the textbook writing teams to guide their work.

Fourth, time was spent revising and editing the syllabi to make certain they accurately reflected the concepts, children's interests and abilities and cultural expectations.

Fifth, text and teacher guide materials were generated by writing teams utilizing the syllabi.

Sixth, the instructional package of teacher's guide and student text were revised and prepared for field testing. This revision focused largely upon appropriately articulating concepts and generalizations in the Arabic language.

RESULTS

The result of this curriculum development process was a comprehensive scope and sequence containing the integration of concepts and topics across four subject matter areas. This was carried out through the collaborative efforts of author teams, editors, artists and technicians. Three texts, with accompanying teacher's guides, were produced by the teams:

Grade 1: Observing and Learning

Grade 2: The Environment Around Us

Grade 3: Windows on Life

These texts now match the world as children perceive it. As noted in the preface to the teacher's guide:

"The child sees the world as a whole...something to touch, to see, to taste, to hear, to smell. Those early perceptions take form as the small person interacts with his environment, his family and his community. When acting together, these subjects introduce the world to the child's curiosity as an inviting wonderland of colors, shapes, smells, feelings, experiences and relationships. The child becomes an active participant in his environment and life."

These instructional materials are now being field-tested in anticipation of their revision and publication for use in the 15,000 primary classrooms in Egypt in September 1991. Teachers who have participated in the field-testing of the staff

development program and the use of the textbooks and teacher's guides say:

"This curriculum asks the children to think and problem-solve, not just to memorize."

"The questions cause the children to think for themselves."

"Children are doing special homework projects and bringing them in even without being asked. They are doing more than is expected."

"This teacher's guide is so helpful. You ought to write all curriculum like this."

Remaining to be studied, however, is the extent to which a teacher with 75 students can indeed be successful in helping them become better problem-solvers and decision-makers.

LESSONS LEARNED

The successful implementation of a curriculum means that it must be "owned"

by its users and it must fit the cultural context in which it is being used. During discussions on identification of the concepts and topics, the Center's staff--each with a specific subject matter orientation--strengthened perceptions of their responsibility in developing a functional curriculum for the nation's children. The author teams were composed of Center staff, university faculty, MOE specialists and classroom teachers. Thus, educators from the Ministry to the actual teachers who would implement the curriculum acquired this sense of ownership as they developed the textbooks and guides.

The foregoing comments suggest a model for successful team-based curriculum development that can result in a product that is "owned" by the intended user. Essential elements in curriculum development/reform include: government support and cooperation; clearly defined goals; relevance to society; and collaboration among all levels of educators..

The Egypt National Center for Curriculum Development Project is a USAID-funded project administered by the Education Development Center, Inc. The purpose is to assist the Ministry of Education in the development of a comprehensive and integrated system for designing, evaluating, producing and disseminating curriculum and instructional materials for the Egyptian public school system. Drs. David Butts and Everett Keach of the University of Georgia served as consultants for the project described in this bulletin.

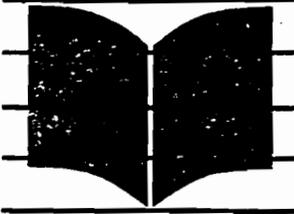
For more information, Dr. Butts and Dr. Keach can be reached at the College of Education, University of Georgia, Athens, GA, 30602 USA.

Or contact:

Barbara J. Williams
Project ABEL
Academy for Educational Development
1255 23rd Street, NW
Washington, DC 20037 USA

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium consisting of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

Project No. 936-5832
Contract No. DPE 5832-z-00-9032-00



ABEL Information Bulletin

IBM Education Projects and Courseware for ABEL: Innovations in the "Hard" Technologies of Learning

This paper reports on selected IBM education projects and courseware that have relevance to basic education. Specific innovations are discussed—Project Genesis in Costa Rica and the Writing to Read (WTR) Program in Asian/Pacific countries. The WTR Program was developed for kindergarten and elementary schools in both developing and developed countries. The Writing to Read Program is discussed with reference to its implementation in the following countries: Singapore, Malaysia, Thailand and the Philippines.

The ABEL Information Bulletin provides practical and relevant information about basic education initiatives and innovations in basic education reform in developing countries. The goal of the ABEL Information Bulletin is to communicate and disseminate proven tools, methods, and research findings about basic education programs.

In February 1987 Costa Rican President, Dr. Oscar Arias Sanchez invited computer manufacturers to recommend solutions to the country's early childhood development strategies. This resulted in a joint effort between IBM Costa Rica and the Costa Rican government. These efforts gave rise to *Project Genesis* designed to provide computer instruction to public school students from kindergarten through grade six.

At the core of *Project Genesis* is a computer language program called *Logo*. Through simple programming techniques, students can solve math problems, write stories, compose songs, draw pictures in color, and even animate drawings. Students work in pairs and discover, with the teacher, a computer tool for solving problems.

Initial funding of \$2.5 million for the program was provided by USAID, and administered through the Omar Dengo Foundation (FOD) a private non-profit organization whose primary goal is to improve the quality of education in Costa Rica through the introduction of computers in elementary schools. FOD has also created a Teaching and Research Center

and a collaborative program for the professional development of teachers.

Critical to the success of the project is an integrated program of teacher training and orientation under the guidance of Dr. Seymour Papert at M.I.T. and the establishment in Costa Rica of an IBM early education center. While evaluation studies are underway, early results indicate that children are more creative and motivated in working with computers. An improvement was also noted in spelling and writing.

WRITING TO READ

Writing to Read is a multi-sensory computer-based educational system designed to teach children how to write what they can say, and to read what they have written. Built upon the decades of work by John Henry Martin, this method builds writing and reading skills before a child has actually mastered the complexities of spelling in the English Language. The program has been introduced with great success in the Asia/South Pacific area, Singapore, Malaysia, Thailand and the Philippines. WTR encourages children to focus on the 42



phonemes or sounds of the alphabet, helping children to form words and construct sentences. The WTR program uses a specially equipped room in which children spend time learning at five distinct "learning" stations.

At the **Computer Station** children get hands on experience with computers, and work in pairs for peer interaction and peer tutoring. An IBM PC pronounces a single word and its phonemes using a voice-card while the screen shows a picture of the meaning of the word and its phonemic spelling.

Once children have completed the Computer Station they proceed to the **Work Journal Station** where they listen, as they write to a taped lesson about the sound of words they have already learned at the computer. This stage involves parental involvement as the child's progress is marked for parents to view.

The **Listening Library Station** is the next stage where children listen to recordings of selected children's literature as they follow the text. This interaction encourages children to feel comfortable with an array of words, thus enabling them to match their speed with written English.

The fourth stage is called the **Writing/Typing Station**. The typing area gives children a fast and easy method to express creative ideas. Children can build speed in recognizing letters and concentrate on the typed message. Children are also encouraged to use the typewriter or a primary editor which employs a simple word processing program. The

writing area is a special place where children express themselves freely and creatively on paper.

In the final stage, called **Make Words Station**, children are able to expand their vocabulary by discovering their ability to recombine letters to form new words. They work with games, and materials such as clay, sand and chalk.

WTR IN ASIA/SOUTH PACIFIC

Singapore has four implementation sites for the WTR program. Two are pilot projects started in 1987 in private kindergartens. The third site is a government-run kindergarten and the fourth a special school. A total of 70 Kindergarten II and 49 Kindergarten 1 children took part in the pilot project which lasted 16 weeks. After ten months of project implementation, it was found that children who had participated in the WTR program had superior reading and writing skills to children who did not participate. In spelling skills, WTR participants also had an advantage over their non-WTR counterparts.

. . . it was found that

children who had

participated in the WTR

program had superior

reading and writing skills

to children who

did not participate.

Bangkok, Thailand has two pilot centers and can accommodate 25 students at a time. Preliminary evaluations of WTR in Thailand indicate that there have been significant improvements. Students have become more expressive in English with an ability to write longer stories. At the Googkai Kindergarten teachers developed additional materials to supplement the WTR courseware. Vocabulary level is one example of a module written for local adaptation of the WTR. The Thailand experience of combining WTR with specialized vocabulary instruction sheds light on the use of the WTR program in non-English speaking societies in Asia and the Pacific.

In Malaysia, the pioneer of the WTR program is Ms. Nora Sulaiman who is Advisor to the Damansara WTR Center in Kuala Lumpur. The Center opened in March 1989 and trains 28 children from ages three to seven years. The Center has found superior performance over traditional methods and cite teacher training as a central ingredient to success. The Center plans to offer consultant and teacher-training services to other kindergartens and newly established centers in Sarawak.

Two WTR programs in the Philippines resulted in a partnership between IBM and Innotech, a regional center for educational innovation and technology. Innotech is one of two development centers established to improve the quality of education in Southeast Asia. Even though the WTR program does not specifically target spelling, in the Philippines as in other Asian countries, stu-



dents experienced increased competence in spelling.

In reading, writing a short story and spelling, the experimental group showed superior performance than the two control groups.

A preliminary assessment of the impact of WTR in the Philippines, Singapore and Hong Kong shows a significant improvement in

reading and writing skills for primary school children. At the Pinyahan School in Quezon City, Philippines, an evaluation conducted by Innotech showed remarkable achievement of the experimental group in language skills. In reading, writing a short story and spelling, the experimental group showed superior performance than the two control groups. The experimental group also showed significant achievement levels in spelling skills as compared to their counterparts. In Singapore the program proved beneficial for six-year-olds. In Thailand, it had more impact on students between six to nine years old. In Malaysia, three-year-olds

were able to use the program without much difficulty.

LESSONS LEARNED

WTR is just one of the innovations in basic education and a tool to improve writing and reading skills of young children. In addition to the Writing to Read Program IBM offers a variety of courseware programs in the area of reading/language arts, science, and mathematics.

WTR can be successfully implemented in other developed and developing countries. Its benefits in African countries and in Latin American countries no doubt would be similar to those observed in the countries described in this report.

The ABEL project is funded by the U.S. Agency for International Development (R&D/ED, R&D/WID) and operated by the Academy for Educational Development in consortium with Creative Associates International, Inc., Harvard Institute for International Development, and the Research Triangle Institute. For further information please contact the following ABEL staff:

Kurt Moses, Director, or Furhana A. Bhoola, Research and Training Specialist
Academy for Educational Development • 1255 23rd Street, N.W. • Washington, D.C. 20037
Telephone: (202) 862-1900 • Fax: (202) 862-1947 • Telex: 197601 ACADED WSH

The ABEL Information Bulletin is researched and written by Furhana A. Bhoola, Ph.D.



THE RADIO LANGUAGE ARTS PROJECT (RLAP) IN KENYA.

The ABEL Information Bulletin provides practical and relevant information about basic education initiatives and innovations in basic education reform in developing countries. The goal of the ABEL Information Bulletin is to communicate and disseminate proven tools, methods and research findings about basic education programs.

This Bulletin discusses the Radio Language Arts Project (RLAP) in Kenya. Since 1973, A.I.D.'s Bureau of Science and Technology/Office of Education has supported the design of an innovative and effective methodology for strengthening education in developing countries called Interactive Radio Instruction (IRI). The IRI model was conceived as a cost-effective way of providing high quality instruction to large numbers of students. IRI addresses four crucial issues in basic education: relevance, equity, access, and effectiveness. RLAP in Kenya was an integral part of the IRI Program designed to develop and validate models that provide solutions to educational problems through modern technology.

The US Agency for International Development (AID) recognized that many rural children were not receiving quality education mainly as a result of poor instruction and inefficient distribution of

material and human resources. AID identified radio as a potentially powerful, cost efficient medium for reaching isolated, disadvantaged populations. In August 1980, the Academy for Educational Development (AED) was contracted by the Agency for International Development to develop a radio-based instructional program for teaching English. The first activity under the Radio Language Arts Project (RLAP) was to assist in selecting an African site for the project. Because of its many native languages and its highly developed infrastructure, Kenya was chosen in 1981 as the location of the Radio Language Arts Project (RLAP) funded by USAID.

The goal of RLAP was to show that significant improvement is possible in the teaching of a second language in primary schools through radio-delivered teaching, instead of conventional classroom instruction. RLAP targeted children in rural schools who had little or no exposure to English. RLAP operated in seven different districts of the country, each of which had at least three representative schools in the project. The principal languages of the schools in these districts were: Swahili, Kamba, Maasai, Kikuyu, Kalenjin, Luo, and Luhya. The schools selected comprised three broad categories: those in which the majority of children spoke one mother tongue; those with significant minorities who spoke different

The Academy for Educational Development, Inc.
1255 23rd Street, N.W.
Washington, D.C. 20037
Telephone: (202) 862-1900
Fax: (202) 862-1947
Telex: 197601 ACADED WSH

In Consortium With:
Creative Associates International, Inc.
Harvard Institute for International Development
Research Triangle Institute

mother tongues; and one school with a variety of mother tongues, none of them dominant.

RLAP IN THE CLASSROOM

The core of RLAP were radio lessons designed to teach as much of the English curriculum as possible. Standard 1 broadcasts commenced in 1982; Standard 2 in 1983; and Standard 4 in 1985. Each half-hour broadcast taught all four language skill areas: listening, speaking, reading, and writing. Under the series English in Action, RLAP lessons were broadcast five days a week, every week of the school year except the first.

Radio lessons covered three times as much content in a half hour as traditional lessons. Standard 1 radio broadcasts focused on listening and speaking skills at first, postponing reading and writing exercises until the end of the year's broadcasts. Standard 3 instruction introduced grammatical structures, concepts, and vocabulary during the reading, listening, and speaking segments of the broadcast.

The radio program was interactive in that it prompted a student's response to questions and other exercises every few seconds. Short musical and spoken messages were used to achieve smooth transitions between the finished segments. RLAP scripts made use of characters and settings and a standard set of verbal, musical and sound effect cues. Students listened and spoke in English with the radio characters. During the remainder of the 30 minute English lesson the children

also read silently and answered comprehension questions posed by the radio. Students read aloud with the radio speaking the same sentences to confirm correct pronunciation and intonation. Under the direction of the radio, they began a writing exercise which was then finished with the teacher's help after the broadcast.

The RLAP instructional system incorporates two types of printed materials, teacher notes and student books. Teacher notes consisted of lesson plans for broadcast lessons and complementary lessons. Notes about broadcast lessons gave teachers a general idea of the content of radio lessons, and instructed teachers on how to prepare and run lessons. Student books (also called worksheets) provided reading material printed on sheets with reading exercises and games.

Another component of RLAP were classroom aids whose general purpose was to support instruction that is delivered by radio with the help of the teacher. Classroom tools such as the blackboard compensated for radio's lack of a visual channel by providing visible cues to children. In addition to the blackboard, radio lessons also made liberal use of props found in rural schools such as chairs, tables, chalk, pencils, grass and milk cartons.

EVALUATION OF RLAP

RLAP demonstrated the improved effectiveness of radio for teaching English to primary school children as compared to

traditional instruction in Kenyan schools. An elaborate and rigorous evaluation of the entire RLAP effort was carried out from 1982 to 1984, by a team of educational researchers from the Center for Applied Linguistics (CAL) in Washington, DC. *Summative evaluation* measured the effect of instruction by radio over the life of the project, and also included testing at the end of each school year.

Twenty one schools were designated as summative evaluation schools and were visited once a year by professional staff for post-testing. Evaluation data indicated that children in the radio classes showed significantly improved achievement when compared with ESL students in traditional classrooms.

Measuring to what extent RLAP achieved its purpose involved tests in four areas: listening, speaking, reading, writing - using two groups (experimental and control groups) with children in all three standards. Test development took place in several cycles as dictated by the overall chronology of the project, which involved the sequential testing of pupils in Standard 1, 2 and 3 over a three-year period. Testing writing skills was not undertaken at Standard 1 because writing was not emphasized as a curriculum goal at this grade level.

In all four skill areas the mean score of the radio children were higher than those of students in traditional classrooms. The most striking difference appeared in the listening test for Standard 1 children: the radio children had a 23.4% to 15.5%

advantage in this area. RLAP produced about a 40 percent learning gain over traditional teaching in oral comprehension, reading, and writing in Standard One to Three. Student response and achievement was weakest in writing. Writing scores of radio students, however, surpassed the writing scores of the control group. Nevertheless, in both Standard 2 and 3, some radio students answered none of the writing items correctly, just as did some control students. Teachers who were interviewed indicated that the radio classes allowed very little time for practice in writing skills, resulting in poor writing scores.

RLAP also developed a technique that made *formative evaluation* an integral part of the instructional development process. Two main techniques used in monitoring the project were classroom observations and weekly achievement tests. Ten schools were designated as observation schools for formative evaluation purposes.

In order to measure how successfully the lessons were meeting the behavioral objectives they had specified, the RLAP staff assembled a team of 20 classroom observers from the regional teacher resource centers assigned to the project, and conducted a ten day training workshop.

In January 1982 when the broadcasts started, observers monitored three lessons each week, completing the observation forms which focused on student outcomes. A team of two observers were assigned to each of the ten observation schools. Classroom observations helped determine

instructional techniques and the improvement of the broadcasts.

Their duties included both formative and summative roles such as:

- Observing classrooms using observation sheets;
- Administering formative tests under the supervision of the project coordinator;
- Conducting interviews with teachers and children using interview techniques;
- Ensuring that teachers turned on the radios regularly between 9:30 and 10:00 am.

Evaluators visited classrooms, recorded what they observed on carefully designed data sheets and rating scales, and took specific anecdotal notes. Evaluators also administered formative tests, interviewed teachers and pupils, and ensured that all tests and evaluation materials were returned to the project office in time for analysis. RLAP evaluators also administered the summative evaluation tests at the end of each year's broadcasts.

An attitude survey conducted by the project team showed strong support for radio instruction by teachers and headmasters. Ninety percent of the teachers felt that students were ready to use English as a medium of instruction. Sixty percent felt that radio students had good or excellent ability to write, and 98 percent felt that the radio students listening ability was better than that of other students.

CREATING AN ILLUSION

Learning another language creates a degree of disorientation for young children who have to temporarily abandon their mother tongue. Scriptwriters firmly believed that children in Kenya needed an incentive to learning English. RLAP created an incentive of illusion to allay any fears that the children might have in adjusting to learning English. The radio became a point of entry through which interesting characters appeared in the classroom, and introduced the children to a wonderful world of creation and invention. RLAP staff members imagined the least favorable circumstances for broadcasts and tailored the lessons to those circumstances.

The primary agents of illusion were the radio characters. In year one, children met Juma, Ria, Chege, Akinyi, Mumbi, and Mr. B who taught the alphabet. Year two and year three scripts introduced Safiri, Tina, Sara, and Rono. The extended Hamisi family of mother and father, son and daughter, grandparents, aunts and uncles, and cousins were introduced as secondary characters. Other characters included a fisherman and his son. They all lived together in a rural community symbolizing the rural communities and extended families of the children. Children could relate to the characters because they represented familiar scenarios of their home communities and culture.

Kenyan children accepted the characters of the radio world unreservedly. The creation of an illusion in the form of

characters served to direct the attention of students away from the mundane everyday concerns of crowded classrooms and inadequate facilities. It was of no consequence whether they were really talking to Tina or Mr. Hamisi, and they did not wonder why Rono could see what was written on the blackboard while Sara could not. The project depended on their fascination with radio personalities and demonstrated a great deal of reliability. RLAP recreated the world for them, and scriptwriters could count on the children's commitment to such an illusion. The success of RLAP also depended to a great extent on the role and input of the classroom teacher. The teacher prepared the blackboard, identified the days special participants, and presented regular complementary lessons and a variety of supplementary materials for writing and reading.

RLAP scriptwriters believed that the constant exchanges of dialogue characterized good language teaching, so they asked the children to respond to the radio voices every few seconds. The target was 150 response pauses in a half-hour lesson. Visitors could see the results of this uninterrupted exchange when they observed RLAP classrooms. The children loved to sing the Good Morning song that opened each lesson; they loved to answer the radio's questions together; and they loved to be singled out for the individual responses, in words or action. Teachers, classroom observers, headmasters, school inspectors, RLAP scriptwriters - everyone involved in the project could observe the results of the liveliness and confidence in the children's faces, in their movements,

and in their eagerness to speak and be a part of RLAP activities.

LESSONS LEARNED

Over the past sixteen years, Interactive Radio Instruction has proven to be a highly effective tool in improving the achievement levels of primary school children in core subject areas of mathematics, language, science, and health. Over 600,000 children in Africa, Asia, and Latin America are beneficiaries of this low-cost intervention in the learning process. IRI is a useful method of instruction in traditional schools. It has provided effective instruction in English as a second language not only in Kenya, but also in Lesotho, Swaziland and Belize. One of the benefits of IRI is that it actively engages students in the learning process and uses highly qualified teachers to plan and write radio lessons.

RLAP has incorporated the fundamental principles of effective instruction, active participation, student feedback, distributed learning, reinforcement of correct answers, and systematic review and evaluation. In Kenya as in other RLAP countries, the project creates excitement in the community, among teachers, school administrators, and parents. In Kenya, classroom radio offered a practical and viable alternative to rapidly enhancing primary school instruction. RLAP provided another step forward in revitalizing educational radio as a central tool of educational development.

Sponsored by the S&T/ED Bureau of A.I.D., Project ABEL assists USAID missions and host country governments in designing and implementing basic education initiatives. Project ABEL is managed by the Academy for Educational Development in cooperation with a consortium of Creative Associates International, the Harvard Institute for International Development and the Research Triangle Institute.

For further information please contact:

Kurt Moses, Director
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, D.C. 20037
Phone: (202) 862-1957
Fax: (202) 862-1947
Telex: 197601 ACADED WSH

or

Furhana A. Bhoola, Research & Training Specialist
Project ABEL
Academy for Educational Development
1255 23rd Street, N.W.
Washington, D.C. 20037
Phone: (202) 862-1964
Fax: (202) 862-1947
Telex: 197601 ACADED WSH

INTRODUCING NATIONAL LANGUAGES IN THE PRIMARY EDUCATION SYSTEM IN MALI

For more than a decade the problem of introduction of African languages into the formal educational system in Africa has given rise to intense debates. This problem continues to be the object of meetings and initiatives undertaken by African research institutions in order to promote or formally introduce maternal languages in schools. This Bulletin discusses the dilemmas in the introduction of the maternal language, Bamanankan in the Republic of Mali. The report, titled 'Evaluation of the Experimentation in National Languages in Primary Education in the Republic of Mali,' forms the basis for this Bulletin. The evaluation was conducted by an international team of researchers, i.e., John P. Hutchison, Abou Diarra, and Joseph Poth.

EDUCATION REFORM IN MALI

In Mali, French colonizers practiced a system of direct administration in which the French language was the only instrument of work and communication with the local people. Local languages were

given no official status and were considered unimportant. Mali's subsequent accession to independence was accompanied by a general reform of the education system through improving access to education. One of the main goals of the Malian primary education policy was to allow its citizens to acquire a minimum of knowledge and skills in reading, writing, and arithmetic. The reform of 1962 facilitated the adaptation of the Malian school to national realities by inaugurating changes in both the structure and content of education. Particular emphasis was placed on the need to carry out research on national languages to assess their application as a medium of instruction in both schools and adult literacy programs.

In 1975 an education center was created, called DNAFLA (Direction Nationale de l'Alphabetisation Fonctionnelle et de la Linguistique Appliquée), the National Direction for Functional Literacy and Applied Linguistics. One of the purposes of DNAFLA was to study and research Malian languages as vital tools of instruction in the struggle against illiteracy.

The introduction of national languages according to the policy reform of 1962 was to take place following the recom-

mendations of the Second National Seminar on Education in December 1978. The Seminar had established an appraisal of the research on Malian languages and on their use in adult literacy programs. The Seminar made the recommendation that national languages be introduced into formal public education on an experimental basis. As a result, in October 1979 Bamanankan was introduced in four experimental schools in the regions of Koulikoro and Segou. The early results were convincing and Bamanankan was progressively extended to other linguistic zones reaching all of the seven regions in Mali including Bamako. In 1990 there were 104 experimental schools of which 83 were in Bamanankan, 6 in Fulfulde, 6 in Songhoy, and 9 in Tamasheq.

Mali's philosophy of introducing national languages into formal education was two-fold, first the promotion of national languages, and second, the reassertion and self-affirmation

The ABEL Information Bulletin provides practical and relevant information about basic education initiatives and innovations in basic education reform in developing countries. The goal of the ABEL Information Bulletin is to communicate and disseminate proven tools, methods, and research findings about basic education programs.

of the cultural context of national languages.

The primary objectives of the experimentation in national languages were as follows:

- To reduce the school drop-out rate which continued to rise because of Malian childrens' weakness in French;
- To facilitate the learning of the basic instrumental disciplines;
- To facilitate the acquisition of the French language through the application of the mechanisms of reading, writing, and oral expression already acquired in and through the maternal language.

PURPOSES OF THE EVALUATION

As a result of the request of the Ministry of National Education, the evaluation under ABEL was conducted at the end of the 1989-90 school year. The evaluation team comprised John Hutchison, Abou Diarra, and Joseph Poth. This formative evaluation was conducted from the 17th of May to 1st June 1990, and included both quantitative and qualitative elements. The target group for the study were pupils of sixteen experimental schools using Bamanankan, and sixteen classical schools using French in two regions - Sikasso and Segou.

The research and findings of the evaluation were to make it possible to:

- Verify the degree to which

the initial objectives of the experimentation of teaching in maternal languages had been met;

- To identify the problems facing this experimentation;
- To recommend means to resolve the problems;
- To identify and recommend necessary measures to be taken in order to generalize the experimentation in maternal languages.

The sample surveyed were the *experimental school group* and the *classical school group*. The evaluation involved the total enrollments of sixteen experimental schools and sixteen classical schools as a control group. Of the sixteen experimental schools selected for this evaluation, thirteen were located in rural areas and three in urban areas. The study concerned all of the pupils, boys and girls of the first through sixth grades in the schools surveyed. In all, 7,036 pupils were subjects of the tests and evaluation instruments.

The tests were designed to allow the team to obtain two types of information. The first was to verify if the use of the national languages in the experimental schools had an impact on the pupil's performance levels in the basic disciplines. The second was to ascertain if learning in the national languages resulted in a better understanding of French subsequently.

Given that the national language was theoretically the medium of instruction from the first through the third grade, it

was necessary that the tests for these three years be in Bamanankan in all of the basic disciplines, ie., mathematics, dictation, and reading. In mathematics, pupils in both types of school had to take identical tests though in a different language medium.

For the *experimental school group* 2,700 subjects were tested in the following disciplines:

- 1st, 2nd, 3rd grades: mathematics, dictation, reading in Bamanankan;
- 4th grade: sentence construction, mathematics, dictation in French;
- 5th and 6th grades: mathematics, writing, dictation in French.

For the *classical school group* 4,336 subjects were tested in the following disciplines:

- 1st, 2nd, 3rd grades: mathematics, dictation in French, reading in French;
- 4th grade: sentence construction, mathematics, dictation in French;
- 5th and 6th grades: mathematics, writing, dictation in French.

Testing was the main evaluation tool for Malian students, and questionnaires were a primary medium for obtaining information from parents and teachers. Questionnaires were designed for experimental school teachers, classical school teachers, and parents of children in experimental

schools. Questionnaires for experimental school teachers were designed to collect information on the training of the teacher, teaching methods, curriculum for teaching in national languages, the teacher's experience, attitudes towards the experiment, and information on teaching materials. The questionnaires for classical school teachers aimed at determining the teachers attitudes vis a vis the experimentation. A total of eighty four experimental school teachers and 103 classical school teachers were part of the survey interview questionnaire.

RESULTS OF THE EVALUATION

The general findings of the evaluation team highlight several important factors in the problems associated with the inadequate and inappropriate methods of introducing maternal languages in Malian schools. The contrasting testing results described below are ascribed to the characteristics of the Malian school system.

The test results were as follows:

Math: Scores showed superiority of the experimental schools in every grade except for the sixth grade where two schools had the same results. It was clear especially in the second grade that the use of a national language facilitated greatly the acquisition of basic notions of math.

Sentence construction: Taken by fourth grade students revealed higher scores for pupils from classical schools. One of the reasons advanced

by the evaluation team for higher scores was that the acquisition of French is beginning to take hold at this stage. Pupils in the experimental school find themselves at the beginning of a transition in a system that has not yet sufficiently developed their proficiency, therefore scoring lower points.

Creative writing: A higher performance level was documented by the classical school over the experimental school for grades five and six. An adequate transfer of knowledge acquired by experimental schools during the first three years was not achieved because students' academic and cognitive skills were not sufficiently developed in Bamanankan in the lower levels.

Reading: The performance of experimental schools was clearly superior for the first three grades. For the fourth grade where testing instruments were in French, similar scores were recorded for both the classical and experimental schools.

Dictation: Superior performance levels were recorded for third grade experimental school students. For the sixth grade the results showed improved performance for experimental schools. The scores of experimental school pupils reflected a slight advantage over their classical counterparts throughout the primary cycle in certain areas. This may be attributed to commencing their schooling in the national language. For certain grades it was clear that the results were superior for the school using national languages, while in other grades the results were

more favorable for the classical school.

The overall findings indicate that the problems of absence, expulsion, and repeating grades were profound in both the classical and experimental schools. The average percentage of repeating pupils for the sample of experimental schools was 25 percent and for the classical schools 36 percent.

The level of academic performance recorded in the first, second, and third grades of the experimental schools is slightly higher than the level of their counterparts in the classical schools. From the fourth grade onwards the difference in performance level is not significant between the two types of schools. For the fifth and sixth grades the results are slightly higher for the classical schools than for the experimental schools.

Factors such as teaching materials, teacher experience, and the number of pupils in class played a role in varying combinations in the schools evaluated, and contributed to poorer performance in the final results of the pupils in the experimental group and a more positive impact on the results of the classical group. Teachers surveyed expressed concern for the lack of an elaborated initial strategy and master plan; lack of appropriate curriculum; inadequate teacher training; lack of teaching materials; and high student dropout rates.

LESSONS LEARNED

The identification of the problems and assessment of

needs associated with the introduction of linguistic reform in Mali suggests that vital factors have to be considered if the introduction of national languages in Malian schools is to be successful. These factors are:

Restructuring the Curriculum: The experimental school was based on the simple substitution of one linguistic form for another rather than a suitable and well adapted methodology. The Malian strategy was to transpose the French based classical school curriculum in order to establish the experimental school curriculum. The policy of reform should take into account the linguistic competence of the child from the beginning years of instruction. There is a necessity to examine the child's needs to achieve academic and cognitive development via the maternal language, before the transfer of his proficiency to the learning

of a second language. It would be desirable to completely restructure the curriculum designed for the experimental schools in national languages while taking into account all the implications of instruction in the maternal language.

Devising a Master Plan: The problem is one of a lack of a master plan which can serve as an operational tool for the management and regulation of this reform. Programmatic changes need to be made to guarantee the success of the operation on the pedagogical, didactic, linguistic, administrative, legislative and financial levels. The master plan should elaborate on the pedagogical status of the languages used in primary education, and conduct research by teachers on maternal languages.

Teaching Materials: The quality of the didactic materials is poor and contributes to the overall problems associ-

ated with implementing national languages in Mali. The lack of a suitably adapted curriculum for teaching in national languages is one of the major defects of the experimentation and is exacerbated by the lack of textbooks, manuals, and guidebooks.

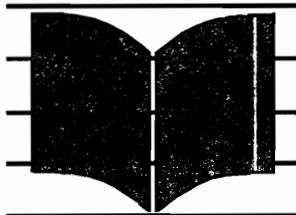
Teacher Training: A further problem associated with implementing maternal languages in Mali is inadequate teacher training in linguistics and teaching methodology. Teachers should be trained in linguistics, teaching methodology and culture-specific training.

The experimental schools of Mali offer themselves as a viable solution to the restructuring of basic education and the development of the Malian child. The research findings and lessons learned call for constructive reform in the Malian educational system.

The ABEL project is funded by the U.S. Agency for International Development (R&D/ED, R&D/WID) and operated by the Academy for Educational Development in consortium with Creative Associates International, Inc., Harvard Institute for Development, and the Research Triangle Institute. For further information, please contact:

Kurt Moses, Director
Project ABEL
or
Furhana A. Bhoola, Research & Training Specialist
Project ABEL

The Academy for Educational Development
1255 23rd Street, N.W.
Washington, DC 20037
Telephone: (202) 862-1900
Fax: (202) 862-1947
Telex: 197601 ACADED WSH



ABEL Information Bulletin

Over the past two decades developing countries have molded their education policy toward expanding basic education. For many nations this prudent economic investment is fraught with great difficulty as financing for education is limited. Despite inadequate resources to finance education, more children are being educated today, and the enrollment rate has continued to grow. Yet many children in developing countries are not in school primarily because of the escalating costs associated with schooling and poverty. Girls are also less likely to go to school than boys. Cultural traditions and questions about the relevancy of basic education continue to exacerbate the equity problem and girls' access to education.

*This Bulletin describes the factors affecting girls' enrollment and participation in school in the Zomba district in southern Malawi. The report, titled *An Ethnographic Study of Factors Affecting the Education of Girls in Southern Malawi*, forms the basis for this Bulletin. The Report was prepared by Dr. Jean Davison and Dr. Martin Kanyuka for the Ministry of Education and Culture and USAID/Malawi for the Human Resources and Institutional Development (HRID) Project operated by the Academy for Educational Development. Fieldwork for this ethnographic study was conducted in May-July, 1990.*

An Ethnographic Study of Factors Affecting the Education of Girls in Southern Malawi

INTRODUCTION TO THE STUDY

This is an ethnographic study of factors influencing the persistence and achievement of girls in comparison to boys at the primary school level in Zomba district (southern Malawi) where the participation rates of girls are the lowest and the drop-out rates the highest in Malawi. In the 1981-82 and 1985-86 academic years the primary schools in the district registered only a 1.54 percent increase in enrollment in comparison with a national increase of 13.25 percent (see Figure 1). According to the Ministry of

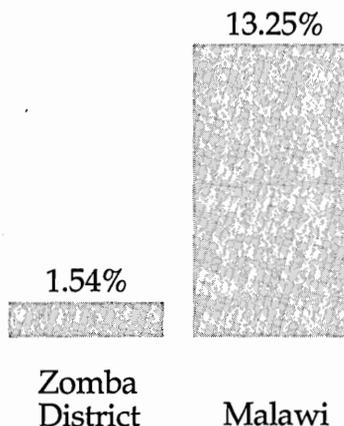
Education and Culture the total enrollments in 1988 were 23,400 for boys and 18,784 for girls. The Zomba area also had the highest combined dropout rate of 26.24 percent in the southern region. The greatest number of girls repeat in Standards 1 and 2 while boys repetition is higher in Standards 1 and 8.

Equal numbers of female and male pupils were randomly selected from each of four primary school communities, two in predominantly Muslim areas in northern Zomba and two in non-Muslim areas to the south of the town. The methodology for the study included ethnographic observations of classrooms, school environments and the homesteads of the 80 pupils.

The report findings examine economic, sociocultural and psychosocial factors that influence girls' participation and persistence in Zomba. The study concludes that:

- Economic constraints hinder girls' participation in school(s) where female pupils are from resource poor families. Specifically, in female-headed households, the higher cost of uniforms for girls than boys

Figure 1
Increase in Enrollment
1981-82 and 1985-86





may contribute to such constraints.

- Gender formation, as a sociocultural process, determines the way gender relations are constructed beginning in the home, and following the pupil to school where sociocultural attitudes are reinforced by school staff.
- In order for gender reorganization to take place, changes in attitudes leading to changes in behavior must be encouraged within the classroom and in Malawian society. The study documents the impact of gender patterns on the lives of eight pupils, four females and four males using a case study approach. The case studies demonstrate how pupils cope with situations at school and at home that influence their perceptions about themselves and shape the decisions they make about school.

FACTORS AFFECTING SCHOOL PARTICIPATION

This study identifies the economic, sociocultural and psychosocial factors as influencing the participation of girls in basic education in Zomba rural. A discussion of these factors is cited below.

Economic Factors

The economic factors affecting participation of both girls and boys in school were related to the following causes: lack of reading and pedagogical materials, the cost of school fees and uniforms, and hunger.

Pupils who attended the four schools were from families living at the subsistence level and lacked adequate resources. A minority of homes had government posters, calendars, magazines or newspapers. Reading materials at home provide a chance for a child to practice literacy skills learned at school. The schools had poor facilities and lacked instructional materials. Teachers manuals, chalk and visual materials were in constant short supply. Pupils were expected to have writing materials and exercise books. In none of the four schools were these materials provided. Often children had no pen or pencil, and none had textbooks; textbooks were considered communal property shared between several pupils.

One of the primary causes cited by pupils and parents for the high drop-out rate between Standard 1 and 2 was the lack of money to pay school fees and to purchase school uniforms. A quarter of the boys in school and 35% of the girls stated that school fees were a major constraint to girls' persistence in education. Female pupils and their female guardians were more concerned about lack of funds for uniforms than their male counterparts. A girl's uniform costs twice that of a boy's, and she is perceived to be less of an economic investment than a son whose education is perceived to directly enhance the economic well being of the family. The economic burden of providing school fees and materials particularly affects the resource poor female headed households. Of the 32 families

who had children who had dropped out of school, 43 percent were female headed households. Several pupils mentioned hunger as being a cause for dropping out in the lower grades, a cause which their parents overlooked or did not know about.

Educational Level of Parent

Twice as many female guardians as male guardians have no education while the percentage who have achieved basic literacy and numeracy is nearly equal. The percentage of male guardians who have completed standard 8 (19.3%) far exceeds that of female guardians (9.5%). Many of the parents who cited negative parental attitudes toward educating girls as a key factor of female drop out rates in Zomba district were not formally educated.

Mothers seemed to

recognize that perhaps

their own attitudes

toward education in

general, and toward

educating girls

especially might

negatively impact their

daughters persistence

through school.



Over 8% of the fathers or male guardians included male bias towards educating boys as a factor of girls lack of opportunities and persistence in school. Sixty eight percent of fathers/male guardians and 70.3 percent of mothers and female guardians stated that boys are more intelligent.

The vast majority, however, asserted that it was important to educate both boys and girls (93.9%). However, 1.4 percent of female guardians and 8.8 percent of male guardians related that they thought it was more important to educate boys because boys are more apt to return the educational investment and are able to concentrate on studies, whereas girls are less serious and do not know how to concentrate because they have other things on their mind such as getting married and becoming mothers.

Religious Differences

Although 2.7 percent of mothers (Christian) related that they thought it more important to educate girls because they will get a good job and support their families, no fathers thought it more important to educate girls (see data in Figure 2). A higher percentage of Christian guardians of both sexes believes that it is more important to educate boys than Muslim guardians. No Muslim female guardians and only 4.2 percent of male guardians felt it more important to educate boys. Thus the assumption that Muslim parents prefer educating sons to daughters does not apply for the sample of 53 Muslim guardians in Zomba.

Expectations

A higher percentage of boys (7.5%) and girls (5.7%) postulated that a Standard 8 level of education was sufficient educational attainment. Five percent of female guardians contemplated that standard 8 was an optimal level of education for girls; only 3.5 percent of fathers agreed. Twice as many fathers (8.8%) as mothers (4.1%) envision that girls should attain a Form 2 education. An equal number of female and male guardians reflect that girls should be educated to Form 4. A slightly smaller percentage of both sexes think that girls should attain a university education.

Twice as many female guardians as males considered Standard 8 as sufficient. Slightly more than a quarter of female guardians and male guardians regard form 4

education as sufficient for boys. The majority in each case cites the optimal educational level for boys as university. This contrasts sharply with the guardians' views about the optimal educational level for girls.

The data demonstrate that not only is there bias about who should go to school, but there is difference in the level of education that parents think their sons and daughters should be achieving. Male bias exists among some parents and guardians in their opinions about intelligence and who should go to school. A stronger bias emerges in their opinions about the level of educational attainment that is ideal for males in comparison to females. Once children are enrolled in school, parental attitudes about educating males versus female pupils persist.

Figure 2
Guardians' Preference for Educating Children by Gender:
A Comparison of Muslim and Christian Guardians

GUARDIANS' OPINIONS	MUSLIM GUARDIANS (N=53)		CHRISTIAN GUARDIANS (N=78)	
	Female (N=29)	Male (N=24)	Female (N=45)	Male (N=33)
More important to educate boys	-	4.2%	2.2%	12.2%
More important to educate girls	-	-	4.4%	-
Both should be educated	100.0%	95.8%	93.3%	87.9%
TOTAL	100.0%	100.0%	99.9%*	100.0%

* Rounded



Mothers and female guardians have a great influence on their daughters in their expressed attitudes toward education and homework, and in the demands they make on their daughters labor time. In a question related to academic achievement, several

... there is a difference
in the level of education
that parents think their
sons and daughters
should be achieving.

female pupils stated that the reason boys are more intelligent than girls, is because they have more time to study after school than girls who are burdened by a multitude of domestic tasks. Girls on average spend more time on domestic chores (30.5 minutes out of an hour) than boys (11.9 minutes); these tasks include food processing, food preparation, cooking and cleaning. They also haul water and firewood. Boys

chores are limited to carrying and loading crops, feeding animals, collecting stones for construction, sweeping the compound and hauling water. Girls spend 63.5 percent of their time performing domestic tasks compared with 27.5 percent of time spent by boys. This study validates quantitatively that for at least one group of pupils in one area in Malawi, girls spend much more of their time after school in domestic labor than boys, and that they have less time for study.

Sexist Roles

In Malawian society the primary role of females is structured for reproduction to nurture and support. In contrast, the role of males is structured for production to innovate and manage. The gender-structuring process begins in the home as parents and other adults provide role models for what is the expected role of boys and girls. The specific educational background of a child's parents has a direct bearing on the child's educational opportunities. If the mother believes that education will improve her daughters economic and social opportunities, she is

more apt to support her daughters efforts to pursue education.

Teachers' Attitudes Towards the Education of Girls

Once in school, students fall under the influence of teachers. In key subjects such as English and Science, the percentage of boys called upon to answer questions, in comparison to girls is greater (see data in Figure 3). This data are suggestive of the constraints to classroom participation that a member of a gender minority may encounter. In terms of overall academic achievement, ninety percent of the teachers interviewed thought that boys perform better than girls in class. Girls' lack of ambition and lack of spirit were cited as reasons for their poor performance.

Sixty percent of the teachers contended that girls lacked the ambition to work hard because they were lazy. The teachers' negative attitudes toward girls' academic ability not only reflects the teachers' biases and stereotypes about girls' performance in class but also act to thwart any academic ambitions that a girl may have. Teacher biases are also

Figure 3
Comparison of Total Number of Times and Frequency by Sex that Pupils Were Called upon in Class

SUBJECT	No. times observed*	MALE PUPILS			FEMALE PUPILS		
		Total No.	No. times called on	%	Total No.	No. times called on	%
English	8	221	101	45.7	126	51	40.5
Science	5	133	52	39.0	101	33	32.6

* In all, 36 lessons were observed in the four schools.



reflected in ideas concerning the most important subjects for boys and girls to enroll in school. Seventy percent of teachers interviewed mentioned needlecraft,

The way teachers structure and select the interaction process with girls and boys molds their participation and persistence in school.

home economics and health education as the three most important subjects for girls. For boys, English and Arithmetic were mentioned by 70 percent of the teachers, while only 20 percent mentioned agriculture.

Psychosocial Factors

The study documents the impact of gender structuring using a case study approach. The case studies demonstrate how pupils cope with situations at school and at home that influence their perceptions about themselves and shape their decisions about school. Gender structuring most often acts as a constraint to the educational opportunities and career choices that girls as a whole seek. What contributes to a girls' ability to persist in her education despite these odds? The case study quoted below provides some insights about the psychosocial

factors that influence a girls' interest and persistence in school determine her later career choices.

A Case Study

It is 7:15 a.m. and Amina Ndula has just arrived at school. She is fourteen years of age and in Standard 5. She has walked two kilometers from home and is about ten minutes late for the opening of school. She enters the classroom quietly, noting that her girlfriends are already busy sweeping the veranda outside the standard 6 and 7 classrooms. Mr. Ntoaka the Standard 5 teacher is displeased. He confronts Amina with her tardiness and tells her to hold out her hands, palms up. She does as she is directed with her head lowered, eyes on the floor. She tries not to wince as the teacher beats her outstretched palms with a ruler. Then he tells her to go and sweep out the girls' toilet as further punishment. Amina walks slowly off to the latrine with a sad expression on her face while the rest of her classmates hurry to the morning assembly.

Amina comes from a Yao Muslim family. Her mother has had no formal schooling and her father dropped out at Standard 1. She has an older brother, aged 21, who dropped out of school after Standard 6 because he was more interested in playing. Amina would like to complete Form 4 and become a teacher. She knows that it is more difficult for girls to do well in school because they have too many household chores after school. What Amina likes best about school are the English

lessons and meeting her friends. Amina's parents are subsistence farmers. They barely have enough cash each year from selling rice to pay for Amina's school fees and exercise books. Amina wears a white dress with green dots to school this day because her parents cannot afford to purchase the materials and pay a tailor to make her a school uniform.

Amina indicates that the domestic tasks that fill a girl's time after school also prevents her from devoting as much time as boys do to studying. The lack of time for homework contributes, in Amina's opinion, to a girls' overall lack of academic achievement. Her main goal is to finish secondary school and become a teacher. The social pressure to wear a uniform that her parents cannot afford places her at a disadvantage.

The majority of pupils and guardians stated that the primary reason for dropping out at the early level is lack of funds for school fees and uniforms. The second most frequently stated reason was parental attitudes, particularly the preference for educating boys. Other sociocultural factors were the pressure for early marriage; the attitude among children that school is not important, and initiation ceremonies.

Major reasons for girls dropping out at Standard 8 were: repeating school, failing exams, and not being selected for secondary school. That girls experience high repetition rates between Standards 5 and 7 and few girls pass the PSLC examination are contributing factors to high drop out rates by Standard 8. Girls need a combina-



tion of a strong and supportive family, a supportive and encouraging school staff that is sensitive to the specific problems that female pupils face, and a strong personal will and determination to overcome the obstacles that confront her along the way.

METHODOLOGY

Four primary schools were randomly selected from the 107 schools in Zomba district to represent the four corners of the district. The two schools in the northern part of the district, Nsondele Primary School and Msalabani are in predominantly Muslim areas while Namiwana and Namilongo are located in Christian areas. The primary intent was to document qualitatively through in-depth observations of teacher/student interactions in the classroom and school, and observations of students in their homes, the behaviors and material contexts that contribute to or detract from girls' persistence in education.

Specifically the research addressed several questions related to girls' education in Southern Malawi outlined below:

- What are the sociocultural constraints at school and at home that influence girls' participation in education?
- Are there differences between the attitudes of male and female teachers toward girls' educational performance that have implications for girls' persistence and achievement in school?
- What are the gender specific differences between female and male parents and guardians toward educating girls in contrast to boys and toward career aspirations for their offspring?
- Are there differences between Muslim and Christian parents' attitudes toward educating females?
- How are girls' opportunities for education related to parents' education and to sociocultural factors including marital status and residential patterns?
- Given that most rural dwellers in Zomba district are smallholder farmers, often living at subsistence level, what are the economic constraints on girls' education?
- What accounts for the high drop out rates of girls between standards 1 and 2 and at standard 8 in Zomba district?

The study was centered around twenty randomly selected girls and boys from each of the four schools - 5 girls and 5 boys each from standard 5 and standard 8. Researchers assessed the material and socioeconomic environment of pupils' homesteads, including housetypes, availability of water and electricity, and educational materials. The availability or lack of these resources may have had an effect on the students overall academic performance. Researchers interviewed both male and female guardians and parents of

the students. Parents and guardians' attitude toward the education of girls in comparison to boys, their academic expectations of girls and career aspirations for both sexes were also elicited. In addition, their speculations about the causes of high female drop-out rates, and information about their own experiences with drop-out students in their families were extracted.

DESCRIPTION OF A SCHOOL SITE

The following is a profile of one of the schools surveyed in this study, the Msalabani Full Primary School and Community.

Msalabani Primary School is situated to the north of Zomba district on the border with Machinga District. The school was one of the oldest in the area and was built by the Anglican mission around 1940. In a predominantly Muslim location, it was originally the focal point for converting young Muslims to Christianity. Classrooms in Msalabani Primary School were crowded, and groups of children, particularly at the early grade levels were clustered in reading or study groups under trees. Children in grades up to Standard 7 did not have desks. All classrooms are gender segregated with boys on one side and girls on the other.

With a total enrollment of 1,132 pupils and 16 teachers (3 women and 13 men) the school had a teacher/pupil ratio of 1 teacher to 85 pupils. This ratio exceeds the national average by nearly 20



pupils. Standard 5 had an enrolment rate of 46 girls and 40 boys, and Standard 8 had only 20 girls to 42 boys. No girls passed the Primary School Leaving Certificate (PSLC) in the years 1985 through 1989. During the same period merely 6 boys passed the PSLC and none was selected for secondary school.

The major ethnic group is the Yao most of whom are matrilineal and Muslim. Yao is the predominant language. Sixty percent of the students were from Muslim families and 40 percent were Christian. Muslim children attended Quranic school for two hours after regular class. Half of the children were from subsistence level households. Pupils walked an average of 2.5 kilometers to get to school, but some lived as far away as nine or ten kilometers.

Pupils were asked to contribute to the school's development by bringing grass for thatching teachers' houses or latrines, and tools for construction. Much of the punishment meted out for tardiness was in the form of labor related to construction. For example, girls were asked to haul

water for mixing with mud to make bricks, cut down tree stumps or dig refuse pits during periods when classes were in session. The result was that girls missed whole lessons. Girls also carried out a major portion of maintenance tasks, sweeping classrooms and school yards, hauling water and other labor activities which often interfered with their participation in classes.

LESSONS LEARNED

A primary factor affecting girls' participation is the material economic constraints in the home that force parents to make a choice between sending a boy or a girl to school; more often boys are selected rather than girls. The choice is based on the economic benefits which are thought to accrue to the parents for educating a male rather than a female child. Parents generally expressed the opinion that boys are inherently more intelligent than girls and nearly half the parents thought that girls need not be educated beyond secondary school.

An indicator in the lack of material resources available to students is the sparseness of educational materials in their homes. Gender specific ideas of what girls can and cannot do begin in the home and are reinforced in school through attitudes about which subjects are most appropriate for girls and which tasks they ought to be engaged in, for example sweeping and mopping a classroom and hauling water for constructing buildings. Girls' self perception will be improved if they are given a chance by school officials to assume leadership roles in the school. The factors that influence the opportunities and persistence of girls in primary school education include economic constraints, sociocultural attitudes, norms, and behavior related to gender structuring and psychosocial factors that stem from social perceptions that affect self perceptions. This study confirms that we cannot examine the school without at the same time examining the home environment to which the pupil returns each day. They are equally important.

The ABEL project is funded by the U.S. Agency for International Development (R&D/ED, R&D/WID) and operated by the Academy for Educational Development in consortium with Creative Associates International, Inc., Harvard Institute for International Development, and the Research Triangle Institute. For further information please contact the following ABEL staff:

Kurt Moses, Director, or Furhana A. Bhoola, Research and Training Specialist
 Academy for Educational Development • 1255 23rd Street, N.W. • Washington, D.C. 20037
 Telephone: (202) 862-1900 • Fax: (202) 862-1947 • Telex: 197601 ACADED WSH

The ABEL Information Bulletin is researched and edited by Furhana A. Bhoola, Ph.D. Information for this edition was condensed from the report, *An Ethnographic Study of Factors Affecting the Education of Girls in Southern Malawi*, co-authored by Dr. Jean Davison and Dr. Martin Kanyuka.

**ABEL INFORMATION BULLETIN SERIES**

The following is a list of publications in this series. For copies, contact Furhana A. Bhoola, Research/Training Specialist.

Bulletin #1

The Agricultural Teacher Education Programme of the National Teacher Training College

Bulletin #2

BANFES Training

Bulletin #3

Breakthrough to Literacy

Bulletin #4

DACUM: Developing a Curriculum

Bulletin #5

Designing Supplementary Teaching Materials

Bulletin #6

Development Communications

Bulletin #7

Development of a Continuous Assessment Programme for the Primary Schools

Bulletin #8

Educational Library Services

Bulletin #9

English in Action

Bulletin #10

The Evening and Weekend College Programme

Bulletin #11

Financial Management Initiatives at Lesotho's National Teacher Training College

Bulletin #12

Income Generation at Thaba-Tseka Skills Training Center

Bulletin #13

Instructional Materials Resource Center

Bulletin #14

Mahlaseli: Sun-Beams - Lesotho Monthly Reader for Primary School Children

Bulletin #15

The National Dissemination Programme

Bulletin #16

The Non-Formal Education Subproject

Bulletin #17

Operations Management at the National Teacher Training College

Bulletin #18

Primary Education News

Bulletin #19

Primary In-Service Education Programme

Bulletin #20

The Resources Directory for Self Reliance and Enterprise Development in Lesotho

Bulletin #21

Schemes of Service

Bulletin #22

School Supply Unit

Bulletin #23

Small Business Studies Series

Bulletin #24

The Teacher Personnel Management Information System

Bulletin #25

Thaba-Tseka Skills Training Center

Bulletin #26

Learning Technologies for Basic Education

Bulletin #27

Classroom in a Suitcase: An Indian Experiment

Bulletin #28

The Economic and Social Impact of Girl's Education in Developing Countries

Bulletin #29

Restructuring a U.S. School

Bulletin #30

System to Help Access Reports of Effective Education (SHARE)

Bulletin #31

Curriculum Reform in Egypt

Bulletin #32

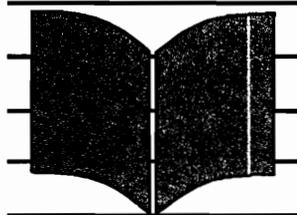
IBM Education Projects and Courseware for ABEL: Innovations in the "Hard" Technologies of Learning

Bulletin #33

The Radio Language Arts Project (RLAP) in Kenya

Bulletin #34

Introducing National Languages in the Primary Education System in Mali



ABEL Information Bulletin

Do school feeding programs increase attendance, improve academic performance, or contribute to higher enrollment ratios?

The ABEL Information Bulletin on School Feeding Programs and Educational Achievement explores the research findings and data on school feeding programs (SFPs) and their effects on the academic performance of the child. This bulletin is based on two reports: School Feeding Programs in Developing Countries: An Analysis of Actual and Potential Impact an A.I.D. Evaluation Special Study (No. 30, 1986), written by Dr. Beryl Levinger, and Nutrition and Educational Achievement (UNESCO Nutrition Education Series No. 9), written by Dr. Ernesto Pollitt.

The ABEL Information Bulletin provides practical and relevant information about basic education initiatives and innovations in basic education reform in developing countries. The goal of the ABEL Information Bulletin is to communicate and disseminate proven tools, methods, and research findings about basic education programs.

School Feeding Programs and Educational Achievement

Dr. Levinger's study evaluates the empirical evidence about the relationships among School Feeding Programs (SFPs), school attendance, enrollment, cognitive development, and academic performance. The study also uses research findings to derive SFP design recommendations.

Dr. Ernesto Pollitt's monograph demonstrates that malnutrition in children is a risk factor in the formal educational system. The conclusions advanced signify that it is important to include nutrition as a determinant of school performance and achievement. Dr. Pollitt's study represents a substantive and selective review of the literature on the affects of nutrition and malnutrition on educational achievement.

INTRODUCTION TO SFPS

It is widely held that SFPs help the poor by removing roadblocks along the path to learning, such as poor nutrition and dietary intake. Two principal arguments relating to the removal of obstacles have been advanced on behalf of SFPs. First the provision of a snack or meal increases school attendance and enrollment. Food is seen as a means to offset, for poor children,

some or all of the costs of attending school, including expenditures for books, fees, uniforms, supplies, and transport as well as children's foregone earnings. A second argument in support of SFPs is that they improve a child's ability to benefit from instruction by removing hunger or nutritional deficiencies as obstacles to learning.

SFPs differ from one another in many ways. For example some SFPs provide only a snack, and others a complete meal. Some rely solely on donated products; others supplement them with locally purchased commodities. The size and composition of rations also vary widely. SFPs differ according to the population they serve. Some reach predominantly malnourished children, others do not. Some operate in settings where primary school enrollment reaches nearly universal proportions, and others are in small communities where only a small minority of the population completes 5 or 6 years of school. SFPs will vary according to the results they achieve.

The education of the parents, the income of the family, the child's health and dietary intake are all **endogenous** factors that



determine in part the child's schooling and performance. Direct affects are dramatic whenever the financial situation of the family or the child's poor health, impedes the child from continuing with school. There are close and causal relationships among endogenous factors. For example, parents in low income segments of different populations make larger financial investments in the education of older siblings, with the expectation of establishing a sibling educational chain.

The quality of schooling, the training of the teachers, the availability of books and other educational materials exemplify **exogenous** factors that influence the quality of education. For example, budgetary allocations of regional or central governments to the education sector determine the quality of schooling.

Three objectives are usually stated for SFPs:

- Increase school enrollment and attendance among school-age children;
- Improve the nutritional status of children in school; and
- Improve the cognitive or academic performance of these children.

The nutritional and health status of a child has a significant impact on the education of the child, because it affects learning abilities and cognitive development. In developing countries, particularly among the low income segments of the population, malnutrition is endemic. However, within both

Research findings have
shown that malnutrition
in infants and children
is a formidable factor
affecting their persistence
in school.

the nutritional and educational literature, the impact of nutrition on the academic performance of children has received little attention. Research findings have shown that malnutrition in infants and children is a formidable factor affecting their persistence in school. Nutritional deficiencies represent educational risk factors; it is assumed that targeted nutrition interventions will therefore have preventive effects. Interventions such as SFPs help to supplement the diet of the child in early childhood and during the school-age period. School feeding programs are expected to raise the total food intake of the child supplementing the child's household diet. We now turn to examine several studies which have assessed the impact on SFPs on school attendance and retention rates.

NUTRITION AND SCHOOL ATTENDANCE

Throughout the developing world educational wastage represents one of the largest and most significant

educational problems, involving a high human and capital cost. Educational wastage refers to the number of children who repeat a grade or who drop out of school. In comparison to studies on the social and economic determinants of schooling, there is a scarcity of information on the effects that nutrition and health have on school enrollment and academic progress. Nutrition has received little attention as a determinant of school progress. Research findings have shown clearly that malnutrition in infants and children is a vital contributor to their schooling. Here we explore several research studies about SFPs in different parts of the developing world and their impact on school attendance and enrollment.

The Dominican Republic. The strongest relationship between the nutritional status of children and school attendance was presented in the 1982 evaluation of the PL 480 Title II Program in the Dominican Republic. In 1962 a school lunch program was initiated in the Dominican Republic under the sponsorship of CARE. By 1978, more than 214,000 children throughout the country were being served daily. In that same year, CARE and the Dominican government began discussion on ways to shift the program away from its almost complete reliance on donated commodities. In 1979 the government moved to terminate the CARE-administered PL 480 portion of the school lunch program. The planned substitution of locally produced foodstuffs,



however, did not occur and the outcome was the sudden termination of a very ambitious supplemental feeding program.

Researchers, Pirie Gall and James Eckroad examined the impact of this termination on primary school enrollment. There was agreement among the teachers that enrollment had been adversely affected by the discontinuation of the lunch program.

- One fourth of the children who would otherwise be in school had dropped out.
- The decline in enrollment was lowest for the first grade (17.6%) and highest for the sixth grade (29.3%).
- For the lower four grades—the ones most crucial for the development of literacy—female enrollment declined more dramatically than that of males.
- In the first grade for example, the termination of the feeding program was accompanied by a 12.5% drop in male enrollment compared to 23.3% for females. The termination of the SFP in the Dominican Republic had its greatest effect on the enrollment rate of girls.

India. Researchers, P. Roy and R. Rath obtained data on enrollment, attendance, and program participation for 23,401 schools from questionnaires mailed to sub-inspectors in Orissa Province in India. Enrollment ratios, absenteeism, and dropout rates were compared for schools with feeding programs and those without them.

They divided the state into two strata: four predominantly tribal districts in which all accessible schools were in the feeding program, so that no comparative sample of schools without SFPs could be drawn, and nine non-tribal districts in which schools with and without SFPs could be selected by random procedures and matched on various criteria.

Roy and Rath concluded that the SFP seemed to affect enrollment positively, particularly for the lower primary grades in tribal areas. Higher attendance was recorded in the upper primary school level of non-tribal districts for SFP schools. Schools with SFPs also had lower dropout rates. Where the feeding program had operated more than 300 days in the two year period preceding this study, a decrease in absence in the SFP schools was noted. The history of program participation helped explain some of the variances in school attendance.

Ghana. In 1981 the Food for Peace Program in Ghana was evaluated by a team from Development Associates, USAID/Ghana, the Ghanaian Ministry of Health, and several nutritionists. Included in this study were eleven schools with SFPs. School sites were selected to approximate proportionate stratifications based on political regions, rural urban differences, program type, sponsoring agency, and number of recipients. Three weeks were spent in the field and all data related to attendance and enrollment were gathered through interviews with

school personnel only, primarily teachers.

Program managers and teachers reported that more children attended school when there were meals and that the frequency of illness was reduced. They also felt that children were able to pay greater attention to their lessons, thus facilitating learning. Teachers often noted that many of the children came to school without breakfast and that without lunch, it would have been difficult for them to study.

Guatemala. Judith Balderston describes the findings of the Berkeley Project on Education and Nutrition. This study represents an attempt to examine the interrelationships among a wide variety of socioeconomic status-related variables. Included in the analyses are important insights into why some children are likelier than others to attend school, and how school enrollment is influenced by nutritional status. This study presents findings on the effects of nutrition and health on school participation and performance; the relationship between literacy and agricultural productivity; and the relationship between women's education and family size.

The investigators found that in Guatemala, decisions to enroll a child in school were affected by parents' need for the child's help, by parental perceptions concerning the value of schooling, and by the child's competence. In one village, where work for children was readily available and where



parents educational background was relatively low, school enrollment was affected positively by family affluence but not by apparent differences in the child's weight, height or verbal proficiency. In the other villages, where parents had relatively more education and work wasn't so readily available for children, the factors of height and verbal performance at age 7 were positively related to school enrollment. In general, the researchers concluded that when economic and family background factors were held constant, the size and health of children acted as independent, positive determinants of children's school attendance and performance. The size of the child is in effect a proxy for prior nutrition.

NUTRITION, ACADEMIC PERFORMANCE, AND COGNITIVE DEVELOPMENT

Cognitive function may be defined as the ability to learn categories, to process and structure information, and to learn and react to social

Mild to moderate
malnutrition does appear
to alter processes
associated with
cognitive function.

and environmental cues. Mild to moderate malnutrition does appear to alter processes associated with cognitive function. Passivity,

apathy, shortened attention span, reduced short term memory, failure to acclimate to repetitive stimuli, and a lag in the development of sensory integrative capacity are all associated with mild to moderate malnutrition. These dysfunctions prevent children from taking maximum advantage of their learning environments. Research findings presented here indicate that children with protein caloric malnutrition tend to function at reduced levels of cognitive development and academic achievement.

Haiti. Joel Cotten investigated the relationship between hunger and intellectual performance in Haiti. Individual children in the sample survey who came to school without breakfast were identified and their performance on the Raven test was compared with the average performance for the school. It was observed that within the SFP-schools, there was a highly significant difference between the performance levels of the two groups. Children who came to school without breakfast did markedly worse than their less hungry counterparts. On the non-program side, there was no significant difference between the two groups. Cotten's study found that 7 percent of the variance in IQ scores could be explained by malnutrition. The study also confirmed that where the quality of education opportunity was low, it was especially important to alleviate hunger in order for student learning to take place.

Colombia. The Cali Preschool study in Colombia is an important effort to examine the effects of a combined program of nutritional

Cotten's study found
that 7 percent of the
variance in IQ scores
could be explained
by malnutrition.

supplementation, cognitive stimulation and health care on the cognitive development of lower class preschool children. The study included a control group of children of low socioeconomic status who received no intervention and a comparison group of upper-income, Colombian children whose test performance was comparable to that of children from a low socioeconomic status at any point in the study. The researchers used tests of immediate memory, verbal reasoning, color recognition, and object recognition as criterion variables in the study. The investigation involved 240 three-year-old children who were assigned to either a nutrition plus stimulation plus health care condition, or to a nutrition plus health care only treatment. Within each of these 2 general groupings, subjects received either 1, 2 or 3 years of continuous intervention.

Results obtained at the end of the study's second year showed that children experiencing 2 years of the comprehensive intervention



program improved in verbal reasoning and general knowledge, whereas children in the nutrition plus health care only groups did not show comparable improvements. The performance of the nutrition plus health care only groups on cognitive measures was not substantially different from that of low socioeconomic status children in the control group.

Jamaica. One evaluation of the educational benefits of giving a school meal to a class of children, which deserves particular attention, is a study conducted in Jamaica. This study was carried out in a government-run comprehensive school, situated in a rural mountainous area in the island. The majority of students came from poor farming families and ranged from 11 to 17 years of age. Giving breakfast to a class of school children had a significant effect on school attendance and arithmetic scores. The increased attention which children received in nutritional intervention programs was ruled out by including a control group which was given a syrup drink.

The level of a student's cognitive performance is in part a function of the adequacy of his or her diet. The importance of these studies is that they establish a theoretical and empirical framework for a major claim made by advocates of SFPs, namely that when such programs provide undernourished participants with an adequate diet, cognitive development outcomes can be reasonably anticipated. These outcomes would include improved test

scores, decreased repetition of grades and decreased drop out and absenteeism rates. The Haiti case study clearly demonstrates that diet was the single most important predictor of classroom achievement. The undernourished child or the child who goes to school without eating after an overnight fast does not maintain a classroom behavior conducive to optimal learning.

SFP DESIGN

Research findings suggest that SFPs can reach their full potential only when they are designed as part of a broader intervention strategy to address development lags or deficiencies in students. The necessity of an integrated approach notwithstanding the importance of an SFP's impact on the alleviation of hunger and the improvement of nutritional status should not be underestimated.

The study concludes by identifying three issues:

- What kinds of changes do SFPs promote and for whom?
- To what extent are those changes interdependent?
- Given a particular set of ecological conditions, what is the ideal SFP design to promote improvements in enrollment, attendance, and academic achievement?

There are several implications of these findings for SFP design:

- It seems likely that where the need for child labor and availability of employment opportunities for children coexist, SFPs

are likely to act as incentives for school attendance only when the ration size is large enough that feeding can be viewed by parents as a significant income transfer program.

- Different patterns of school enrollment for boys and girls exist. Girls work in the household is highly valued and therefore served as a significant disincentive to school enrollment. There is a need to explore differential impacts of

The undernourished

child . . . does not

maintain a classroom

behavior conducive to

optimal learning.

SFPs on attendance of boys and girls.

- The finding that children's size and health act as independent positive determinants of children's school attendance and performance has important ramifications for SFPs. Size is a proxy for nutritional status this suggest that if SFPs can be designed to have an impact on nutritional status, impact on attendance and performance will also be achieved.
- SFPs make a difference in school attendance and enrollment when there is a good fit between the SFP design and the environment



in which the program operates. Studies support the view that SFPs work best in poor, stable rural areas. They seem to be less effective when the poverty is abject and the need for child labor is great.

- In very marginal communities, SFPs must be designed as both an income transfer scheme and as a nutrition supplement for enrollment and attendance benefits to occur. It appears that those SFPs with the greatest impact on nutritional status will also be most effective in improving attendance. Program regularity and efficiency is critical to the success of any effort to increase enrollment or attendance through SFP. Parents must be made aware of the program and its benefits for the full potential impact on attendance and enrollment to be achieved.

LESSONS LEARNED

Pollitt's study raises the question: is school-feeding effective among school-age children? The Pollitt study explains that as the child grows older, monofocal programs may be more successful because they can be targeted to basic and specific developmental needs. Pooling the data from different studies leads to some tentative inferences. In connection with short term hunger, the data suggest that this physiological condition has adverse effects on emotional behavior, arithmetic and reading ability, and physical work

output. These findings agree with those from experimental studies on the effects of short term fasting on problem solving behavior.

The evidence from the studies thus far strongly suggest that early nutritional deficiencies may significantly retard intellectual development. It appears that sensory integrative capacities, short term memory and attention may be particularly harmed. Malnutrition in infants and children is a risk factor in the formal educational system. It is important to include nutrition as a determinant of school performance and achievement. Early malnutrition or poor nutritional status among school children has significant adverse affects on school progress. There is also a direct relationship between the prevalence of malnutrition in a country and the contribution by malnourished children to educational wastage. Children who are undernourished and whose learning is slow have difficulties mastering school material and are among those with high chances of repeating grades and dropping out early from school.

Intelligence test measures are rough indicators of the learning ability of the child. Studies report that in comparison to a well-nourished control group of children, children with a history of malnutrition scored significantly lower in intelligence test scores and school achievement scores. Most of the evidence supports the hypothesis that the severity of the nutritional deficit is positively associated with the magnitude of

the cognitive deficiency during school age.

There is a trend in the data that suggests that malnutrition is a developmental risk factor. The body of data placed in the context of or understanding of child development, defines malnutrition as a risk factor in the formal educational process.

The following are conclusions justified by the data:

- The intellectual function during school age and the educational progress of children with a history of early, severe and chronic malnutrition born into conditions of sever social and economic deprivation are at high risk. They will have low school achievement, repeat grades and maintain a high drop out rate.
- Multifocal intervention programs that combine nutrition supplementation, health care, and equational stimulation have significant developmental impact. Children with a history of moderate to severe malnutrition exposed to these programs beginning as late as 42 months

... early nutritional
deficiencies may
significantly retard
intellectual development.



of age have had substantive improvement in cognitive performance. The earlier the intervention and the longer the duration of multifocal programs, the greater the developmental and educational benefits accrued.

- There is strong evidence that school feeding programs in developing countries result in an increased attendance among recipients. This increase may have significant educational benefits in the long run as it ensures the exposure of the student to the materials taught in school.
- The evidence presented and the conclusions that have been advanced indicate that it is imperative to include nutrition as a determinant of school performance and achievement. Early malnutrition and poor nutritional status among students can and will have significant adverse effects over school progress and contribute to

The earlier the
intervention . . . the
greater the developmental
and educational benefits.

school wastage. The data is conclusive to demonstrate that the protection of the child's nutritional status during his early formative years and during the school period will result in a better student, and will significantly decrease the human and capital costs of school wastage.

- The evidence suggest that SFPs may be most effective in meeting their attendance related objective in settings where attendance is not already high and where children are from rural, low socioeconomic backgrounds.
- In the case of SFPs the potential for secondary changes is enor-

mous and can influence almost every aspect of the recipient country's social, economic, and political structure.

Evaluation of school feeding programs are complicated by the nature of the intervention itself and ecological contexts. Often the nutritional characteristics of the meals provided in school do not meet the nutritional needs of school children. In the school or classroom setting there are a number of variables associated with both the recipients and the institutions which are likely to interact with the nutrition program and determine its outcome. Nutritional interventions such as monofocal programs are not as successful as those multifocal interventions which add educational and health services to a good diet. More integrative approaches to school feeding where the specific developmental needs are taken into account may lead to a greater success in this type of intervention directed to children.

The ABEL project is funded by the U.S. Agency for International Development (R&D/ED, R&D/WID) and operated by the Academy for Educational Development in consortium with Creative Associates International, Inc., Harvard Institute for International Development, and the Research Triangle Institute. For further information please contact the following ABEL staff:

Kurt Moses, Director, or Furhana A. Bhoola, Research and Training Specialist
Academy for Educational Development • 1255 23rd Street, N.W. • Washington, D.C. 20037
 Telephone: (202) 862-1900 • Fax: (202) 862-1947 • Telex: 197601 ACADED WSH

The ABEL Information Bulletin is researched and edited by Furhana A. Bhoola, Ph.D.

**ABEL INFORMATION BULLETIN SERIES**

The following is a list of publications in this series. For copies, contact Furhana A. Bhoola, Research/Training Specialist.

Bulletin #1

The Agricultural Teacher Education Programme of the National Teacher Training College

Bulletin #2

BANFES Training

Bulletin #3

Breakthrough to Literacy

Bulletin #4

DACUM: Developing a Curriculum

Bulletin #5

Designing Supplementary Teaching Materials

Bulletin #6

Development Communications

Bulletin #7

Development of a Continuous Assessment Programme for the Primary Schools

Bulletin #8

Educational Library Services

Bulletin #9

English in Action

Bulletin #10

The Evening and Weekend College Programme

Bulletin #11

Financial Management Initiatives at Lesotho's National Teacher Training College

Bulletin #12

Income Generation at Thaba-Tseka Skills Training Center

Bulletin #13

Instructional Materials Resource Center

Bulletin #14

Mahlaseli: Sun-Beams - Lesotho Monthly Reader for Primary School Children

Bulletin #15

The National Dissemination Programme

Bulletin #16

The Non-Formal Education Subproject

Bulletin #17

Operations Management at the National Teacher Training College

Bulletin #18

Primary Education News

Bulletin #19

Primary In-Service Education Programme

Bulletin #20

The Resources Directory for Self Reliance and Enterprise Development in Lesotho

Bulletin #21

Schemes of Service

Bulletin #22

School Supply Unit

Bulletin #23

Small Business Studies Series

Bulletin #24

The Teacher Personnel Management Information System

Bulletin #25

Thaba-Tseka Skills Training Center

Bulletin #26

Learning Technologies for Basic Education

Bulletin #27

Classroom in a Suitcase: An Indian Experiment

Bulletin #28

The Economic and Social Impact of Girl's Education in Developing Countries

Bulletin #29

Restructuring a U.S. School

Bulletin #30

System to Help Access Reports of Effective Education (SHARE)

Bulletin #31

Curriculum Reform in Egypt

Bulletin #32

IBM Education Projects and Courseware for ABEL: Innovations in the "Hard" Technologies of Learning

Bulletin #33

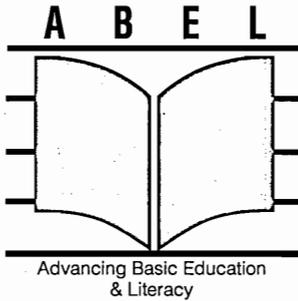
The Radio Language Arts Project (RLAP) in Kenya

Bulletin #34

Introducing National Languages in the Primary Education System in Mali

Bulletin #35

An Ethnographic Study of Factors Affecting the Education of Girls in Southern Malawi



ABEL Information Bulletin

This Bulletin reports on a non-governmental organization program for equitable and rapid expansion of basic education opportunities to the most disadvantaged groups in Bangladesh. The report is based on a case study of basic education innovations implemented by a national non-governmental organization in Bangladesh—the Bangladesh Rural Advancement Committee (BRAC). The case study was carried out by a multi-donor team comprised of AID through the Academy for Educational Development, UNICEF, and the Rockefeller Foundation. The methodology of the case study included participant observation of BRAC's basic education programs, interviews of key personnel in BRAC's education networks, and communities served, as well as document study. The central objective of the case study was to carry out an independent analysis of BRAC's basic education program to determine its strengths and weaknesses that may affect its potential for sizeable expansion within Bangladesh and to derive some generalizable principles and methods from the BRAC experience that could be applicable to other similar basic education issues.

In this Bulletin, the background and origin of BRAC's basic education program, its organizing principles centered around the participation of beneficiary communities, external donors, and BRAC itself will be examined. The implication of BRAC's experience and operational strategies, and its future role in relation to government and other NGO basic education programs, as well as the impact of this basic education model on basic education provision in Bangladesh will also be briefly examined. The lessons learned from BRAC may well serve heuristic purposes for other developing countries.

Primary Education for All: Learning From the BRAC Experience

BACKGROUND AND ORIGIN OF BRAC'S BASIC EDUCATION PROGRAM

BRAC is the largest non-governmental development organization in Bangladesh. It was established as a general rural development, credit, and health program provider and operated as such for several decades. Having discovered the negative effects of untargetted rural development programs on the rural poor and marginalized groups like women and landless farmers, BRAC structured its development programs to target primarily these groups. Poor rural women, therefore, became one of its major development targets. They were offered literacy and basic education, income generating skills, and other practical training perceived to raise their quality of life and that of the general community.

In 1979, these women asked BRAC "What about our children? Must they grow up illiterate and wait until they are 18 to come to your program?" BRAC helped these women form a school committee, find a room (a school site) and select a person with a minimum of 9 years of education from among community

residents to be trained as a teacher. Consistent with BRAC's policy of generally targeting the most disadvantaged for its programs, village women satisfying BRAC's academic requirements were given preference for teaching positions. The first one-room BRAC schools for poor village children unserved by the public school system were thus started with the cooperation and leading participation of poor rural families, particularly women. BRAC schools were built around cooperative efforts appropriately involving the local people, BRAC, and international donors. This cooperative effort included the following division of responsibility;

1. THE LOCAL PEOPLE: a) define schooling needs by identifying about 30 8-10 year olds living within 2.5 kilometers radius from a planned school site and are unserved by the formal school

The ABEL Information Bulletin provides practical and relevant information about basic education initiatives and innovations in developing countries. The goal of the ABEL Information Bulletin is to disseminate proven tools, methods, and research findings about basic education programs.



system, b) identify a rental room to house the school for specified hours of the day, c) identify a prospective teacher, d) work out the most convenient school schedule with BRAC staff, e) assume responsibility to ensure sustained student attendance at school and continually dialogue with the teacher on student progress.

2. BRAC: a) train the teacher, b) provide curriculum, text books and stationary for students, c) provide teacher salary d) provide on-going supervision and skills up-grading for teachers, e) provide all necessary management backstopping for the school.

3. INTERNATIONAL DONORS: a) contribute financial and material support, b) contribute scholarships for high level pedagogical training of staff, and c) participate in evaluating BRAC schools from time to time.

By 1985, 51 such schools were opened along the same procedure of local initiative and cooperation between the people, BRAC, and external donors as the first few schools. BRAC expanded its role from rural credit and development management to include basic education for disadvantaged children. It now serves as a planning instrument and technical intermediary making the priority needs and wishes of village people real by

synchronizing local resources and potentials, its planning and professional expertise, and the material and expert resources of the relevant international donor community. By 1987, 410 schools were in operation and BRAC had gained much hands-on experience in initiating and operating its schools with the participation and initiative of the communities served. Now the expertise, methodology, and procedure were firmly in place to considerably expand the network of BRAC schools further to serve disadvantaged children in many other regions most unlikely to be reached by government basic education services.

BRAC involves the

community people in

the definition of

problems and search

for solutions.

CHARACTERISTICS OF BRAC SCHOOLS

The background and origin of BRAC's Non-Formal Primary Education (NFPE) school system shaped its basic characteristics and strategies: 1) BRAC is people-centered in the sense that it

creates a holistic partnership between its capable and committed professionals and the local community which possesses information vital to successful program planning and program implementation, insights into local problems, and other resources. BRAC involves the community people in the definition of problems and search for solutions. Through its process of developing partnership with the rural poor, BRAC has gained experimentally and experientially validated methods for implementing relevant development. 2) BRAC schools (NFPE schools) are designed around holistic views of the social, economic, and cultural life of the communities they serve. Fitting school schedules with essential economic activities children must perform is a very important feature of BRAC schools. Parents (in the NFPE case, mostly mothers) help design the schedule for the schools around the economic cycle of the family and community. Children as economic assets are a vital labor force and the family can only afford to release them for learning certain times of the day, and very little or no time can be allotted for homework. This process ensures family commitment to send the children to school in accordance with the agreed on schedule. 3) Teachers are selected by parent committees. This helps build mutual accountability and respect between the teachers and the community. Teachers and parents work together to ensure the progress of pupils. Teachers are



expected to make regular home visits and discuss schooling issues with parents which ensures persistence and good performance of pupils in school.

NFPE STRATEGIES

BRAC's NFPE school program rests on strategically aligning BRAC's expertise, local manpower resources (largely in the form of paraprofessional teachers), local people's initiatives and willingness to participate, and the goodwill and resources of international donors including NGOs. BRAC plays a central role in this nexus of local beneficiaries, community resources, and external assistance. BRAC assumes all major technical, managerial, training and manpower development responsibilities. It has a decentralized approach to paraprofessional training for NFPE teachers, and management of NFPE schools, while maintaining a centralized system of regional planning for the expansion of NFPE school system, production of teaching materials, the recruitment and training of district level Program Organizers, high-level supervisory and pedagogical training nationally and internationally, and a few other highly technical services shared by the entire system of NFPE schools. The specific tasks of the vital components within the NFPE nexus may be summarized as follows:

Parent's Committee

Though parents of most NFPE students are illiterate and among the most socio-economically disadvantaged, they play meaningful roles in the establishment and running of NFPE schools.

A number of meetings are held between BRAC and parents of prospective NFPE students prior to the establishment of NFPE schools. At these meetings, parent's roles in the management of NFPE schools are developed: 1) Parents help locate a room to be used as NFPE school site; 2) They help define school schedule; they decide on which three hours of the day students can be released by the family for school attendance 6 days a week; 3) They select prospective teachers for the schools, and 4) They agree to attend monthly meetings and to monitor student attendance of schools.

These arrangements guarantee local community-BRAC linkages that have the effect of being a two way learning-based and people-centered development partnership.

BRAC Structure for Administration of NFPE Schools

BRAC has a central administration in Dhaka which coordinates the NFPE network. But many essential functions are decentralized to a well linked but flexible and responsive

network of regional and village level field offices. The village offices train the NFPE paraprofessional teachers and regularly supervise their performance, distribute centrally produced text and workbooks, and stationary for the school children. BRAC has developed a cost effective, decentralized management system over years of trial and error. Per student expenditure of NFPE schools is \$18 per year. About a third of the NFPE programs's annual budget is spent on direct management and supervision which contributes to the quality of school performance. The NFPE system of using many closely supervised small schools with on-going upgrading of curriculum, teaching staff, and materials, produces a significantly higher rate of Class III completers entering and persisting in Class IV of government schools as compared with their counterparts in the government primary school system.

The critical link in this decentralized administration system is the Program Organizers (POs), who are B.A. or M.A. holders from recognized universities. These young professionals are put in charge of 15-20 NFPE schools and also serve as a grassroots administrative force with the following functions:

- supporting on-going NFPE schools
- surveying proposed sites for new NFPE schools
- starting new schools.



POs themselves are offered further education and training opportunities to move up the career and responsibility ladder within BRAC/NFPE program.

Teachers and Teacher Training

Prospective teachers must have 9 years or more of education and must be married. Marital status is used as one of the selection criteria, perhaps to enlist the respect and trust of the community and to ensure stability in teaching staff. Women are given priority. This emphasis on female recruitment is consistent with BRAC's general principle of targeting the most disadvantaged in its programs; 75% of NFPE teachers are women.

Teachers are given two weeks of pre-service resident pedagogical training at the local BRAC office. BRAC's teacher training curriculum and program emphasize student-centered teaching, though actual classroom teaching reflects general conformity to traditional teacher-led activity. This two week pre-service training is reinforced by regular one day per month refresher training at the village BRAC office and twice a month supervision by experienced BRAC staff. As resident members of the village, NFPE teachers make regular home-visits to discuss the progress and/or problems of students with their parents.

POs themselves

are offered further

education and training

opportunities to move

up the career and

responsibility ladder

within BRAC/NFPE

program.

Students, Class Size, and Teaching Site

The community identifies the site of the one room in which classes are held. Rental rooms, storage houses, and other similar sites are used on a 3-6 hour a day rental basis. NFPE schools are one-room schools that graduate a cohort of 8-10 year olds every three years. Thirty students, nearly 70% of whom are girls, are assigned to each teacher. The teacher keeps each cohort of 8-10 year old students for three consecutive years, teaching the entire curriculum to this cohort until they leave school at the successful completion of the three year program. Similar schools were needed for 11-16 year olds who dropped out of government schools early and were unlikely to return. By 1988,

BRAC had started 223 two-year Kishor-Kishori (KK) schools for this age group, often using the same premises and teachers of NFPE schools which run in the morning. Kks are generally run in the afternoons.

Curriculum, Didactic Materials, Schedule and BRAC/NFPE Goal

NFPE curriculum consists of reading, writing, mathematics, and social studies with emphasis on practical health, hygiene, and other ecological and environmental issues. All subjects are given as intensive a treatment as possible in class. Homework is avoided on account of time and facilities constraints in students' homes. Didactic materials are centrally developed and produced for all NFPE and KK schools. Teaching material specialists revise these materials to improve quality and relevance to the broad goals of NFPE and KK schools on an on-going basis. The assumption was that three years of quality education would permit the children and adolescents to acquire a functional literacy, numeracy, and basic knowledge that would enable them to continue learning on their own and become productive members of society. But because 90% of NFPE graduates continue in class IV of government schools, BRAC adjusted its goals to include preparation for formal schooling into its curriculum and teaching program. The curriculum has already undergone a



number of revisions to fine-tune it to NFPE goals and to continually improve the quality and relevance of teaching.

FURTHER DEVELOPMENT OF THE NFPE SYSTEM

Two types of dynamic development are observable in BRAC: 1) quantitative development, 2) qualitative development in curriculum and didactic materials, teacher training, and supervision.

The quantitative development of NFPE schools is reflected in the following table:

	Schools in Areas Currently Served	Schools in New Areas	Total
Stage 1 1992-1995			
1992		8,000	8,000
1993	15,000	35,000	50,000
1995	—	—	(same)
Stage 2, 1996-2000			100,000

By Mid-1992, NFPE schools had served a total of 240,000 students, giving first chances to those who remained unserved by the government primary school system, and second chances to those who dropped out of it for many reasons. By 1998, the magnitude of children served by the expanded NFPE

The result has been encouraging and by mid-1992, 25-30% of all NFPE POs were women.

system is expected to grow to 3 million, the majority of them being girls.

Qualitatively, BRAC is enhancing the technical capacity of its teaching materials and curriculum development staff at different levels. It has already sent two education specialists for training abroad. These are an education materials specialist and a curriculum specialist. The educational upgrading that starts with students and builds to locally recruited paraprofessional teachers, POs, and other professional cadres, is made complete by the training top specialists abroad. Thus, the program is learning-centered in a multi-dimensional sense of the term. Professionals in the NFPE system are up-graded with respect to their respective skill levels through further education and training nationally and abroad. But they also learn from each other, from the people, and from experience on the job.

Plan is also underway to introduce a "master teacher" who will

observe class sessions and offer intensive pedagogical advice to teachers to improve their quality of teaching and make their teaching more thought provoking and challenging to students' creative thinking and independent problem solving. There is also a plan for a more active interaction with parents as dynamic experimentation with curriculum, teaching methods and material development progresses.

OVERALL IMPACT

A number of benefits are accruing from BRAC's NFPE programs. First and foremost, a large number of underprivileged children, particularly girls, are being given basic education opportunities. Second, BRAC has pioneered genuine people-centered, and interactive partnerships in development, which brings local communities, the local NGO (BRAC) and the international donor community, particularly donor NGOs, into a single and well coordinated operating system. Third, BRAC's NFPE program is significantly transforming the role and status of women within its national network.

Until recently, there was virtually no female presence even in BRAC/NFPE managerial and supervisory positions. This has been the case because BRAC/NFPE promotes to upper level positions from the ranks of Program Organizers (POs) and women were not hired as POs owing to cultural restrictions on their free



movement between NFPE schools and among other men. Since 1990, BRAC has put in place procedures that allow and encourage women POs to be recruited, thereby eroding cultural barriers to some degree. The recruits are assigned in small groups to field offices near their families. Group placement provides support to the young women. The result has been encouraging and by mid-1992, 25-30% of all NFPE POs were women. The attrition of these recruits, owing to the hardship of this rural assignment, and other social pressures is expected to be no worse for females than for males. Fourth, students who would otherwise remain outside the government primary school system are moving into it at the IV grade level which means that the NFPE system is serving as a major feeder to the national primary school system at the Class IV level.

Gender awareness programs are currently scheduled to be incorporated into PO recruitment and training programs, further strengthening the gains women are making. Added to the preponderance of girls among students, and women among NAPE teachers, BRAC/NFFPE has made major inroads towards enhancing female independence and participation in public affairs in a very traditional setting not friendly to equality and independence of women.

The BRAC/NFPE
experience informs
educational authorities
on additional seminal
primary education
issues. . .

POTENTIAL NATIONAL ROLE OF BRAC/NFPE

In addition to its educational gains for the disadvantaged, BRAC's experience with NFPE schools can be considered a demonstration of the value of partnership between NGOs, government (since it is on the receiving end of graduates of the three year NFPE program), and local communities in the pursuit of "education for all goals". The BRAC/NFPE program is influencing the transformation of traditional, illiterate communities. This is gaining increasing recognition by international organizations, government officials, and other NGOs in Bangladesh. As BRAC's purposive experimentation to evolve effective methods of expanding basic education on sustained, participatory models gain international renown, government attitudes and those of other NGOs are fast becoming

receptive to BRAC's tested concepts and models of work with the poor and underprivileged.

Responding to this favorable climate, BRAC created the Educational Support Project (ESP) in 1991 to streamline the dissemination of its models to other NGOs. Twenty six NGOs had received BRAC/NFPE materials, training, and supervision to start five NFPE style schools each by 1992 and the magnitude of such cooperation is growing fast.

With regards to cooperation with the government of Bangladesh, BRAC assisted 324 government primary schools in three regions and 9 subregions since 1988. This assistance included modeling of educational services and widely sharing BRAC's proven methods of building community-based planning and decentralized management mechanisms to expedite educational development. BRAC/NFPE personnel conducted briefings and orientations for community members and local civil administration officials, organized training of supervisors and teachers of primary schools, helped prepare action plans with local school-management committees and parent-teacher groups, and worked with teachers on classroom effectiveness. This marks a positive beginning in evolving nation-wide norms and practices in involving all sectors of society and mobilizing local and international resources in designing and implementing basic education programs.



The BRAC/NFPE experience informs educational authorities on additional seminal primary education issues: 1) BRAC is responsive to needed curriculum revision and takes little time to review its curriculum. This contrasts with government educational bureaucracies that take a long time to change curriculum for greater relevance and effectiveness. 2) BRAC spends about one third of its NFPE program budget on management and direct supervision. This budgetary emphasis makes possible its active on-site presence and close supervision that make non-professional teachers effective. This saves time and preservice training expenses for primary school teachers. 3) BRAC uses many small schools, as opposed to few large ones typical of a government school system making school more accessible to girls in particular. In traditional societies, girls do not go to far off schools. 4) BRAC's educational philosophy is oriented to trying educational ideas and methods,

continuously modifying them until a model capable of rendering the desired results is achieved.

The ABEL project is funded by the U.S. Agency for International Development (R&D/ED, R&D/WID) and operated by the Academy for Educational Development in consortium with Creative Associates International, Inc., Harvard Institute for International Development, and the Research Triangle Institute. For further information please contact:

Kurt Moses, Director, or Almaz Zewde, Research and Training Specialist, Project ABEL,
The Academy for Educational Development • 1255 23rd Street, N.W. • Washington, D.C. 20037
Telephone: (202) 862-1900 • Fax: (202) 862-1947 • Telex: 197601 ACADED WSH

This ABEL Information Bulletin was researched and edited by Almaz Zewde, Ph.D.



ABEL INFORMATION BULLETIN SERIES

The purpose of the *ABEL Information Bulletin* is to share practical and relevant information on basic education initiatives worldwide with the end-result of generating dialogue about and inspiring innovation in basic education reform. (Approximately 5 pages each).

Bulletin #1

The Agricultural Teacher Education Programme of the National Teacher Training College

Bulletin #2

BANFES Training

Bulletin #3

Breakthrough to Literacy

Bulletin #4

DACUM: Developing a Curriculum

Bulletin #5

Designing Supplementary Teaching Materials

Bulletin #6

Development Communications

Bulletin #7

Development of a Continuous Assessment Programme for the Primary Schools

Bulletin #8

Educational Library Services

Bulletin #9

English in Action

Bulletin #10

The Evening and Weekend College Programme

Bulletin #11

Financial Management Initiatives at Lesotho's National Teacher Training College

Bulletin #12

Income Generation at Thaba-Tseka Skills Training Center

Bulletin #13

Instructional Materials Resource Center

Bulletin #14

Mahlaseli: Sun-Beams - Lesotho Monthly Reader for Primary School Children

Bulletin #15

The National Dissemination Programme

Bulletin #16

The Non-Formal Education Subproject

Bulletin #17

Operations Management at the National Teacher Training College

Bulletin #18

Primary Education News

Bulletin #19

Primary In-Service Education Programme

Bulletin #20

The Resources Directory for Self Reliance and Enterprise Development in Lesotho

Bulletin #21

Schemes of Service

Bulletin #22

School Supply Unit

Bulletin #23

Small Business Studies Series

Bulletin #24

The Teacher Personnel Management Information System

Bulletin #25

Thaba-Tseka Skills Training Center

Bulletin #26

Learning Technologies for Basic Education

Bulletin #27

Classroom in a Suitcase: An Indian Experiment

Bulletin #28

The Economic and Social Impact of Girl's Education in Developing Countries

Bulletin #29

Restructuring a U.S. School

Bulletin #30

System to Help Access Reports of Effective Education (SHARE)

Bulletin #31

Curriculum Reform in Egypt

Bulletin #32

IBM Education Projects and Courseware for ABEL: Innovations in the "Hard" Technologies of Learning

Bulletin #33

The Radio Language Arts Project (RLAP) in Kenya

Bulletin #34

Introducing National Languages in the Primary Education System in Mali

Bulletin #35

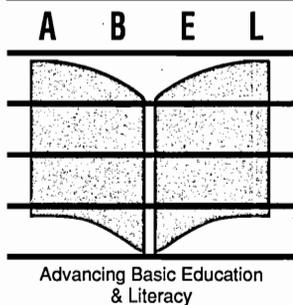
An Ethnographic Study of Factors Affecting the Education of Girls in Southern Malawi

Bulletin #36

School Feeding Programs and Educational Achievement

Bulletin #37

Primary Education for All: Learning From the BRAC Experience



ABEL Information Bulletin

Poverty leads to parental perceptions that educating girls is merely an additional cost to families while educating boys is a worthwhile investment. This perception contributes to a considerable and persistent gender gap in the education system of most Third World countries. Efforts by a growing number of governments and the international donor community to expand educational opportunities for all has increased educational capacity without necessarily redressing the gender gap. The contribution of female education to national development and the need to focus on girls' education to redress existing disparities to enhance their participation in development have become clear.

*This issue of the ABEL Information Bulletin aims to underscore the practical gains from girls'/women's education by presenting the policy outcome of a conference based on a new analysis of existing Guatemalan gender data. A close analysis of existing gender data gathered on the health, education, and income status of women and different family and child welfare dimensions overwhelmingly demonstrated the positive association between girls' and women's educational levels and higher family welfare attainment in education, nutrition, infant mortality, reduction of fertility rates, and gains in other welfare indicators. This Information Bulletin is designed to disseminate empirical solutions to the age-old problem of gender inequity in a Third World — Guatemalan—context where low level of female education is one of the striking features of underdevelopment. The Bulletin integrates, into the Guatemalan findings, the message of global research findings. The following documents serve as references for the global implications of girls'/women's education in development: UNICEF; *Strategies to Promote Girls' Education* (1992) and *Educating Girls and Women: a Moral Imperative* (1992); the World Bank Discussion Paper No. 133, *Letting Girls Learn* (1991); and the Project ABEL study *Educating Girls: Strategies to Increase Access, Persistence and Achievement* (1991).*

Guatemalan Development and Female Education

Most studies on the gender gap in education suggest that the problem lies in Third World poverty, absence of school systems sensitive to intrinsic cultural tendencies such as preference for gender-separate schools, the shortage of female teachers to teach girls and act as role models, and other related issues. Poverty, in particular, discourages parents from investing in girls' education in time and money as they perceive such an investment to be a mere cost. This perception of girls' education stands in contrast to worldwide research findings that each additional year of education of women and girls yields significantly higher returns in economic productivity. Additionally, education of girls and women has been positively associated with such benefits as reduced infant mortality and fertility rates, improved family and child nutrition, better resource utilization, and numerous other benefits.

The Guatemalan experience presented here reaffirms this pos-

itive connection between girls'/women's education and the social and economic progress of a society. This factual reaffirmation motivated the Guatemalan government to take resolute action to promote the education of girls/women - an act of exemplary government measures rooted in a solid vision of the fundamental connection between female education and societal progress.

THE GUATEMALAN EVIDENCE UNDERSCORES WORLDWIDE FINDINGS

Much data had been gathered in 1987 and 1989 on various dimensions of female education in Guatemala. But comprehensive analysis of these data to reveal the relationship between female education and indicators of welfare improvement such as improved income earnings, reduced fertility and infant mortality, improved family and child nutrition, was made only in 1991. This analysis of existing data was



motivated by Guatemala's status of having the highest rate of female illiteracy in the Western Hemisphere, exceeded only by Haiti. Given the worldwide research assertions on the positive national development role played by the education of women and girls, the Guatemalan government, with encouragement by USAID/Guatemala, became interested in examining existing Guatemalan data on this issue. Indeed, analysis did yield impressive associations between female education and various measures of welfare improvements.

RESULTS OF THE RENEWED DATA ANALYSIS ON FEMALE EDUCATION AND DEVELOPMENT PROSPECTS IN GUATEMALA

The Guatemalan Demographic and Health Survey conducted in 1987 and the National Socio-demographic survey of 1989 contained rich data on education, health, economic status, family size, fertility status, etc. When these data were analyzed, with a view to identifying situations relating to the participation of women in education and development generally, a number of factors emerged. First, the rate of

female education was shown to be predictably lower than the rate of male education at all grade levels. At the same time, the analysis showed measurable performance improvements on a number of indicators associated with each additional year of female education. In health, for instance the association between women's level of education and completion rates of immunization are clearly demonstrated by Table 1.

**TABLE 1
Female Education Levels and Rates of Child Vaccination**

Grades Completed	Round 1 of Polio Vaccin.	Round 3 of Polio Vaccin.
0	64.0%	27.6%
1	71.2%	29.5%
2	77.2%	38.9%
3	83.1%	43.1%
4-6	80.4%	43.1%
7+	79.1%	46.5%

Source: Educating Girls: Achieving the Development of Guatemala, 1991, Table 13.

Similarly, female education was positively associated with the number of children women desired to have as shown by Table 2.

In the sphere of economic productivity, time-series analysis of the Guatemalan data demonstrated annual increments resulting from each additional year of education, as shown in Table 3.

**TABLE 2
No. of Children Desired by Female Grade Levels**

Grades completed	No. of Children desired
0	6.2
1-3	4.9
4-6	3.2
7+	2.5

Source: Educating Girls: Achieving the Development of Guatemala, 1991, Table 16.

Table 3 indicates that both males and females increase their income, therefore productivity, through education. The additional income figures for each year shown in the table were calculated on the basis of large, corresponding sample populations. The figures demonstrate that women's income gain as a proportion of their base income is higher than men's for additional years of education after grade 4. At grades 2 and 3, an additional year of education is associated with large income increases for men and only modest gains for women. Except at the grade 1-2 level, however, the positive correlation between an additional year of education and income increase for women shows a stable trend. The table raises additional concern, however, that women's economic gains are considerably less than men's for comparable educational levels. The message could be that after



TABLE 3
Gender and Economic Productivity by Educational Level

Education Level	Present Monthly Income/Person (Q)	Additional Income from One Year of Schooling (Q)
Men 0-1	138	22
Men 1-2	160	20
Men 2-3	180	52
Men 3-4	232	25
Total Men (average)	165	28
Women 0-1	106	49
Women 1-2	154	-6
Women 2-3	148	6
Women 3-4	154	54
Total Women (average)	122	41

Source: Educating Girls: Achieving the Development of Guatemala, 1991, Table 21.

educational equity has been attained, realizing equal benefits for equal levels of education and effort may remain a challenge for Guatemala.

THE GUATEMALAN NATIONAL CONFERENCE ON EDUCATING GIRLS: ACHIEVING DEVELOPMENT IN GUATEMALA

Demonstrated positive associations between girls' and women's education and various indicators of social and individual welfare improvements became the basis for serious exploration of what

needs to be done to redress the existing gender gap in education. The Office of Health and Education of the Agency for International Development (USAID/ Guatemala) along with relevant Guatemalan government offices, invited representatives of agencies working in the education sector to plan a national conference. The United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Development Program (UNDP), the National Office for Women, the Foundation for Development, and the National Program for Bilingual Education and other

Governmental and local non-governmental organizations were invited to participate in the conference planning process.

Participants on the planning committee were selected with respect to their qualifications in a) the design and implementation of primary education evaluation systems, b) planning and implementing participatory conferences with an educational focus, and c) personal skills and demonstrated ability in group dynamics and knowledge as well as successful experience in using strategies for establishing positive environments in conferences, seminars, and workshops.

SELECTION OF NATIONAL CONFERENCE PARTICIPANTS

The planning committee identified key people in academia, industry and business, agriculture, government, media, military, religious organizations, women's organizations, and non-governmental agencies, and local communities promoting the advancement of underprivileged people. Community leadership circles were given special attention. One hundred of the most influential people from these categories were selected to participate in the conference.



CONFERENCE OBJECTIVES

The objectives of the conference were defined to include the following:

- a) assemble a multi-sectoral group of Guatemalan influential decision-makers to deliberate on the state of the education of girls in Guatemala and to build awareness of the influence of girls'/women's education on the country's social and economic development
- b) facilitate intra-sectoral efforts to identify policies, strategies, and specific actions to promote primary education for girls
- c) analyze the influence that the education of girls has on socio-economic development indicators worldwide
- d) analyze the state of girls' primary education in Guatemala and propose the actions needed to make immediate improvements
- e) determine a set of policy initiatives and action strategies to provide educational opportunities to girls at the primary level
- f) formulate a follow-up action plan to implement the policies and strategies identified by the conference.

OUTCOME

The conference examined the results of data analysis on the correlates of female education in broad presentations followed by two working-group sessions. The first working-group focused on developing problem statements and declaration of commitments and value positions on the problem statements. The second working-group worked on the development of goal statements and needed changes in education and across other sectors to facilitate female participation. Both groups presented their documents to the plenary sessions of the conference.

The highlight of the final plenary session was the formation by the conference of a national commission to follow-up on the decisions reached at the conference. The commission was given the mandate to create a national emergency plan to address girls' educational needs as well as a national campaign to raise public consciousness on the importance of girls' education. The conference achieved the objectives set for it.

The overall outcome has been that Guatemala is now one of two USAID supported countries (Malawi being the other) where girls' access to and retention in primary education has become a major educational objective. The implementation of this objective

has been receiving significant USAID support. Policies and programs focusing on girls' education and efforts toward fundamental policy changes to address the underlying constraints unique to Guatemala are encouraged. Long-term strategies for coordinating other donor and local efforts in the field of girls' primary education are evolving. USAID is cooperating with six other public, private, and international donors in implementing a community-level project of educational interventions based on the national action plan developed at the conference.

Four years ago, girls' education was virtually unknown and ignored in Guatemala. As a result of the fresh examination of gender data and government and private actions based on it, approximately 30-35 NGOs, private organizations and businesses now operate girls' education projects.



LESSONS LEARNED

Four years ago, girls' education was virtually unknown and ignored in Guatemala. As a result of the fresh examination of gender data and government and private actions based on it, approximately 30-35 NGOs, private organizations and businesses now operate girls' education projects. The Minister of Education created a \$500,000 scholarship fund to encourage girls' education, and a new policy statement and strategy on girls' education has been proclaimed. Remarkably, in a recent address to the nation on his national plan of action, the new President of Guatemala made the education of girls a priority agenda of the Ministry of Education during 1993-1994.

The Guatemalan experience underscores a number of lessons. First, though there is a plethora of evidence on the collective social and economic benefits of girls' education, not all people in all countries know about it. It took a renewed analysis of existing data in Guatemala to high-

light the interconnectedness of girls' and women's education and national development. Secondly, Guatemalan policy makers and those that can influence the decision making process realized that the issue of girls and women's education is best handled when it attracts national and local attention and commitment. Lastly, quite apart from a society's moral imperative to educate all of its citizens, girls' / women's issues are and must be viewed as issues common to both men and women. The education of girls/women should be viewed as an essential condition for national development and that both sexes and society at large are the beneficiaries of enlightened and educated womanhood.

While gender disparities are common to almost all Third World countries, their determinants may vary in some measure. Each country needs to examine the circumstances of girls' education and determine the priority constraints that need to be addressed.

The Guatemalan experience also underscores that, while there

are no established and universally accepted measurements or indicators of progress to evaluate the effect of girls' education on their own and society's welfare, the following provide useful guides for assessing gains:

- level of girls participation at each grade level
- infant mortality rate
- maternal mortality rate
- rate of child immunization
- nutritional status of children and families
- rate of fertility reduction
- improvements in women's income
- improvements in family income
- rate of female employment
- women's participation in public affairs and decision making

The ABEL Information Bulletin provides practical and relevant information about basic education initiatives and innovations in developing countries. The goal of the ABEL Information Bulletin is to disseminate proven tools, methods, and research findings about basic education programs.

ABEL Information Bulletin is researched and edited by Almaz Zewde, Ph.D.

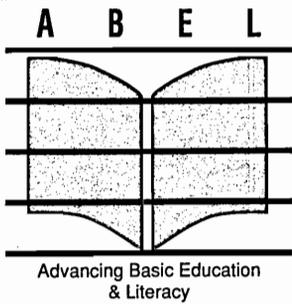
The ABEL project is funded by the U.S. Agency for International Development (R&D/ED, R&D/WID) and operated by the Academy for Educational Development in consortium with Creative Associates International, Inc., Harvard Institute for International Development, and the Research Triangle Institute. For further information please contact:

Kurt Moses, Director, or Almaz Zewde, Research and Training Specialist, Project ABEL,
The Academy for Educational Development • 1255 23rd Street, N.W. • Washington, D.C. 20037
Telephone: (202) 862-1900 • Fax: (202) 862-1947 • Telex: 197601 ACADED WSH

**ABEL INFORMATION BULLETIN SERIES**

The purpose of the *ABEL Information Bulletin* is to share practical and relevant information on basic education initiatives worldwide with the end-result of generating dialogue about and inspiring innovation in basic education reform. (Approximately 5 pages each).

- | | | |
|---|--|---|
| Bulletin #1
The Agricultural Teacher Education Programme of the National Teacher Training College | Bulletin #14
Mahlaseli: Sun-Beams - Lesotho Monthly Reader for Primary School Children | Bulletin #27
Classroom in a Suitcase: An Indian Experiment |
| Bulletin #2
BANFES Training | Bulletin #15
The National Dissemination Programme | Bulletin #28
The Economic and Social Impact of Girls' Education in Developing Countries |
| Bulletin #3
Breakthrough to Literacy | Bulletin #16
The Non-Formal Education Subproject | Bulletin #29
Restructuring a U.S. School |
| Bulletin #4
DACUM: Developing a Curriculum | Bulletin #17
Operations Management at the National Teacher Training College | Bulletin #30
System to Help Access Reports of Effective Education (SHARE) |
| Bulletin #5
Designing Supplementary Teaching Materials | Bulletin #18
Primary Education News | Bulletin #31
Curriculum Reform in Egypt |
| Bulletin #6
Development Communications | Bulletin #19
Primary In-Service Education Programme | Bulletin #32
IBM Education Projects and Courseware for ABEL: Innovations in the "Hard" Technologies of Learning |
| Bulletin #7
Development of a Continuous Assessment Programme for the Primary Schools | Bulletin #20
The Resources Directory for Self Reliance and Enterprise Development in Lesotho | Bulletin #33
The Radio Language Arts Project (RLAP) in Kenya |
| Bulletin #8
Educational Library Services | Bulletin #21
Schemes of Service | Bulletin #34
Introducing National Languages in the Primary Education System in Mali |
| Bulletin #9
English in Action | Bulletin #22
School Supply Unit | Bulletin #35
An Ethnographic Study of Factors Affecting the Education of Girls in Southern Malawi |
| Bulletin #10
The Evening and Weekend College Programme | Bulletin #23
Small Business Studies Series | Bulletin #36
School Feeding Programs and Educational Achievement |
| Bulletin #11
Financial Management Initiatives at Lesotho's National Teacher Training College | Bulletin #24
The Teacher Personnel Management Information System | Bulletin #37
Primary Education for All: Learning From the BRAC Experience |
| Bulletin #12
Income Generation at Thaba-Tseka Skills Training Center | Bulletin #25
Thaba-Tseka Skills Training Center | |
| Bulletin #13
Instructional Materials Resource Center | Bulletin #26
Learning Technologies for Basic Education | |



ABEL Information Bulletin

Radio Instruction or Educational Radio is not new. Many countries have used some form of radio instruction for the last six decades. But Interactive Radio Instruction (IRI) is relatively new. It started with the Nicaraguan Radio Mathematics Project, funded by the USAID and administered by Stanford University and the Nicaraguan Ministry of Education during the mid-1970s. The Nicaraguan project was the first IRI research and development project. It marked a new direction in the educational use of radio to improve academic achievement in Third World primary schools. Research and testing of IRI subsequently expanded to other countries, notably Bolivia, Kenya, and the Dominican Republic. The methods and techniques developed through these experiments have now spread to many countries.

This Bulletin presents the seminal features of the Interactive Radio Instruction system as developed, tested and implemented in Nicaragua, Kenya, the Dominican Republic, Nepal and other countries. Thomas Tilson's *The Economics of Interactive Radio*, a paper presented to the Donors to African Education Working Group on Female Participation, Paris, France, October 23, 1993, *Interactive Radio Instruction Handbook. A Guide to Planning and Implementation*, prepared by the Clearinghouse on Development Communication (1988), and *Interactive Radio Instruction: Confronting the Crisis*, prepared in 1991 as part of the USAID Science and Technology in Development Series provide the resource material for the Bulletin. The aim is to highlight the beneficial and cost-effective attributes of IRI for promoting quality primary education in cases where quality and access in education are hampered by resource constraints, including shortage of well trained and capable teachers, adequate and relevant educational facilities, and materials to conduct schools for all school-age children.

Interactive Radio Instruction: Making Quality Education Accessible

DEFINITION

Interactive Radio Instruction is an approach to delivering primary education through the radio in which strategically timed pauses during the educational radio transmission provide students opportunities to actively participate by responding to questions and challenges provided by the radio instructor. Though the lessons are provided through radio, each lesson is carefully written to stimulate responses from the students in much the same way as well managed classrooms. IRI programs are noted for their high quality curriculum, crafted and recrafted by experienced specialists. Curriculum designers take particular care to incorporate the most effective materials and learning sequences possible. Classroom observation and student achievement data are regularly collected, analyzed and fed into the IRI planning process to improve and modify the curriculum and instructional content.

IRI lessons incorporate sound pedagogical principles including

student-centered, participatory learning; distributed learning of new topics; immediate feedback on the correctness of students' responses; systematic review of concepts taught; and a lesson delivery format that is lively and varied. Lessons are organized in two to five 25-minute sessions delivered every week on each subject taught. This makes student exposure to the selected subjects more intensive than traditional instruction and enhances students' learning opportunities.

BACKGROUND

At the global level, the population of school-age children doubles every 20 years. Most of this growth is in the Third World, where the capacity for educating this population is at a minimum. Many Third World countries are strapped by economic stagnation which limits their ability to invest in basic education. Yet, evidence now confirms that basic education is one of the key and necessary preconditions for



development and improved economic performance.

The fast growing school-age population has pressured Third World countries to enroll more and more children into their school systems. In the absence of a corresponding development of additional school facilities and the training of qualified teachers, this explosive enrollment has led to the fast deterioration of educational quality at all levels. On average, the standard of Third World education is seldom as good as it was thirty years ago. This is why IRI has an important role to help improve the quality of education. IRI helps to achieve excellence by mobilizing the best educators available to design curriculum and lesson plans for the radio-delivery of high quality teaching to many thousands of children from a single source. Presently, over 600,000 children in Latin America, Asia and Africa are served through IRI programs. These programs provide broadcast radio instruction supplemented by effective printed instructional materials such as student worksheets, notebooks, and teacher's guide.

THE DEVELOPMENT OF IRI

IRI began in the mid 1970s with a number of projects aimed at

planning, testing, and implementing experimental IRI programs under USAID sponsorship. The first program was the Nicaraguan Radio Mathematics Project, funded by the USAID and administered by Stanford University and the Nicaraguan

IRI proved to be an
effective and cost efficient
approach to expanding
educational opportunities
to rural areas unserved by
the traditional system.

Ministry of Education. The project developed and tested about 700 lessons with very positive and conclusive test results affirming the value of IRI in improving mathematical achievements in rural schools. The lessons of Nicaragua stimulated other experiments in the uses of IRI. Experiments were initiated in language instruction in Kenya, where teaching English was critical to primary education. At about the same time, IRI was tried in the Dominican Republic where it was used to solve the problem of lack of access to primary education. The project was called Radio-assisted Community Basic Education and it centered around creating radio listening groups in rural commu-

nities without primary schools. Mathematics, social studies, and Spanish language lessons were designed and delivered by radio to groups of students under the supervision of an adult from the community.

Evaluation of that program indicated that the participating children learned more mathematics than children attending traditional schools and performed at about the same level in language skills. IRI proved to be an effective and a cost-efficient approach to expanding educational opportunities to rural areas unserved by the traditional system.

The last development of an IRI science program took place in Papua New Guinea. Among the positive evaluative findings in this potentially difficult undertaking (unlike other subjects, science requires precise and insightful observation and documentation of phenomena under the guidance of a trained teacher) was that the gender gap was narrowed in science achievement as compared to the wide achievement gap demonstrated by control groups in traditional classrooms.

In Costa Rica, the Ministry of Education has spearheaded the development of an IRI environmental education series for grades 4-6. In Bolivia, a new health education series was created for grades 3-5. The most



recent IRI series was developed in Guatemala for teaching Spanish as a second language as part of a bilingual program.

The lessons learned from these diverse applications of IRI to solve problems of educational quality and accessibility has led to a moderate expansion of the approach in a growing number of countries. It is now instrumental in serving 600,000 children in either improving educational quality, or expanding educational opportunity. While the use of IRI is gradually expanding worldwide, the pace of expansion may not be commensurate with the growing demand for basic education. This Bulletin may serve to introduce IRI to a larger audience so that educators can assess its effectiveness, cost, and relevance to their own settings.

Effectiveness of IRI

The effectiveness of IRI can be considered from two essential dimensions; economic and the knowledge acquired by students. From the knowledge acquisition point of view, IRI has been proven effective for increasing the learning of children attending regular schools in different social and economic settings as shown in figure 1. Rural schools seem to score among the highest academic gains. IRI also scored higher gains in mathematical learning improvement in Nicaragua compared to improving textbooks. Figure 2 demonstrates this comparative gain.

Research data on the cost-effectiveness of IRI is limited as interest in this area is just beginning to generate evaluative cost analysis. The limited data available indicate significant cost

advantage of IRI over other traditional basic education approaches. These data on the cost of the diversified uses of IRI to meet country-specific needs, makes

IRI is likely to be
considered an attractive
short-term option in
primary education.

arriving at conclusive and generalizable statement on cost-effectiveness premature. Some cost-effectiveness estimates of IRI, based on the experiences of the Dominican Republic indicate considerable cost advantages for IRI as presented in figure 3.

Each bar in figure 3 represents a different study on the comparative cost of IRI, textbooks, and teacher training. The figure indi-

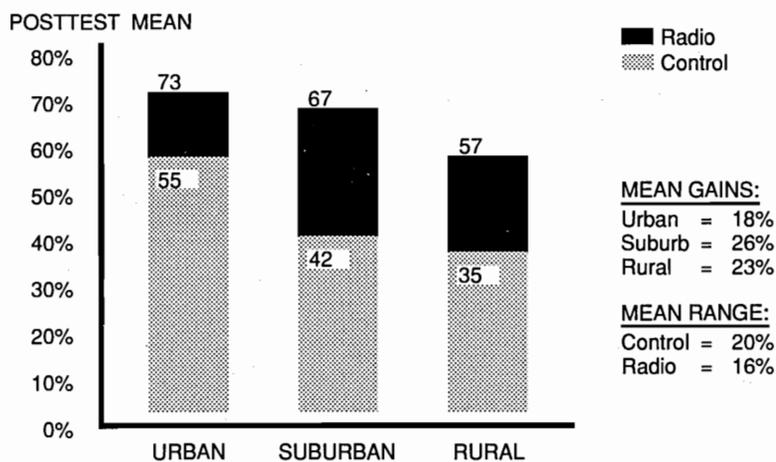


Figure 1. Comparison of Radio and Traditional (control) School posttest scores for urban, suburban and rural Students

Source: Thomas Tilson, *The Economics of Interactive Radio*, 1993, p. 3

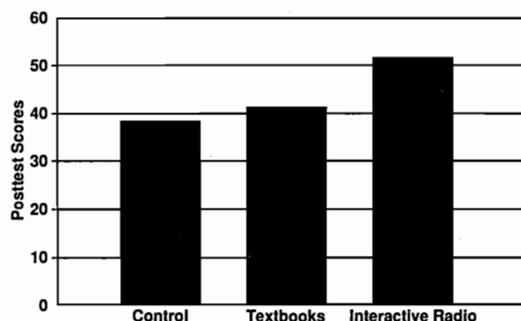


Figure 2. Impact of Textbook and IRI on Grade 1 Math Achievement

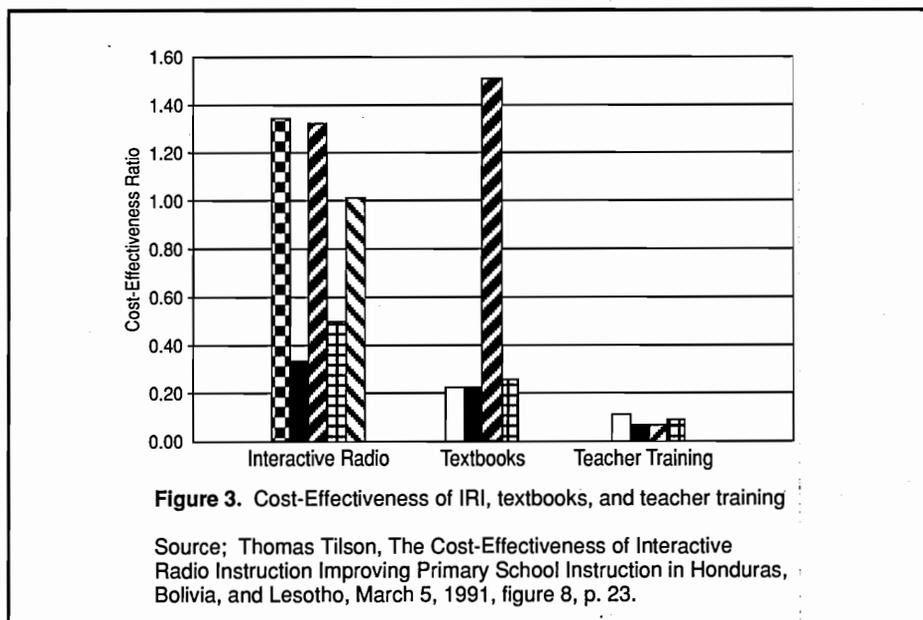
Source: *Interactive Radio Instruction: Confronting Crisis in Basic Education*, 1991, p. 21.



icates some variation in the estimated cost-efficiency recorded by different studies. It is clear, from figure 3, that on average, IRI is more cost-effective than the other two approaches studied.

As Third World nations resolve to confront the urgent problems of illiteracy and basic education as primary obstacles to development and improving the overall human condition as well as retarding the widening gap between urban and rural populations, between the rich and the poor, IRI is likely to be considered an attractive short-term option in primary education. Information on all aspects of IRI need to be widely shared to bring its potential to as many users and educational policy makers as possible. A recent conferences in Latin America updated recent experiences with IRI, and studied resource to continue operation after external IRI assistance withdrew. In 1991, the African Conference on Radio Education was organized in Zimbabwe with the support of the Zimbabwe Ministry of Education and Culture.

Considerable interest in the expanded use of IRI to bolster basic education efforts was shown in both instances. IRI needs to be even more widely disseminated to gain its recognition and careful evaluation of its potentials by countries searching



for ways and means of providing effective education to as many children and adults as possible. The aim of this Bulletin is to expand the range of dissemination of the IRI model around the world.

The effectiveness of IRI must also be judged in terms of its ability to quickly reach students. It can provide rapid access to education across long distances that would take many years to reach through traditional schools.

BRIEF PROFILE OF IRI PROGRAMMING

Realizing the potential of IRI in extending quality education to resource poor communities, the Clearinghouse on Development Communication has prepared an INTERACTIVE RADIO INSTRUCTION HANDBOOK. A very brief profile of the decision making parameters, plan-

ning, and implementation procedures distilled from years of IRI experience are incorporated into this handbook. These include:

Feasibility Study

The need for IRI and its objectives must be clearly identified in each case prior to beginning the planning process. Once the need has been established, decisions about what is taught, how it is taught, and how instructional materials are allocated for each subject matter determines what and how much children learn. IRI instructional decision-making models start with the selection of specific subject matters to be taught, contents to be developed and specific presentation techniques to be adopted. This holds whether IRI supplements poorly staffed and poorly supplied schools, or acts as the only organized access to



quality primary education for a given community.

Feasibility considerations are important and need to precede implementation planning since they force careful examination of possible barriers to effective IRI programs. Relevant feasibility questions include:

are broadcasting facilities adequate enough for regular IRI broadcasting?

is there a communication agency that is broadcasting school programs at present or can be drawn into the task on demand?

how ubiquitous are radios for classroom use?

are these radios electricity or dry-cell battery driven?

what is the supply situation of these energy sources?

what are the unforeseen complexities of implementing IRI in a particular setting made unique by economic, social, cultural, level of educational development and other circumstances?

what unanticipated costs might arise?

how and from where will IRI staff be recruited?

what logistical and material delivery services are required and attainable?

how consistent is IRI assumption and strategy with existing educational needs?

will air - time and access to airwaves be available for educational broadcasting?

Successful planning of IRI is dependent on answers to these and other related questions. Typically, the need for IRI is readily apparent and is valuable when the student/teacher ratio in the current education system is very high, the quality of trained teachers is declining, and educational expenditure per student is declining. The availability of some experience with educational broadcasting, a relatively low cost ratio of IRI to improve existing instructional quality compared to investing in more teacher training and more textbooks or opening new schools for unserved children can provide added incentives for the adoption of IRI.

Program Planning

In developing IRI plans, one needs to ascertain how complete the available information to be used in planning is. Planning information is essential to:

- a) decide on the kinds of instructional products selected
- b) identify personnel shown to be available for regular IRI educational transmission

- c) determine of the amount and nature of external technical assistance needed
- d) estimate need to upgrade existing broadcasting facilities or install new ones,
- e) establish the number of students scheduled for each IRI class
- f) decide on class schedule
- g) work out the level of community participation

Staffing Needs of an IRI Program

IRI requires special staff. These include curriculum and pedagogical specialists, instructional material specialists (script-writers), radio producers and technicians, an administrator, instructional role players (teachers or actors with special presentation skills), teacher trainers who design the teacher's notes and orient teachers to the broadcast lessons, evaluation specialists who assess the effectiveness of IRI lessons and local musicians who provide meaningful and interesting musical interludes to make learning interesting.

In addition, the following part-time or short-term staff are needed:

- education economists who can evaluate the cost-efficiency of the radio lessons
- a short-term anthropologist to advise on cross-cultural adoption of interactive radio teach-



ing strategies relevant and acceptable to a given locality, and
 — efficient secretaries and clerical staff to prepare scripts promptly and accurately must all be on hand in a timely manner for the IRI program to run smoothly.

If the IRI project is externally funded, the following additional project personnel may be required:

- a field director in charge of overall program management responsibilities, including contractual responsibility to the funding agency
- assistant field director to assist with management and provide training
- project administrator - usually indigenous to the host community or country country; (s)he should provide liaison with the host community or country institutions.

Sources of IRI Staff

The following sources typically provide experienced IRI personnel

- Departments of curriculum within education ministries
- Departments of Instructional Radio
- Schools
- Testing and Evaluation Departments

Departments of Education in Universities

Free-lance writers

Professional and amateur theaters.

Curriculum: Design and Content

A curriculum is a structure of the ideas and knowledge to be delivered using a specified instructional media in a given time frame. Its design is dictated partly by the nature and logic of the subject matter. The learner for whom the curriculum is intended and the resources and time available to fulfill the curriculum also influence its character.

Curriculum design offers the point in the educational continuum where the relevance and adequacy of subjects to be taught is carefully weighted and validated. IRI curriculum assumes a special design characteristic with the following features:

- shorter lessons than regular classes
- more repetition of materials being taught through a given lesson
- very clear and succinct presentations. This is critical as IRI does not present opportunities for the radio teacher to study student reactions and discuss ambiguous points with students

— lessons must be lively; teacher must captivate student attention and methods for doing this must be indicated.

Curriculum design must ensure that the knowledge and skills being imparted have experiential meaning and may serve to meet certain functional needs within the community.

The Role of The Classroom Teacher in IRI

The cooperation of teachers is critical to the success of IRI. When appropriate motivations are provided and orientations and participation strategies are designed, teachers are known to cooperate with IRI and use it as a surrogate and effective assistant in the delivery of quality education in an otherwise deprived environment. Untrained “teachers” have been known to serve as effective “classroom supervisors”. Whether teachers are trained or untrained, they must be encouraged to see IRI as a beneficial program to students as well as to themselves.

The Classroom Setting

Classroom quality and arrangement can vary according to the resource circumstances of a given countries and localities. In some instances, classrooms have no desks and benches. Children sit on the floor with a chalk-board



on the wall for the teacher and children to use. Others may have better classroom facilities. All must have a functioning radio and the materials students and teachers use as compendiums to IRI instruction.

The Delivery of Radio Lessons

IRI lessons are delivered by skilled communicators who deliver each lesson using scripts crafted by equally skilled pedagogical and curriculum specialists. The radio instructor tries to simulate classroom-type discussion scenarios and provides

pauses for students to respond verbally or by writing in the worksheet provided to each student. The classroom supervisor oversees student responses, using guidelines designed by the IRI team to facilitate his/her activities. This creates a situation of give and take between a single radio instructor and any number schools and classes catering to large numbers of students of students located within the broadcast reach of the program. This allows quality education to be offered to many from a single instruction source.

Evaluation of Results

IRI students are tested and evaluated in the same way as regular school students. In addition, other methods of assessing instructional and learning effectiveness, such as regular observation of IRI class sessions, are used to gather data to continually review and modify the curriculum, and contents and methods of instruction.

The ABEL Information Bulletin provides practical and relevant information about basic education initiatives and innovations in developing countries. The goal of the ABEL Information Bulletin is to disseminate proven tools, methods, and research findings about basic education programs.

ABEL Information Bulletin is researched and edited by Almaz Zewde, Ph.D.

The ABEL project is funded by the U.S. Agency for International Development (R&D/ED, R&D/WID) and operated by the Academy for Educational Development in consortium with Creative Associates International, Inc., Harvard Institute for International Development, and the Research Triangle Institute. For further information please contact:

Kurt Moses, Director, or Almaz Zewde, Research and Training Specialist, Project ABEL,
The Academy for Educational Development • 1255 23rd Street, N.W. • Washington, D.C. 20037
Telephone: (202) 862-1900 • Fax: (202) 862-1947 • Telex: 197601 ACADED WSH

**ABEL INFORMATION BULLETIN SERIES**

The purpose of the *ABEL Information Bulletin* is to share practical and relevant information on basic education initiatives worldwide with the end-result of generating dialogue about and inspiring innovation in basic education reform. (Approximately 5 pages each).

Bulletin #1

The Agricultural Teacher Education Programme of the National Teacher Training College

Bulletin #2

BANFES Training

Bulletin #3

Breakthrough to Literacy

Bulletin #4

DACUM: Developing a Curriculum

Bulletin #5

Designing Supplementary Teaching Materials

Bulletin #6

Development Communications

Bulletin #7

Development of a Continuous Assessment Programme for the Primary Schools

Bulletin #8

Educational Library Services

Bulletin #9

English in Action

Bulletin #10

The Evening and Weekend College Programme

Bulletin #11

Financial Management Initiatives at Lesotho's National Teacher Training College

Bulletin #12

Income Generation at Thaba-Tseka Skills Training Center

Bulletin #13

Instructional Materials Resource Center

Bulletin #14

Mahlaseli: Sun-Beams - Lesotho Monthly Reader for Primary School Children

Bulletin #15

The National Dissemination Programme

Bulletin #16

The Non-Formal Education Subproject

Bulletin #17

Operations Management at the National Teacher Training College

Bulletin # 18

Primary Education News

Bulletin #19

Primary In-Service Education Programme

Bulletin # 20

The Resources Directory for Self Reliance and Enterprise Development in Lesotho

Bulletin #21

Schemes of Service

Bulletin #22

School Supply Unit

Bulletin # 23

Small Business Studies Series

Bulletin #24

The Teacher Personnel Management Information System

Bulletin #25

Thaba-Tseka Skills Training Center

Bulletin #26

Learning Technologies for Basic Education

Bulletin #27

Classroom in a Suitcase: An Indian Experiment

Bulletin #28

The Economic and Social Impact of Girls' Education in Developing Countries

Bulletin #29

Restructuring a U.S. School

Bulletin #30

System to Help Access Reports of Effective Education (SHARE)

Bulletin #31

Curriculum Reform in Egypt

Bulletin #32

IBM Education Projects and Courseware for ABEL: Innovations in the "Hard" Technologies of Learning

Bulletin #33

The Radio Language Arts Project (RLAP) in Kenya

Bulletin #34

Introducing National Languages in the Primary Education System in Mali

Bulletin #35

An Ethnographic Study of Factors Affecting the Education of Girls in Southern Malawi

Bulletin #36

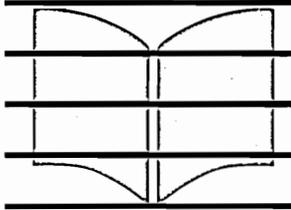
School Feeding Programs and Educational Achievement

Bulletin #37

Primary Education for All: Learning From the BRAC Experience

Bulletin #38

Guatemalan Development and Female Education



ABEL Information Bulletin

This ABEL Bulletin is based on a research project sponsored by project ABEL through Creative Associates International Inc. Mr. Haiyan Hua of Harvard University who conducted the study has been involved in a series of research projects evaluating educational progress, constraints and opportunities in Botswana's educational system since 1988. Hua's study on Contributing Factors to Higher Achievement in Botswana Secondary Schools: An Analysis of Educational Gains of Female and Male Students, is particularly significant in understanding the impact of gender, pre-service teacher training, and teaching styles on student-level and school-level academic achievement.

Following independence in 1962, Botswana has made impressive strides in making primary and secondary education accessible to a very large proportion of its school age children through a consistent policy of educational expansion and reform. During the mid-1980s, the government, assisted by USAID, began evaluating the effects of classroom environments and teacher behavior on student achievement in the fast expanding educational environment. Issues of educational quality assumed importance as equity and accessibility concerns were brought under control.

In 1990, the USAID Office of Women in Development (AID/WID) encouraged those assessing educational effectiveness to broaden the scope of their work to include the assessment of gender differences in teaching and learning. The discovery of a significant association between teachers' gender, gender differences in teaching styles and approaches, and their impact on male/female student achievement could have policy and program implications for Botswana, and by extension, other African countries. This ABEL information Bulletin presents a summary and brief discussion of the highlights of Hua's research on contributing factors to school achievement of male and female students.

FACTORS CONTRIBUTING TO EDUCATIONAL ACHIEVEMENT IN BOTSWANA: An Analysis of Educational Gains of Male and Female Students

BACKGROUND

Following Botswana's considerable effort and investment to develop the country's educational system, the government and the USAID initiated a series of studies of classroom conditions and teachers' teaching styles and behavior to determine what instructional settings and methods could best boost student achievement.

A gender dimension was added to these evaluative studies in 1990 through the suggestion and encouragement of the office of Women in Development WID/USAID. The WID office wanted to understand: a) gender differences in teaching styles and approaches, and b) differences in male/female student achievement under male and female teachers. The goal was to clarify differences in teaching styles between male and female teachers approaches, and the impact these may have on male and female student achievement.

Understanding gender differ-

ences in both teaching and learning was particularly important in Botswana. The government had made a deliberate effort to equalize opportunities for all students, irrespective of ethnicity, gender or urban-rural dichotomies. However, earlier studies on Botswana's education had indicated that:

- more girls than boys enroll in junior secondary schools, but that girls drop out of junior secondary school at a higher rate than boys;
- students taught by female teachers score higher on English examination than those taught by male teachers; and,
- schools where larger percentages of teachers graduated from the country's Educational Centers (regional teacher training and resource centers) have higher average mathematics score gains on examinations than schools with lower percentage of teachers trained at the Educational Centers.



RESEARCH QUESTIONS

The research on Contributing Factors to Higher Achievement in Botswana Secondary Schools was designed to answer three research questions on the relationship between teachers' gender and level of training, and students' educational performance disaggregated by gender:

- 1) Do female junior high school students perform better than their male counterparts in mathematics, science, and English ?
- 2) Is there any difference in learning gain between girls and boys in junior secondary schools?
- 3) Are gender differences among teachers reliable predictors of differences between boys' and girls' learning gains in junior secondary schools?

It was thought that answers to these questions would provide a sound basis for both policy and program strategies.

RESEARCH METHOD

Two methods of research were used in the study; field or observation and survey methods. The survey consisted of a questionnaire administered to a random sample of teachers, and a standardized test for students. A random sample of 5,600 students and 350 teachers was selected from 44 junior high schools in

urban and rural settings. This represented 40% of all Botswana schools classified as junior high school. After eliminating completed questionnaires lacking essential data components, 314 teachers and 4,700 students were included in the final sample.

Student achievement and learning gains were measured by the comparative analysis of pre and post-test results. Identical

**...male and female student
achievement levels and
learning gains for each class
tested were sensitive to
teachers' gender, teaching
style, training background,
and the students' gender.**

examinations were formulated for pre-tests and post-tests administered to the sample students in first and second year junior high school at the beginning and end of the school year. The test schedules were designed to measure both male/female student achievement differences as well as learning gains during the year.

The teacher questionnaires queried teachers' schooling levels, socio-economic background, college of training, school and classroom attributes, teaching styles, and other peda-

gogically relevant issues. An observational protocol developed by Dr. Jane Stallings was adapted to the Botswana context and field researchers were trained in its use for field data gathering. The observed and recorded data included:

- availability, complexity, and use of educational materials in classrooms;
- management and allocation of instructional time;
- amount of teacher-led instructional time versus amount of time for class;
- discussion, group work, or individual exercises;
- reading and writing demands on students;
- language of instruction used by teacher; and,
- student's level of engagement and effort during lessons.

Achievement differences were statistically determined using the methods of ordinary least square regression (OLS) and hierarchical linear modeling (HLM). The goal was to see student-level, and school/grade level factors accounting for the observed levels of student achievement.

DATA ANALYSIS: FINDINGS

Analysis of student test scores revealed that both male and female student achievement levels and learning gains for each class tested were sensitive to



teachers' gender, teaching style, training background, and the students' gender. Data analyses revealed the following answers to the three main research questions:

1) Do female junior high school students perform better than their male counter parts?

Yes. Though the gender correlation of educational achievement was not statistically overwhelming, it was clear that girls outperformed boys in both English and mathematics. The data clearly showed that girls, in the first year of junior high school, scored significantly higher than boys in the first year on the English pre-test and post-test. Girls also scored higher than boys in mathematics, but the difference was not as statistically significant as were their scores in English.

2) Is there any difference in learning gains between girls and boys in junior secondary schools?

Yes. There was an evident difference in the learning gains between girls and boys. Girls' learning gain in English was better than boys' during any given academic year (girls answered 2.49 more questions at the end of the year and boys answered 2.28 more questions).

3) Is a teacher's gender a reliable predictor of differences between girls' and boys' learning gains?

Teacher gender appears to be a reliable predictor of differences between girls' and boys' learning gains in English. Students of both genders consistently learned more English from female teachers than male teachers, when controlling for other teacher-student variables. Additionally, schools with more female teach-

Students of both genders

consistently learned more

English from female teachers

than male teachers, when

controlling for other teacher-

student variables.

ers had, on average, higher English test achievement than those with more male teachers.

The results also showed other student level and school/grade level effects of specific factors:

1) At the student level, it was shown that achievement in and learning of English indicated positive association with the students' socio-economic status. But learning and achievement in Mathematics appears to be neutral vis-a-vis students socio-economic background. This indicates that mastery of language may be sensitive to external social environmental influences, while the learning of mathematics appears to be non-sensitive to such externalities.

2) With regard to English learning gain, it was revealed that the increased percentage of male teachers within each school/grade is negatively related to student learning when teacher training, school location (urban/rural), and teacher tenure are held constant.

3) At the school/grade level, schools with a higher proportion of teachers trained at the Educational Center show a higher level of learning gains in mathematics than those with a lower proportion of teachers trained at the Educational Center. Teachers' tenure displays a positive achievement effect at the student and school/grade level.

LESSONS LEARNED

Lessons can be drawn from the research findings summarized above for situations similar to those in Botswana:

- In Botswana, there is likely to be a consistent positive relationship between a school environment with a higher proportion of female teachers and gains in girls' educational attainment. In such an environment, girls also tend to outperform boys in language and mathematics.
- The marginal advantage girls enjoy in English language proficiency seems to spill over to their achievement in mathematics. More research is



needed to establish the connection between gender, English language proficiency, and performance in mathematics.

- The positive association between female teachers (who were found to be more traditional in their pedagogical styles) and higher student achievement across the board, may suggest that traditional teaching approaches can be at least as effective or more effective in some settings than more complex innovative styles.
- The high rate of female drop out from junior secondary schools appears to have no relationship to female academic performance. This research has clearly established that girls outperform boys in English and mathematics. Yet the drop out rate for females at the junior high school level is much higher than that for males.
- The research makes clear the critical importance of providing quality training for

teachers in order to boost student achievement. The enhancement of teachers' pedagogical and academic competence is key to raising student learning qualitatively and quantitatively.

- Female teachers provide encouragement and positive role models for female students without discouraging male students.

IMPLICATIONS

The research findings are also instructive for educational policy, teacher training, and selection of teachers in Botswana and similar African countries. The findings suggest that:

1. Social and family pressures may be strong causal factors in the high rate of female school drop out at the junior secondary level. It is important that these factors be studied. It is equally important to formulate policy strategies supported by research findings to overcome the problem of female drop out from junior

high school and ensure their persistence beyond this level.

2. A predominance of female teachers in a school appears to benefit both male and female students, particularly in language learning. Importantly, it appears that female teachers do not disadvantage male students, though their presence seems to encourage the achievement of female students.
3. Simpler and more traditional teaching styles, to which students coming from a specific cultural context can relate, may serve as well as, or better than, more sophisticated styles with no obvious association to the students' cultural context.

The ABEL Information Bulletin provides practical and relevant information about basic education initiatives and innovations in developing countries. The goal of the ABEL Information Bulletin is to disseminate proven tools, methods, and research findings about basic education programs.

The ABEL Information Bulletins are researched and edited by Almaz Zewde, Ph.D.

The ABEL project is funded by the U.S. Agency for International Development (R&D/ED, R&D/WID) and operated by the Academy for Educational Development in consortium with Creative Associates International, Inc., Harvard Institute for International Development, and the Research Triangle Institute.

For further information please contact:

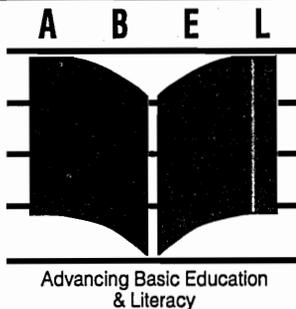
Kurt Moses, Director, or Almaz Zewde, Research and Training Specialist, Project ABEL,
The Academy for Educational Development • 1875 Connecticut Ave., N.W. • Washington, D.C. 20009-1202
Telephone: (202) 884-8400 • Fax: (202) 884-8408



ABEL INFORMATION BULLETIN SERIES

The purpose of the *ABEL Information Bulletin* is to share practical and relevant information on basic education initiatives worldwide and to generate dialogue about and inspire innovation in basic education reform. (Bulletins are approximately 5 pages each).

- | | | |
|---|--|---|
| <p>Bulletin #1
The Agricultural Teacher Education Program of the National Teacher Training College</p> <p>Bulletin #2
BANFES Training</p> <p>Bulletin #3
Breakthrough to Literacy</p> <p>Bulletin #4
DACUM: Developing a Curriculum</p> <p>Bulletin #5
Designing Supplementary Teaching Materials</p> <p>Bulletin #6
Development Communications</p> <p>Bulletin #7
Development of a Continuous Assessment Programme for the Primary Schools</p> <p>Bulletin #8
Educational Library Services</p> <p>Bulletin #9
English in Action</p> <p>Bulletin #10
The Evening and Weekend College Programme</p> <p>Bulletin #11
Financial Management Initiatives at Lesotho's National Teacher Training College</p> <p>Bulletin #12
Income Generation at Thaba-Tseka Skills Training Center</p> <p>Bulletin #13
Instructional Materials Resource Center</p> | <p>Bulletin #14
Mahlaseli: Sun-Beams - Lesotho Monthly Reader for Primary School Children</p> <p>Bulletin #15
The National Dissemination Programme</p> <p>Bulletin #16
The Non-Formal Education Subproject</p> <p>Bulletin #17
Operations Management at the National Teacher Training College</p> <p>Bulletin #18
Primary Education News</p> <p>Bulletin #19
Primary In-Service Education Programme</p> <p>Bulletin #20
The Resources Directory for Self Reliance and Enterprise Development in Lesotho</p> <p>Bulletin #21
Schemes of Service</p> <p>Bulletin #22
School Supply Unit</p> <p>Bulletin #23
Small Business Studies Series</p> <p>Bulletin #24
The Teacher Personnel Management Information System</p> <p>Bulletin #25
Thaba-Tseka Skills Training Center</p> <p>Bulletin #26
Learning Technologies for Basic Education</p> <p>Bulletin #27
Classroom in a Suitcase: An Indian Experiment</p> | <p>Bulletin #28
The Economic and Social Impact of Girl's Education in Developing Countries</p> <p>Bulletin #29
Restructuring a U.S. School</p> <p>Bulletin #30
System to Help Access Reports of Effective Education (SHARE)</p> <p>Bulletin #31
Curriculum Reform in Egypt</p> <p>Bulletin #32
IBM Education Projects and Courseware for ABEL: Innovations in the "Hard" Technologies of Learning</p> <p>Bulletin #33
The Radio Language Arts Project (RLAP) in Kenya</p> <p>Bulletin #34
Introducing National Languages in the Primary Education System in Mali</p> <p>Bulletin #35
An Ethnographic Study of Factors Affecting the Education of Girls in Southern Malawi</p> <p>Bulletin #36
School Feeding Programs and Educational Achievement</p> <p>Bulletin #37
Primary Education for All: Learning From the BRAC Experience</p> <p>Bulletin #38
Guatemalan Development and Female Education</p> <p>Bulletin #39
Interactive Radio Instruction: Making Quality Education Accessible</p> |
|---|--|---|



ABEL Information Bulletin

Policy making and educational planning in Nicaragua are done in almost total absence of data on the past and present status of education. The democratization process now under way in the country holds the government to a high degree of accountability and effectiveness in its educational efforts. At the same time, the growing challenges of international competitiveness demands efficiency, effectiveness, and quality of the education system. This in turn requires on-going qualitative and quantitative improvements in education on the basis of factually correct assessment of past and present experiences, and reliable data on the present status of education in the country.

Prior to 1993, the main available government data on education consisted of 'stylized' statistical estimates on the rate of dropout and repetition. Qualitative data pertinent to the stylized statistical information were absent which reinforced the problems of educational planning and management with neither real data nor insight into real problems. There was, therefore, a need for empirical benchmark data.

(continued on page 2)

Nicaraguan Study on Schooling, Repetition, Dropouts: A National Study and Its Implications

BACKGROUND

The Nicaraguan education system suffers from 40.7% repetition and 10.5% dropout rate in the first grade of primary school, making returns to educational investment much less than optimal. Reliable data and information on the extent and sources of repetition and dropout are scarce in Nicaragua and this has prohibited a realistic assessment of the nature, degree, and source of these problems. The Nicaraguan government had focused on the problems of repetition and dropout per se. But the best available government information on dropout and repetition were "stylized" school data estimates constructed by the Ministry of Education. Besides their problems of validity, these estimates lacked a qualitative dimension pertinent to the understanding of the causes of repetition and dropout. It was to redress this problem of data deficiency that USAID/Nicaragua spon-

sored a series of studies on the problems of the education sector of which the *Schooling, Repetition, and Dropout* study was one. The aim was to offer policy makers and educators concrete data and facts about the inherent problems that need attention.

METHOD

The study was based on a stratified random sample of 2,500 households and 6,600 school-age children. The country was subdivided into four survey regions. Four research teams, each consisting of one supervisor and 5 interviewers, were trained to take charge of designated study-regions. Sampling clusters were drawn up in each region and random sample units (households with school-age children) were identified for each cluster. Supervisors were trained in the management and administration of the day-to-day research process, and on editing completed questionnaires, as well



(continued from page 1)

USAID/Nicaragua, through Project ABEL, supported a schooling, repetition, and dropout study in late 1993 and early 1994. The Institute of Nicaraguan Studies, and the Nicaraguan Ministry of Education were the principal contacts for the study with Research Triangle Institute playing the lead role in the technical design and conduct of the study.

This ABEL Information Bulletin presents the salient findings of this USAID supported study called Nicaragua; Schooling, Repetition, Dropouts and the policy implications emanating from these findings. The senior researchers for the survey were Carlos Gargiulo and Luis A. Crouch of the Research Triangle Institute. The survey is unique in its methodological approach in that it reaches school children in their home environment where children and their parents could participate in providing information on schooling, repetition, completion, and other educational variables. This renders the findings of the study qualitatively and quantitatively informative and well rounded, making them broadly relevant to educational planners and policy makers in Nicaragua as well as other countries with similar problems. The aim of this Bulletin is to share the valuable information of the study and its policy implications with the widest possible audience of educators and educational planners elsewhere.

as deriving second interviews where the information gathered the first time was either inadequate or inconsistent.

The chief researchers, Carlos Gargiulo and Luis Crouch of RTI, designed the study and closely supervised the content and structure of the survey

In contrast to the
customary approaches
of other repetition
studies, both parents
and students in the
sample households
were interviewed in
the Nicaraguan study.

questionnaire. The questionnaire was tested in rural and urban areas and adjusted several times to fine-tune its wording to elicit the most appropriate responses to questions. Survey variables were added or deleted on the basis of pilot tests to provide consistent and valid information on the educational issues under study.

In contrast to the customary approaches of other repetition studies, both parents and students in the sample households were interviewed in the

Nicaraguan study. Parents responded to socio-economic questions and provided information on social, cultural, economic, attitudinal, and other factors that impact children's school attendance, persistence, and timely completion of classes. Children provided information on reasons for repeating, dropping out of school, and related factors. The responses gathered by interviewers from both parents and children were edited by research team supervisors. The data was sent to RTI for statistical compilation and analysis. Bivariate analysis provided frequency distributions of various educational variables like gender, grade, location (rural-urban), and time of class completion while multivariate analysis, including multiple regression analysis, showed causal associations between research variables.

Parents . . . provided
information on social,
cultural, economic,
attitudinal, and other
factors that impact
children's school
attendance . . .



FINDINGS

1. REPETITION AND DROPOUT RATES

The percentage of repeaters in the sample survey (Table 1) were found to be significantly higher than the repetition rates estimated by the government for 1990-1992 (Figure 1). The survey additionally introduced the rural-urban and gender factors in the observed repetition and dropout rates.

The survey findings with respect to the status of repetition and dropout in the educational system generally suggest that:

- The government's figures on repetition rates underestimate the problem by a wide margin while overesti-

ating the dropout problem. The findings of the study reverse the magnitude of the two problems. Comparative statistical calculation of government and survey figures show that whereas the government's estimates of repetition as a proportion of the dropout rate places the repetition at 50% higher than the dropout rate, the survey figures suggest that repetition is about 300% of the dropout rate. Thus, repetition is the single most serious source of educational inefficiency in Nicaragua.

- It can be noted (Table 1) that a staggering 40.7% of all first grade seats are occupied by students who

have already wasted one or more years of schooling which means a high level of denial of opportunities to new or first time entrants.

- Close to 15% of all first year secondary school seats are similarly occupied by repeaters.
- Rural schools suffer a substantially higher rate of repetition than urban schools.
- The repetition rate for girls is lower than that for boys in both rural and urban settings.

Correspondingly, the dropout rate estimated by the government is much higher than the findings of the survey show as demonstrated in Figure 1 and Table 2 below. The survey findings thus, help to specify the exact sources of internal inefficiency in the system. In the Nicaraguan case, repetition was the major source of educational inefficiency.

2. OTHER SELECTED SIGNIFICANT FINDINGS

- On average, boys take longer to complete primary and secondary education than girls. Boys take 11.1 and 7.2 years to complete primary and secondary school respectively. The corresponding figures for girls are 8.9 and 6.3 years (see Table 3).

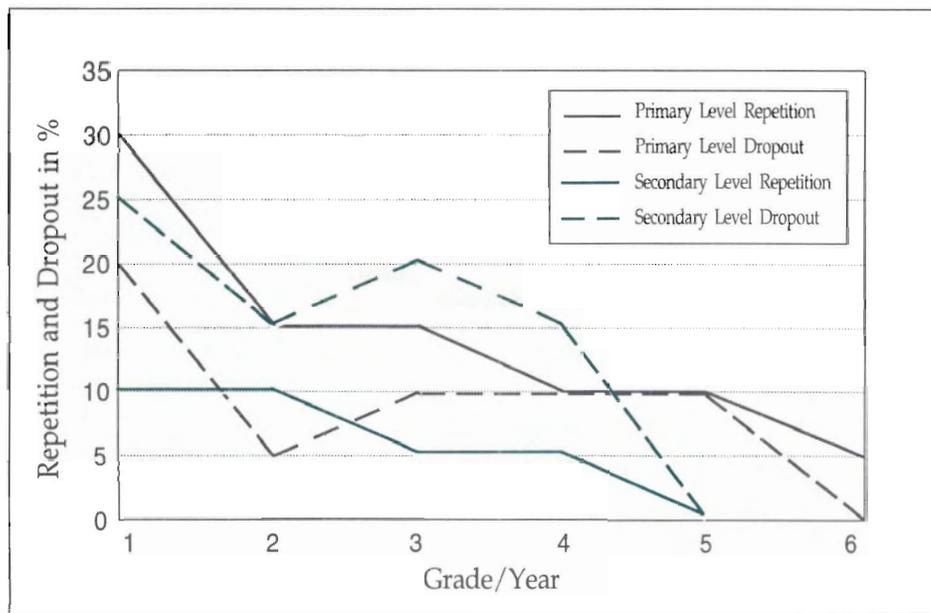
TABLE 1

Repetition Rates as Percent of Enrolment per grade (survey findings)

Grade	Total	Urban	Rural	Boys	Girls
<i>Primary</i>					
1	40.7	25.4	51.3	42.7	38.6
2	17.1	16.5	17.7	21.2	11.9
3	11.3	10.3	12.7	14.6	8.4
4	10.9	7.9	15.7	13.4	8.3
5	6.2	5.9	6.6	9.2	3.4
6	4.6	3.8	6.5	5.5	3.6
<i>Secondary</i>					
1	14.8	16.0	11.8	15.8	14.1
2	14.1	14.6	12.9	15.5	13.2
3	9.0	8.2	12.6	14.2	5.7
4	5.6	6.5	1.1	5.1	5.9
5	.9	.8	.9	1.7	.4

Source: Table 2, p. 10. Nicaragua. Schooling, Repetition, Dropouts, April, 1994.

FIGURE 1
Percentage of Repetition and Dropout Rates
(stylized from government figures)
1990-1992



Source: Table 1, p. 4, Nicaragua. Schooling, Repetition, Dropouts, April, 1994.

- The study found that for all age levels (except age 18 when 7% more boys than girls, and age 9 when identical ratios of boys and girls are in school) a greater proportion of girls than boys are enrolled in school.
- It was revealed that overall, 123% of primary school children are enrolled. This indicates that over-aged children who repeat classes are crowding the system. It may also indicate that the system has no capacity problem. But, only 78% of all school age children attend classes appropriate for their age indicating the

excessive use of educational facilities by repeaters.

- Despite this, the education system accommodates all but 10% of all children of school age.
- The most serious cause of repetition, accounting for 54% of all repetition cases, is academic failure. This is followed by health problems (16%) and parental discontent with the quality of education received by their children (9%). All of these indicate that the preponderant cause of repetition is internal to the education system and avoidable through appropriate policy and service programs such as school nutrition and other health programs, curriculum, teaching materials, testing, and

TABLE 2
Dropout Rates as Percentage of Enrolment
(survey results)

Grade	Total	Urban	Rural	Boys	Girls
<i>Primary</i>					
1	10.5	12.1	9.5	12.6	8.2
2	4.2	4.1	4.3	4.3	4.0
3	4.4	4.1	4.8	5.7	3.2
4	4.4	5.4	2.8	4.1	4.7
5	8.3	8.8	7.4	9.3	7.4
6	6.2	7.5	3.1	7.9	4.2
<i>Secondary</i>					
1	6.5	1.7	7.1	6.1	6.8
2	5.3	4.7	6.9	3.8	6.3
3	3.3	4.0	0.9	2.5	3.9
4	2.6	3.2	0.0	2.6	2.7
5	8.2	10.0	3.6	15.9	3.6

Source: Table 3, p.11, Nicaragua. Schooling, Repetition, Dropout, April, 1994.



TABLE 3
Years Taken to Graduate by Gender, Urban/Rural Location, and Primary/Secondary Levels

School Level	Years Taken To Graduate			
	Urban	Rural	Gender	
			M	F
Primary	9.3	10.4	11.1	8.9
Secondary	6.7	6.0	7.2	6.3

Source: Table 4, p.13 Nicaragua. Schooling, Repetition, Dropout, April, 1994.

teacher training, and repetition policy improvements.

- The finding that economic problems cause higher dropout rates more than repetition is indicative of patterns of student responses to economic constraints while in school. Around 24% of dropouts declared that they left school for economic reasons, making it the single biggest reason for dropping out of school. The second important reason given for dropping out was that there were no classrooms for higher grades in the rural areas (11%).

3. MULTIVARIATE ANALYSIS

Multivariate analysis of some of the data revealed instructive correlations between variables. The following are striking examples:

- The probability for dropout is about 155% greater for boys than for girls.
- Children of mothers with secondary education or

better are 49% less likely to drop out of school than children whose mothers had less education.

- Children of peasant farmers are 34% more likely to drop out of school than others.

Girls take less time than boys to complete primary and secondary school and, on average, persist longer in school. This suggests the existence of sound education policies and cultural tendencies favoring girls education, both of which should continue to be nurtured.

- Dropout rates decreased by 21% when children came from homes of conventionally married couples.
- Students who entered school at an early age (5 or less) are 70% less likely to dropout of school than children who started at ages 6 or 7. Of those who started school at ages 8-10, only 40% persisted in primary school.
- The fewer the number of children per family, the greater the likelihood that they will persist in school (39% dropout rate for children of families with less than 6 children and 50% for those with 6 or more children).
- Reduction in repetition is positively associated with pre-school attendance. Of those who repeated first grade, only 37% had attended pre-school while among the non-repeaters, 47% had pre-school experience.
- Non-enrollment in school is largely explained by social and economic factors. About 75% of those never enrolled gave economic and social reasons for not being in school. These factors are outside the control of the education system.



4. SUMMARY AND CONCLUSIONS

- A. In Nicaragua, class repetition is a much bigger barrier to educational efficiency than dropout and non-enrolment rates. About 40% of the first grade facilities are tied up by repeaters, yet the system still accommodates 90% of all the school-age children. As a result, there is no real capacity problem within the education system. These facts suggest that reduced repetition could free educational resources that could be diverted toward quality improvement.
- B. The importance of instituting improved education information management system (EMIS) to inform educational planning and implementation is made amply evident from the redefinition of the major sources of educational inefficiency that emerged from the *Schooling, Repetition, Dropout* study. Whereas government estimates had exaggerated the impact of dropout rates on educational efficiency, the study found repetition to be of far greater importance.
- C. There is little or no gender disparity in the primary education sector. In most instances, higher percentages of girls than boys are

Around 24% of
dropouts declared that
they left school for
economic reasons,
making it the single
biggest reason for
dropping out of school.

- enrolled in classes. Girls take less time than boys to complete primary and secondary school and, on average, persist longer in school. This suggests the existence of sound education policies and cultural tendencies favoring girls education, both of which should continue to be nurtured.
- D. The study confirmed the expectation that children whose mothers attained at least primary education enjoy a greater degree of educational success than those whose mothers attained only literacy or less. Of those who repeat, 69% have illiterate or semi-literate mothers. 53% of the non-repeaters have mothers with primary education or beyond.
- E. Rural schools suffer greater dropout rates than urban schools. This situation

- could have implications beyond primary and secondary schools; it could mean the exclusion of rural youth from advanced technical training and tertiary education.
- F. In general, repetition is ambiguously defined or not defined at all. There are no procedures and rules to regulate repetition. Often, students who were passed by teachers are made to repeat class on the insistence of their parents who argue that their children did not receive adequate academic preparation to merit promotion. At other times, students simply dropout in the middle of a semester and return to the same class the following year. In yet other instances, teachers fail to report the correct number of repeaters for fear that it may reflect negatively on their teaching effectiveness. There are no records of how many times students repeat and often new teachers have no way of identifying repeaters from non-repeaters in their classes. There are no rules and regulations which classroom teachers and school administrators can enforce to control who can and cannot repeat. These procedural deficits need to be addressed.



Generating accurate school statistics and using it to inform education policy and planning is vital for step-wise improvements in educational quality and accessibility at all levels.

5. POLICY IMPLICATIONS

5.1 Repetition has been identified as the major source of educational inefficiency. About 63% of all repetition is caused by academic failure, real or imagined by parents (54% & 9% respectively). This indicates that the problem is internal to the education system and should be corrected at that level. Improved teacher training, teaching materi-

als, curriculum, testing, and regulation of repetition can contribute greatly to the improvement of the situation.

5.2 Males tend to repeat at a higher rate than girls at almost all grade levels. This problem needs special study and attention.

5.3 The dropout problem is associated with economic constraints in both rural and urban areas. Economic problems were also identified as the major cause of non-enrolment of school-age children. This problem needs to be addressed through the collaborative effort of the education and other private and government sectors. If not addressed, it may lead to systematic selection against potentially bright youth at all levels of education and training.

5.4 Over all, the study tangibly demonstrated the value of generating, managing, and using educationally relevant information to run effective educational programs. The need for improvement of the education management information system is clearly indicated. Generating accurate school statistics and using it to inform education policy and planning is vital for step-wise improvements in educational quality and accessibility at all levels.

The ABEL Information Bulletin provides practical and relevant information about basic education initiatives and innovations in developing countries. The goal of the ABEL Information Bulletin is to disseminate proven tools, methods, and research findings about basic education programs.

The ABEL Information Bulletin is researched and edited by Almaz Zewde, Ph.D.

The ABEL project is funded by the U.S. Agency for International Development (R&D/ED, R&D/WID) and operated by the Academy for Educational Development in consortium with Creative Associates International, Inc., Harvard Institute for International Development, and the Research Triangle Institute. For further information please contact the following ABEL staff:

Kurt Moses, Director, or Almaz Zewde, Research and Training Specialist, Project ABEL, The Academy for Educational Development • 1875 Connecticut Ave., N.W. • Washington, D.C. 20009-1202 Telephone: (202) 884-8000 • Fax: (202) 884-8408 • Telex: 197601 ACADED WSH

**ABEL INFORMATION BULLETIN SERIES**

The purpose of the *ABEL Information Bulletin* is to share practical and relevant information on basic education initiatives worldwide and to generate dialogue about and inspire innovation in basic education reform. (Approximately 5 pages each).

Bulletin #1

The Agricultural Teacher Education Programme of the National Teacher Training College

Bulletin #2

BANFES Training

Bulletin #3

Breakthrough to Literacy

Bulletin #4

DACUM: Developing a Curriculum

Bulletin #5

Designing Supplementary Teaching Materials

Bulletin #6

Development Communications

Bulletin #7

Development of a Continuous Assessment Programme for the Primary Schools

Bulletin #8

Educational Library Services

Bulletin #9

English in Action

Bulletin #10

The Evening and Weekend College Programme

Bulletin #11

Financial Management Initiatives at Lesotho's National Teacher Training College

Bulletin #12

Income Generation at Thaba-Tseka Skills Training Center

Bulletin #13

Instructional Materials Resource Center

Bulletin #14

Mahlaseli: Sun-Beams - Lesotho Monthly Reader for Primary School Children

Bulletin #15

The National Dissemination Programme

Bulletin #16

The Non-Formal Education Subproject

Bulletin #17

Operations Management at the National Teacher Training College

Bulletin #18

Primary Education News

Bulletin #19

Primary In-Service Education Programme

Bulletin #20

The Resources Directory for Self Reliance and Enterprise Development in Lesotho

Bulletin #21

Schemes of Service

Bulletin #22

School Supply Unit

Bulletin #23

Small Business Studies Series

Bulletin #24

The Teacher Personnel Management Information System

Bulletin #25

Thaba-Tseka Skills Training Center

Bulletin #26

Learning Technologies for Basic Education

Bulletin #27

Classroom in a Suitcase: An Indian Experiment

Bulletin #28

The Economic and Social Impact of Girl's Education in Developing Countries

Bulletin #29

Restructuring a U.S. School

Bulletin #30

System to Help Access Reports of Effective Education (SHARE)

Bulletin #31

Curriculum Reform in Egypt

Bulletin #32

IBM Education Projects and Courseware for ABEL: Innovations in the "Hard" Technologies of Learning

Bulletin #33

The Radio Language Arts Project (RLAP) in Kenya

Bulletin #34

Introducing National Languages in the Primary Education System in Mali

Bulletin #35

An Ethnographic Study of Factors Affecting the Education of Girls in Southern Malawi

Bulletin #36

School Feeding Programs and Educational Achievement

Bulletin #37

Primary Education for All: Learning from the BRAC Experience

Bulletin #38

Guatemalan Development and Female Education

Bulletin #39

Interactive Radio Instruction: Making Quality Education Accessible

Bulletin #40

Factors Contributing to Educational Achievement in Botswana: An analysis of Educational Gains of Male and Female Students