Association for the Development of Education in Africa

ADEA Biennial Meeting 2003
(Grand Baie, Mauritius, December 3-6, 2003)

Country Case Study - LESOTHO

Study of the Provision of Physical Infrastructure and its Impact on Quality Improvement in Primary Education in Lesotho

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Working Document
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LIST OF ACRONYMS

ADB	African Development Bank
ADEA	Association for the Development of Education in Africa
ADT	African Development Trust
AIDS	Acquired Immune Deficiency Syndrome
ASC	Advisory School Committee
BTL	Break-Through-to-Literacy
COSC	Cambridge Overseas School Certificate
DFID	Department for International Development
DRC	District Resource Centre
DRT	District Resource Teachers
ECD	Early Childhood Development
ECOL	Examinations Council of Lesotho
EFA	Education for All
EFU	Education Facilities Unit
EO	Education Officer
ESDP	Education Sector Development Plan
EU	European Union
FED	Faculty of Education
FPE	Free Primary Education
GDP	Gross Domestic Product
GOL	Government of Lesotho
GTZ	German Agency for Technical Cooperation
HIV	Human Immuno-deficiency Virus
IDA	International Development Association
IEMS	Institute of Extra-Mural Studies
JC	Junior Certificate
LCE	Lesotho College of Education
LDTC	Lesotho Distance Teaching Centre
MC	Management Committee
MOET	Ministry of Education and Training
NFE	Non-Formal Education
NGO	Non-Governmental Organization
NUL	National University of Lesotho
PSLE	Primary School Leaving Examination
TVET	Technical and Vocational Education and Training
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WFP	World Food Programme

EXECUTIVE SUMMARY

INTRODUCTION

This study was commissioned by the Association for the Development of Education in Africa (ADEA) through the Ministry of Education and Training (MOET) in Lesotho. It reviewed a project under which the Government of Lesotho (GOL) is providing the physical infrastructure in primary schools. The project started as part of the first Education Sector Development Plan (ESDP I) that covered the period 1991/92 – 1995/96, and falls under basic education component. Its implementation is the responsibility of the Planning Unit of the Ministry of Education and Training. The Unit has an Education Facilities Unit (EFU) which is in charge of the civil works and procurement activities of the education projects as well as a project accounts section. ESDP is funded by several donors. One of its objectives is to improve the quality of primary education through provision of physical infrastructure. The main items of facilities provided by the EFU to the schools are classrooms, administrative offices (principal's office, staff room and bookstore), furniture (desks and chairs for teachers and pupils), latrines for teachers and pupils, chalkboards, pin/bulletin boards, built-in cupboards, and floor carpeting (flex IM 40). Some of those involved in the implementation of the project reported that bureaucratic hurdles sometimes impede smooth implementation of the project. Other implementation problems are occasioned by lack of coordination among various parties concerned.

Methodology

The appraisal and evaluation exercises that have been done on the project have not investigated its impact on quality improvement, particularly at the school and classroom levels. Consequently, there were no relevant evaluation reports that could be referred to for purposes of this case study. It therefore became necessary to conduct a simple survey in an attempt to fill this gap. Two indicators were used to establish the level of contribution of the provision of physical infrastructure to quality improvement in primary education in the country. The first indicator used was the Primary School Leaving Examination (PSLE) results while the other was the stakeholders' opinions, observations and experiences on the matter.

The study design involved drawing up a sample of 7 schools that had been provided with additional facilities and another sample of 7 schools that were not part of the project. The second set of schools served as a comparison group. Both groups of schools are located in the lowland and foothill areas of the Maseru district. This being a case study, purposive sampling was used. As the time available for the study was too short, convenience was primary in the selection of schools. Two areas in Maseru district; one in the lowlands and another in the foothills were selected, and schools in the ESPD I were included in the study. The two sub-samples were basically similar in most characteristics, except that one involved schools that had participated in the project while the other had not.

The investigation of quality as determined through PSLE results involved comparing the performance of the project schools prior to their being provided with additional facilities with their performance after the facilities were furnished. To this end, the exercise involved looking at the examination performance records as kept by the Ministry of Education and Training and the Examinations Council of Lesotho (ECOL). The records covered the period 1985 to 2002, and involved pass rates and levels (first, second and third class passes). The same records were examined for the comparison schools.

Focus group discussions and interviews were used to collect qualitative information about the opinions, observations and experiences of stakeholders regarding the impact of the project on quality improvement. Specifically, focus group discussions were held with teachers and Advisory School Committees (ASCs) in the project schools while interviews were conducted with policy makers in the Ministry of Education and Training; Education Officers (EOs);

District Resource Teachers (DRTs); officials of the Education Facilities Unit; and a representative of donor agencies.

On-site observations were also conducted in the 14 schools using a structured observation schedule. The observations were undertaken by research assistants and were directed specifically at the availability and quality of physical facilities in the schools. Finally, a questionnaire was used to collect information on the general profiles of the schools in the sample.

THE IMPACT OF ADDITIONAL PHYSICAL INFRASTRUCTURE

Virtually all the respondents in interviews and focus group discussion stated that the facilities and equipment provided through the project had some positive impact on the schools involved.

Impact on School Management

School management is a critical factor in the promotion of quality of education. Provision of school offices was reported to have had a great and positive influence on the management of the schools. There is space for principals to organize their work, hold meetings and receive visitors, and for teachers to meet among themselves and do their school work. Additional facilities were also said to have created a sense of security of instructional materials and a general orderliness in the schools. The fact that community members participate in the building of classrooms instils in them a sense of ownership and promotes their active involvement in the running of the schools.

Impact on Classroom Management

The additional classrooms and equipment that were provided had a positive impact on classroom management. This includes easier movement and interaction within classrooms, and monitoring, supervision and control of academic work. A related factor is improved pupil: teacher ratios in most schools.

Impact on Quality Improvement

According to the records, there is no discernible pattern to suggest that the provision of facilities have positively impacted on the PSLE results. However, by its nature and design, this examination is not an appropriate yardstick for measuring quality of education, particularly at the classroom level. Rather, it is an instrument appropriate for selection of candidates into secondary schools. Therefore, information about the quality issues as presented here was gleaned from interviews and focus group discussions, and, to some extent, from inferences from on-site observations.

The major finding from this case stud is that the new physical infrastructure provides an environment conducive to proper teaching and learning. Below is a catalogue of instances of such an improvement as revealed by this review.

Provision of Shelter against Inclement Weather

Classrooms provided through the project serve as an appropriate venue for instructional purposes. The facilities protect both teachers and pupils against harsh Lesotho climatic conditions, thus enhancing children's concentration so that they learn more effectively and efficiently.

Lowering of Pupil: Classroom Ratios

Additional facilities serve as a welcome support infrastructure for the enrolment increases that are being experienced as a result of the introduction of the FPE programme. Pupil: classroom ratios have been lowered. This has improved the teaching/learning climate in a number of ways, including comfortable sitting arrangements for pupils and both enhancement of instructional management and pupil's confidence.

Improvement in School Attendance
Now that there is effective shelter and sufficient room for almost all pupils, school attendance has improved even during harsh weather. This in turn is said to have contributed to improvement in students' academic performance.

Working Space for Teachers
Teachers are no longer isolated because they have a staff room where they can meet and discuss academic and personal matters. As noted earlier, they also have a sufficient working space where they prepare lessons and mark pupils' work.

Boosting of Teachers' Morale and Motivation
The teachers' morale and motivation were reported to have been bolstered as a result of operating in an improved physical environment. Qualified teachers tend to be attracted to schools with good facilities.

Boosting of Pupils' Morale and Motivation
A conducive environment has also fostered pupils' morale, as demonstrated by their regular school attendance, enjoyment of being on the school premises, and engaging in learning activities even in the absence of their teachers.

Due to the importance attached to the PSLE, the new classrooms are generally allocated to the upper grades. This is said to inspire and motivate pupils in the lower grades to work hard so that they too may one day be in the new, attractive classrooms.

Adoption of Innovative Instructional Strategies
Adequate classroom space has promoted the adoption of innovative instructional techniques, as well as regular application of a variety of other established teaching and learning approaches such as demonstrations and drama. One typical innovative approach facilitated by additional facilities is the Break-Through-to-Literacy (BTL).

Use of Instructional Aids and Materials
Both teachers and children have been able to make more use of instructional aids and materials, including books, since there is adequate space for storing and displaying these items. Materials and notes can also be displayed for long periods of time, enabling pupils to refer to them for revision purposes. In general the culture of reading has been inculcated among children as a result of these developments.

Maximum Use of Teaching and Learning Time
Since there is less crowding and concomitant noise and other disturbances, teaching and time is used to the maximum. In other words, not only quality but also efficiency of instruction has improved. Teachers now have adequate space to move around during lessons and to pay attention to individual pupils. The situation further facilitates the grouping of pupils for learning activities. Many teachers have created 'learning corners' in their classrooms designed to cater for the needs of children in different subject areas and/or for teaching particular concepts. Similarly, there is enough space for children to move around and learn from materials displayed in these learning corners.

Lowering of Distractions in Classrooms
There is less distraction because each grade is housed in a separate classroom and thus pupils are able to concentrate more on their work.

Promotion of Independent Learning
The provision of facilities, together with learning materials, facilitates independent learning for pupils. The environment has instilled in pupils a sense of responsibility and accountability for their own learning.

Community Involvement
Involvement of the community in the construction, maintenance and security of the facilities is moving into another level whereby some parents do visit schools to serve as resource persons in the teaching of certain lessons.

Health-related Issues
Classrooms have been constructed such that they provide a healthy environment. The windows are many and large enough to provide sufficient light and ventilation. This aids reading and may lessen eye complications associated with reading under inadequate light. The classroom floors are covered with a carpet, which makes the classrooms habitable even in cold weather. The floors are not only relatively durable, but are also less dusty and easier to clean compared to mud floors of some of the old classrooms. Similarly, the environment has contributed to the cleanliness of the pupils since they no longer sit on mud floors.

Improvement of Children's Performance in Classroom Tests
Some schools claimed that pupils' performance in quarterly and end-of-year tests has improved since the new facilities were put in place. However, there was no way of verifying this.

SUSTAINABILITY AND MAINTENANCE OF THE FACILITIES

Government's Ability to Sustain Project without Donor Support
It was the feeling of some of the respondents that the Lesotho Government would be able to sustain the project, at least in the medium term, with reduced donor support. In the first place, the donor community has committed itself to supporting the Education for All (EFA) programme up to 2015, and FPE is a critical component of EFA. The Government is on the other hand strongly committed to investing in FPE and would be able to continue the provision of facilities through that programme. In fact, the provision of school facilities is one of the key elements of the FPE programme.

Maintenance of Facilities
There has not been a maintenance policy or plan for the project. However, under the FPE the Lesotho Government, through the Ministry of Education and Training, is providing a maintenance fee of M5.00 per child per year, and there is supposed to be an officer designated to oversee this exercise.
The facilities, especially the structures from the foundation to the walls and the roofs, are relatively durable and are expected to be maintenance free in the foreseeable future. However, it was observed that the floor tiles might not withstand the winter cold or summer heat for long. Similarly, the lockers and locks on the doors are of poor quality and some of them have started giving problems.
Some schools are able to maintain the facilities, especially those whose respective surrounding communities are cooperative and actively involved in the security of the schools' infrastructure. There are fewer cases of vandalism and theft where the community uses the facilities for its activities because there is a sense of ownership by all concerned parties, including Advisory School Committees. Finally, the Government plans to encourage communities to establish steering committees one of whose duties would be to oversee maintenance of the school facilities. There are already members of the communities who possess requisite technical skills to assist in the maintenance work.

GENERAL OBSERVATIONS

This study has revealed that the provision of physical facilities has improved the instructional environment and conditions. That situation can be taken to represent the first and crucial step towards the attainment of quality education. However, the realization of quality itself will also depend on how the human factor interacts with this physical factor. The provision of facilities must be examined concurrently with other inputs if its impact on quality improvement is to be realistically determined.

The practice of assigning newer relatively better resourced classroom facilities to higher grades could disadvantage children in foundation grades.

Studies done in the country have shown that assessment of pupils at the classroom level is a routine activity undertaken by primary school teachers. Advantage can be taken of this fact to enhance teachers' skills in this area so that it becomes an integral component of quality enhancement and monitoring. In the same breath, classroom action research has been proven to have the potential to contribute significantly to the empowerment of teachers to monitor, evaluate and improve quality dynamics at the classroom level.

There is a need for an inter-ministerial coordination in the provision of various forms of schools' infrastructure in order to facilitate implementation, accessibility and improvement of the learning environment.

One of the most important criteria used in selecting schools for the project is enrolment size, the aim being to reduce or avoid overcrowding. It is obvious that the goal should also be to provide classrooms that are relatively well resourced in other aspects besides size if quality is to be attained and sustained.

The plan to introduce facilities that are user-friendly for children with disabilities will go a long way towards meeting the goals and aspirations of EFA. Such a move would also facilitate provision of quality education for this particular category of children.

There are some schools that are concerned that with the introduction of the FPE programme they will no longer be able to continue charging children maintenance fee. This stance probably emanates from communication breakdown since Lesotho Government does provide maintenance fee for those schools and grades falling under FPE.

Some of the schools that have not been provided with facilities feel neglected and question the criteria used in selecting schools for the project. Similarly, there are concerns from some quarters that the provision of facilities by Government may tend to promote a dependency syndrome.

The additional classrooms could be used for evening classes not only to increase access, but also for revision and homework purposes by pupils, in the interest of enhancing an environment conducive to quality improvement.

The Government's plan to undertake a school mapping exercise and also to install electricity in schools under the FPE programme will help in identifying the needs and environment of individual schools and promoting the use of the facilities at all times, respectively.

Where projections show a likelihood of no increase in enrolments, attention might be paid to the improvement and maintenance of existing structures rather than providing additional ones.

CONCLUSIONS

The facilities provided to schools have helped enhance the relevant environment, conditions and support for teaching and learning improvement at the classroom level. They support the activities of both teachers and pupils, and provide storage and facilities for display of

materials. This is a necessary step towards attainment of quality education, in terms of pupils' academic prosperity. It may be noted that a supportive environment promotes not only proper teaching and learning conditions but also positive mental attitudes, morale, class attendance and academic performance.

The additional infrastructure has helped reduce overcrowding, thereby cutting down negative effects such as noise associated with it. Proper learning in classrooms requires high levels of concentration, listening, writing and reading, a phenomenon that is otherwise restrained by too much noise.

One of the most significant aspects of the impact of the adequate school facilities is the improvement in teaching and learning patterns and approaches. In particular, flexible classroom facilities enable innovations in these approaches.

Some studies, particularly in the West, have reported a link between the quality and adequacy of school infrastructure on the one hand and quality of education on the other. The relationship is said to be strong enough to be educationally significant

While in some cases it is difficult to empirically establish a direct link between provision of school facilities and enhancement of quality education, it is argued elsewhere that common sense also tells us that well resourced schools are apt to have necessary elements that promote quality education, including equipment, qualified staff and environment conducive to learning.

LESSONS GLEANED FROM THE STUDY

This case study has brought to the fore a number of issues from which other African countries and the international donor community can learn some useful lessons. Some of these issues have to do with problems of methodology in undertaking case studies addressing the concept of quality of education. Below are some of these issues.

1. Researchers have noted that there are relatively few empirical studies that have been specifically geared at establishing a direct relationship between school facilities and quality improvement. This situation is particularly pronounced in Africa, and it renders case studies like this one difficult in that there is not much to build on or glean lessons from.

2. The quality of research studies that have been carried out on school facilities has also been called into question, particularly with regard to the methods used. More rigorous studies on school facilities and quality enhancement need to be carried out in Africa.

3. Education is a multifaceted enterprise in which a number of elements interact in non-systematic manner. Likewise, quality or lack of it is a consequence of a combination of factors. It is difficult to isolate one factor and to determine its contribution to quality improvement because of confounding effect of factors. Physical facilities constitute only one of the many indicators that affect teaching and learning, others being teacher qualifications, textbooks, instructional approaches, school administration, and so forth.

4. In this case study there was no useful evaluation and monitoring information on the project relating to quality. A rather complicating factor is that there was no baseline data that could be used to facilitate measurement of change brought about by the intervention. PSLE is not appropriate for measuring quality of education, particularly at the classroom level, since it is a norm-referenced measure. It is ideal primarily for selecting candidates for secondary education. Many donor driven projects like this one often lack

baseline data against which change, if any, brought about by interventions can be measured. It therefore becomes difficult to determine the impact of such projects. Where baseline and/or evaluation data exists, it rarely addresses or documents quality issues. Apparently this is a common phenomenon in the African setting. The need for baseline information cannot be overemphasized.

The Impact Assessment on ESDP undertaken by the Ministry of Education and has served as the main, if not the only, mechanism designed to indicate progress that is taking place on the ground. However the exercise runs short of addressing quality issues. The plan for ESDP II is that the following will be used by way of monitoring and evaluating the project: quarterly and yearly implementation reports, a mid-term review, and completion reports. The problem with this arrangement is that the said reports are meant to benefit the donor agencies and policymakers in the Ministry of Education and Training regarding implementation progress, but have almost no impact on providing information related to quality at the classroom level.

5. While the provision of additional facilities may have helped improvement quality of education as designed, there are a number of outstanding challenges as a result of the way the project was conceptualized and implemented. First, it looks like not much thought was given to defining what quality is in the context of the project. Neither is it apparent that an attempt was made to identify and agree on a specific set of quality indicators. Secondly, the project, as an intervention, has been in operation for over ten years, and is continuing. Estimation should have been made at the onset about when its impact was expected to begin to be observed and measured. Finally, it was not clear how the indicators were to be measured. Specifically, there are no reliable instruments in place to determine the outcomes of the intervention in terms of quality improvement. Given this entire scenario it becomes difficult to empirically provide evidence of quality improvement.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. Quality indicators for primary education in the country should be identified and agreed upon by all concerned. Similarly, proper strategies for measuring these indicators should be devised. This could include the development of a national assessment programme.
2. This study was able to confirm that evaluation reports on the project, and indeed on other related projects and programmes in the country, do not address the quality issue, particularly what actually takes place in the classroom. It is therefore recommended that projects of this nature should have in-built monitoring and evaluation mechanisms that address quality.
3. The best strategy for sustaining and maintaining the project would be to continue building durable structures that require minimal maintenance. In a sense, the higher the quality of the buildings the fewer the future maintenance requirements.
4. In order to monitor pupil performance gains resulting from an intervention, teachers must be trained in proper record-keeping procedures.
5. Contractors should be urged to employ the villagers in the construction work. This will not only promote a sense of ownership and security of the facilities but will also improve the quality of life of the villagers through job creation.
6. The proposed community steering committees to plan and drive the process of maintaining the facilities should be established.
7. Communities should be encouraged to continue using school facilities. This will further enhance a sense of community ownership and ensure the protection and care of the facilities.

INTRODUCTION

The Lesotho education system is divided into primary, secondary and tertiary levels. It consists of seven years of primary education, five years of secondary education (three years of junior secondary and two years of senior secondary) and four to six years of higher education. Basic education takes ten years of schooling comprising 7 years of primary and 3 years of junior secondary education. The National University of Lesotho (NUL) is the only university in the country and offers degree as well as undergraduate and postgraduate diploma programmes. The Lesotho College of Education (LCE) trains teachers for primary and junior secondary schools, while the Faculty of Education (FED) at NUL trains teachers for senior secondary schools. Non-formal education (NFE) is offered by the Lesotho Distance Teaching Centre (LDTC) and the Institute of Extra-Mural Studies (IEMS) of the NUL, as well as by several non-governmental organizations (NGOs). Technical and vocational education and training (TVET) has its own separate organizational structure.
The Education enterprise of the country is a tripartite arrangement between the government, churches and the community. The government, through the Ministry of Education and Training (MOET), has responsibility for the administrative, legal, financial and academic control of the system. It is in charge of the following specific tasks: training of teachers; formal approval of teachers' appointments, retirement, dismissal; and deployment; payment and conditions of service of teachers; administration of the public examinations system; curriculum development, review and authorization; supervision and inspection of schools; and regulation of the opening and closing of schools. Churches, on the other hand, own over 90 percent of the schools. In terms of the Education Act 1995 the management of primary schools is vested with school committees, that is, Management Committees (MCs) and Advisory School Committees (ASCs), made up of representatives of parents, schools, local community leaders and churches. These committees are therefore responsible for the day-to-day management operation of schools.

Project Description

The current project under which the Government is providing the physical infrastructure in primary schools started as a part of the first Education Sector Development Plan (ESDP I) that covered the period 1991/92 to 1995/96 (Ministry of Education and Training, 1992; 1999a). The ESDP I was a broad sector-wide plan, covering basic education, National Teacher Training College (now Lesotho College of Education), Technical and Vocational Education, National University of Lesotho, and Sectoral Finance and Management (World Bank, 2000; Ministry of Education and Training, 1999a). Activities under basic education included the following: construction of new primary school classrooms and sanitary facilities; furnishing of new and existing classrooms at primary level; development of new curriculum and instructional materials; improvement of the system of assessment; recruitment of additional teachers, especially in lower primary; provision of increased professional support for teachers; and improvement of efficiency in student flow. It was a multilateral donor funded project, with the main financiers being the International Development Association (IDA), United States Agency for International Development (USAID), and European Union (EU). Other donors included Ireland Aid, German Agency for Technical Cooperation (GTZ), UNDP, UNICEF, World Food Programme (WFP), Department for International Development (DFID), Save the Children, and Bernard van Leer. The African Development Bank (ADB) assisted in the financing of secondary education (Ministry of Education and Training, 1999a; World Bank, 2000; African Development Trust, 1998).

The main motivations for the reform inherent in ESDP were (a) investment to improve quality, efficiency and relevance of education and training at all levels, and (b) assisting in addressing management, financial and resource allocation and staffing matters which constrained overall sectoral performance (Ministry of Education and Training, 1999a).

The second Education Sector Development Plan (ESDP II) is divided into three phases as follows: Phase I (June 1999-June 2002); Phase II (tentatively, July 2002-June 2006); Phase III

(tentatively, July 2006-June 2011). The objective of ESDP II is to "increase access and equity at the primary school level in order to lay the foundation for achieving universal primary education by 2011, and also improve the quality of primary and secondary education. The project will also assist in policy formulation and capacity building in ECD, TVET and NFE" (World Bank, 2000, p.113; World Bank, 1999).

At the basic education level the first three-year phase of the project was targeted at curriculum and assessment, teacher development and support, classroom construction, school-level management, and capacity building in project management (African Development Trust, 1998; World Bank, 1999). With regard to classroom construction, the African Development Trust's (ADT) contribution was supposed to focus on remote schools in the mountainous regions of the country. The organization was also expected to provide school offices and ventilated pit latrines.

Organization and Management

The Planning Unit of the MOET is responsible for the implementation of the project. The Unit has an Education Facilities Unit (EFU), which is in charge of the civil works and procurement activities of education projects (both donor and government funded) and a project accounts section. The EFU is headed by a Unit Coordinator and has an architect section, a contract management section, and a procurement section.

Funding and Sustainability

The total amount invested in ESDP I came to about M260 million (US$43 million) (World Bank, 2000). For ESDP II the total financing is estimated at around US$26.7 (Ministry of Education and Training, 1999), with the Government of Lesotho (GOL) contributing US$5.7 million, including operating costs, 67% of planning and monitoring costs, and 84% of costs associated with the scholarship scheme for poor students, 10% of civil works, and all taxes. The IDA on the other hand is to contribute US$21.0 million. Other donors are expected to contribute approximately US$19.46 in parallel financing. These include ADB (US$12.8 ml), DFID (US$4.2ml), Ireland Aid (US$2.2 ml), and GTZ (US$0.2).

Education's share of government's budget has been increasing in the late 1990s, reaching 28% in 2001/2002 fiscal year. However, there has been some fiscal restraints in recent years (World Bank, 2001). Recently the Government of Lesotho's expenditure has been at 9% of gross domestic product (GDP), with primary education representing a share of 3.5%, secondary education 2.0% and university 2.5% of GDP (World Bank, 2001). In general, budgetary allocation to education represents an increase of 5% above inflation (Ministry of Education and Training, 2001). By 2001 there was still a shortage of over 4,000 classrooms while the then on-going classroom construction programme produced about 300 classrooms per year. There was still therefore a strong need to allocate more funds for the job in order to bridge the gap (World Bank, 2001b).

There is still a strong need for construction of new classrooms, requiring large amounts of funds. These funds may not be available in the short term so that there is need for caution in the use of available moneys, including targeting of the most needy schools and areas, such as those that have high pupil-teacher ratios. During the first phase of ESDP II, specifically in 2000, the national average pupil-teacher ratio was 47.9 with a district variation ranging from 45.1 to 55.7. The national average pupil-classroom ratio was 65.1 with a district variation ranging from 57.5 to 97.7. There were 8,957 classes in 6,312 classrooms, indicating that 2,600 classes were operating either without classrooms or in double shifts. Only 4,230 classrooms were of a permanent nature. There was also a large variation in class sizes, with 15.5% having over 65 pupils and 10.8% less than 25 children. In all, in 2000 there was a gap of 5,845 classrooms. The total amount required to bridge the gap was around US$130 million, including the costs for furniture and part of sanitary, administration and kitchen facilities (Ministry of Education and Training, 2000b; World Bank, 2001).

The phased-in introduction of the Free Primary Education (FPE) programme in 2000 has ushered in many challenges, including the provision of additional physical facilities (Ministry of Education and Training, 2001). The increase in enrolment in 2001 was estimated at 72% as a result of the programme. Under the FPE the Ministry is also paying for maintenance fee of M5.00 per child per year (Ministry of Education and Training, 2001; Ministry of Education and Training, 2000a). Some donor agencies have warned that the introduction of FPE will have to be exercised with some degree of prudence if quality of education is to be provided (World Bank, 2001a). The shortfall in classrooms to reduce overcrowding will be exacerbated by enrolment increases due to the introduction of the FPE programme.

Community Participation

The importance of involving the parents and the community at large in projects like this one cannot be overemphasized (Ireland Aid, 2000a). The Lesotho Government plans to involve local communities in the planning and construction phases of the project in order to instil a sense of ownership as enshrined in the Education Act 1995 (World Bank, 2001a). This means that these stakeholders should be brought on board and empowered to participate not only by way of provision of labour but also in the planning and management of the activities of the project. It is the policy of the project that EFU leaves one structure (popularly known as a shell) incomplete. The communities are then expected to complete the structure using their own resources in the form of materials and labour. However, in 2000 it was found that the communities had completed just over half of the classroom shells, which suggested that given the poverty of the communities it was unrealistic to expect that level of contribution from them (World Bank, 2000).

The Education Act 1995 stipulates that primary schools shall have a Management Committee responsible for 8 schools falling under the same proprietor. It also defines the membership and responsibilities of the committee, such as supervision and management of the schools, and recommendations on teachers paid by government. The Act also stipulates that each school shall have an Advisory School Committee which shall advise the Management Committee on matters relating to the operation of schools. The duties of the committee with regard to the provision of facilities are to assist in the processing and consideration of applications, site selection, supervision, construction, follow up on registration, teachers and teaching materials, and dissemination of relevant information to the community (World Bank, 2001a). The Advisory School Committees are therefore supposed to provide a link between the community and the project. It should be noted, however, that there are some members of the community who feel that the provision of school facilities is now part of the FPE programme and therefore there is no need for them to participate.

A strong community participation would involve not only construction but also maintenance of facilities. Proper maintenance would in turn positively enhance sustainability of the provision of the facilities.

Quality and Access

The poor quality of primary education in Lesotho is attributable to a number of factors, including shortage of qualified teachers, overcrowded classrooms, high pupil-teacher ratios and lack of managerial capacity at the school level. Another problem is terminal efficiency (the ratio of the number of children that complete Standard 7, that is the last grade of the primary education cycle, to the new enrolments in Standard 1 seven years before), and is affected by the relatively high drop-out and repetition rates.

It is obvious therefore that quality of education is a consequence of a combination of a number of factors. It may be noted that provision of school facilities has a direct positive effect on access. On the other hand, quality and access are related. For example, increased access may have negative effects on quality if access is achieved without addressing issues of provision of facilities, training of teachers, supply of materials, curriculum relevance, improvement of teaching/learning processes, and management and administration (Ireland Aid, 2000; Ireland Aid, 2001). It may be observed that

provision of additional physical infrastructure leads to lower pupil-teacher ratios and pupil-classroom ratios. On the other hand, pupil-teacher ratio is partly determined by class size, and the lower it is the more attention the teacher is able to pay to individual children, and therefore the better academic performance the pupils will achieve. The reverse is the case for high pupil-teacher ratios (Ministry of Education and Training, 2000). A low pupil-classroom ratio means reduced overcrowding and therefore a more conducive atmosphere for teaching and learning. Good facilities also tend to attract qualified teachers to the schools involved (World Bank, 1999).

In Lesotho one commonly used indicator of quality is the students' performance in the Primary School Leaving Examination (PSLE). Usually, relatively few candidates obtain a first class pass in this examination. The results of the 1997 PSLE, that is, a year after the official ending of ESDP I, show no difference from those of 1990. However, at the district level the results are varied widely. The trend analysis indicates that the increase in percentage scores increased consistently between 1990 and 1992, but in 1993 the percentage passes were huge. However, the increase was not sustained since the percentage passes started declining in 1994 and continued to decline thereafter (Ministry of Education and Training, 2000).

One of the aims of ESDP I was to enhance the quality of education by "improving the conditions under which children are expected to learn" (Ministry of Education and Training, 1992, p.41). This seems to be a more realistic goal for a single project scenario. It has been observed, for example, that due to lack of facilities in the remote mountain schools the quality of teaching and learning is poor as evidenced by their performance in PSLE, Junior Certificate (JC) Examinations and Cambridge Overseas School Certificate (COSC). The project is therefore designed to improve the teaching and learning conditions and consequently output or education performance (Ministry of Education and Training & World Bank, 1999).

Since 1996 the Ireland Aid has been supporting a project on the provision of primary school facilities in two remote rural and poor communities in Lesotho. The experience of this agency indicates that provision of classrooms improves the learning environment. But the quality of education received is hard to determine. One of the reviews of the project has made the following observation (Ireland Aid, 2000a, p.11):

"Provision of classrooms alone will not improve the quality of education. However, through improvement in the learning environment, children can have greater access to and improved facilities for learning. Even in these new facilities the quality of education provided is dependent on the individual teachers and the management structures within the schools. Therefore while the provision of extra classrooms, furniture and fittings has improved the quality of learning environment it has not necessarily improved the quality of the education received".

As pointed out earlier, high dropout and repetition rates constitute some of the indicators of poor quality in primary education. For example, according to the 1996 performance data, that is, at the end of ESDP I, for every 100 students who enter Standard 1, only 51 eventually complete Standard 7 (World Bank, 1999). A school survival rate from a cohort of students who enter the first grade of primary education shrinks each year since a significant proportion of them repeats or drops out, so that only slightly over 10% (114 out of the original 1000 pupils) will graduate after the seven-year primary education cycle. An additional "393 pupils will eventually graduate after as many as eight repeats of a grade, leaving us with 507 graduates out of the original 1000" (Ministry of Education and Training, 2000, p. 54). Throughout the grades female pupils performed better than their male counterparts since 574 out of 1000 proceeded to the next grade compared to 523 out of 1000 for the males. In PSLE the difference between the two groups narrowed down, standing at 51.2% pass rate for girls and 50.0% for boys. In 1998 terminal ratio, that is, the ratio of children who complete to initial cohort, was 40% (Ministry of Education and Training, 2000).

According to Muskin (1999), studies relating to quality have focused on the factors that contribute to quality education and how these might be managed. The practice has been to determine the relative importance of various inputs on the basis of students' academic performance at the school or successful completion of a cycle or level of education, such as primary school education. The common inputs normally considered include school infrastructure; teacher qualification, supervision and incentives; curriculum; textbooks; other instructional materials and school-community relations. Quality has also been viewed as an efficiency issue, dealing with student flow rates, dropout, repetition, failure and attainment of certificates.

Accomplishments in Provision of Physical Infrastructure

Through ESDP I primary school classroom building programme, EFU had constructed 450 classrooms over a five-year plan period, that is, in 1996 (Ireland Aid, 2000). This development constituted 30% increase in the number of classrooms and led to the reduction of pupil-teacher ratio from 91.1 to 76:1 in the primary education sub-sector (African Development Fund, August 1998).

By the end of the 1990s a total of 1094 new classrooms, 241 offices, and 2220 latrines had been built and 49 classrooms renovated. Furniture associated with these facilities was also provided. Furthermore, over 50% of existing classrooms were furnished, while 10 District Resource Centres (DRCs) were constructed and furnished (Ministry of Education and Training, 1999a). The idea of renovating existing classrooms was abandoned after it was discovered that foundations were poor and that renovations would prove to be more costly than construction of new ones (World Bank, 2000).

SURVEY OF THE SCHOOLS

The appraisal and evaluation exercises that have been done on the project have not investigated its impact on quality improvement, particularly at the school and classroom levels. Consequently, there were no relevant evaluation reports that could be referred to for purposes of this case study. It therefore became necessary to conduct a simple survey in an attempt to fill this gap. Two indicators were used to establish the level of contribution of the provision of physical infrastructure to quality improvement in primary education in the country. The first indicator used was the PSLE results while the other was the stakeholders' opinions, observations and experiences on the matter.

The study design involved drawing up a sample of 7 schools that had been provided with additional facilities and another sample of 7 schools that were not part of the project. The second set of schools served as a comparison group. Both groups of schools are located in the lowland and foothill areas of the Maseru district. This being a case study, purposive sampling was used. As the time available for the study was too short, convenience was primary in the selection of schools. Two areas in Maseru district; one in the lowlands and another in the foothills were selected, and schools in the ESPD I were included in the study. The two sub-samples were basically similar in most characteristics, except that one involved schools that had participated in the project while the other had not.

The investigation of quality as determined through PSLE results involved comparing the performance of the project schools prior to their being provided with additional facilities with their performance after the facilities were furnished. To this end, the exercise involved looking at the examination performance records as kept by the Ministry of Education and Training and the Examinations Council of Lesotho (ECOL). The records covered the period 1985 to 2002, and involved pass rates and levels (first, second and third class passes). The same records were examined for the comparison schools.

Focus group discussions and interviews were used to collect qualitative information about the opinions, observations and experiences of stakeholders regarding the impact of the project on quality improvement. Specifically, focus group discussions were held with teachers and Advisory School Committees in the project schools while interviews were conducted with policy makers in the Ministry of Education and Training; Education Officers (EOs); District Resource Teachers (DRTs); officials of the Education Facilities Unit; and a representative of donor agencies. Numbers involved in these sources of information were as follows:

(a) 2 policy makers from the Ministry of Education and Training Head Office
(b) 2 Education Officers
(c) 8 District Resource Teachers
(d) 2 officers of the Education Facilities Unit
(e) 1 representative of the donor agencies. A representative of the Ireland Aid was interviewed since the agency has been supporting a separate project to construct classrooms in selected primary schools in the country.
(f) All available teachers in the project schools.
(g) All available members of the Advisory School Committees in the project schools.

On-site observations were also conducted in the 14 schools using a structured observation schedule. The observations were undertaken by research assistants and were directed specifically at the availability and quality of physical facilities in the schools. Finally, a questionnaire was used to collect information on the general profiles of the schools in the sample. Basically, the questionnaire was a modified version of the instrument used by the Ministry of Education and Training for annual statistical returns. Only those school characteristics that were deemed to have a bearing on quality of education were investigated.

OBSERVATIONS OF THE SCHOOLS' PHYSICAL FACILITIES

The structured observation revealed the following state of affairs in the both project and non-project schools in the sample.

Doors: The doors of both new and old buildings of project schools were in a perfect state of repair, whereas the majority of those of the non-project schools were in a poor state of repair.
Windows: All classrooms windows in project schools were in good condition whereas some those in non-project schools were in a bad state of repair. On the other hand, those of most of the non-project schools were generally in a poor condition.

Floors: Classroom floors in project schools were carpeted with Flex IM 40 while those in non-project schools had concrete floors.

Ceiling: All roofing of buildings of project schools had an insulation that protects against excessive heat and cold. This facility did not exist in non-project schools, except that only a few had a ceiling which in most cases had leaks and was falling apart.

Outside Walls: The outside walls of the new buildings in project schools were generally intact, whereas those of old buildings mostly had cracks.

Storage Facilities: Project schools had cabinets and cupboards. Most non-project schools had no storage facilities.

Toilets: All the schools had staff and student toilets. Most of these were either VIP or pit latrines and were generally dirty.

Waste Disposal: The waste disposals were mainly pits in all schools.

Fencing: Only some of the schools, both project and non-project, were fenced in.

Water: Sources of water in most of the schools were boreholes, springs and taps.

School Gardens: Not all schools had gardens. However, only a few of the gardens had vegetables in them. It may be noted, though, that the study was undertaken during winter when there is usually less gardening activity in the country. Some of the gardens had generally been neglected and showed no signs of previous use.

GENERAL PROFILES OF THE SAMPLE SCHOOLS

Teachers

The majority of teachers were female. A significant number of them obtained their highest teaching qualifications after many years of teaching. Those without professional qualifications tended to teach lower grades. This could be attributed to the highly examination oriented system of the country. Children are expected to sit for their public examination, that is, PSLE, at the end of the primary education cycle and are therefore assigned to qualified teachers at that level. In other words, in the eyes of the schools and the public the quality of education is measured by the level of performance at the end of the primary education cycle. For the same reason there is a general tendency for schools to allocate new and relatively well-resourced classrooms to higher grades.

Pupils

Until recently the official primary school entrance age for children was six years. However, with the introduction of FPE this is beginning to change. According to FPE policy, no child shall be denied admission to school on the basis of age. All this has led to a situation observed during the survey that children in lower classes are of mixed age groups. For example, there were some pupils who were above the age of 20 years in Standards 2, 3 and 4. There were also some cases of early entrance. How this scenario is affecting classroom teaching and learning, if at all, remains to be investigated. There were repeaters in almost all grades in the two sets of schools in the sample. Generally, the bigger the school in terms of enrolment, the higher the number of repeaters it had.

Posters

Almost all schools in the sample had posters on the classroom walls. However, more posters were displayed in new buildings than in the old buildings as there is more space in the new classrooms. The contents of the posters, made by teachers and students, were based on various school subjects and health themes (including HIV/AIDS). Similarly, project schools had bulletin/pin boards on which the following were displayed: timetables, notices and school calendars. Non-project schools did not have any bulletin boards.

PERFORMANCE IN PRIMARY SCHOOL LEAVING EXAMINATION

The records indicate that the provision of facilities did not improve children's performance on the PSLE. Specifically, the performance remained basically the same before and after the intervention. The performance of schools that had not been provided with physical facilities also did not change during the period 1985-2002. The results did not seem to be influenced by either the annual school enrolments or fluctuating number of children sitting for the examination. In an effort to estimate quality, the study examined the levels of passes in the two categories of schools. The findings indicate that the proportions of first, second and third class passes did not change as a result of the intervention. In other words, there was no discernible pattern to suggest that the provision of facilities had positively impacted on the PSLE results. These results must however be accepted with a lot of caution, for two reasons. First, this is an *ex post facto* design, which by nature precludes adequate control of biases. Secondly, the PSLE has some limitations in that it is norm-referenced rather than criterion-referenced. To that extent, it tells us more about how individual students perform relative to their peers rather than to a set standard or performance level. In the final analysis therefore, PSLE is not an appropriate yardstick for measuring quality of education, particularly at the classroom level.

THE IMPACT OF ADDITIONAL PHYSICAL INFRASTRUCTURE

Introduction

This section presents responses reported during interviews and focus group discussions held with a variety of stakeholders. Virtually all the respondents stated that the facilities and equipment provided through the project had some positive impact on the schools involved. We note that some examples of the influence that the project has had were common to all respondents, while others were not. The focus of this study of course relates to the impact or lack of it on quality improvement.

Facilities Provided

The following were identified as the main items of facilities provided by the EFU to the schools: classrooms, administrative offices (principal's office, staff room and bookstore), furniture (desks and chairs for teachers and pupils), latrines for teachers and pupils, chalkboards, pin/bulletin boards, built-in cupboards, and floor carpeting (flex IM 40).

Some Implementation Problems

Some of those involved in the implementation of the project reported that government bureaucratic hurdles sometimes impede smooth implementation of the project. Other implementation problems are occasioned by lack of coordination among various parties concerned.

Impact on School Management

School management is a critical factor in the promotion of quality of education. Provision of school offices was reported to have had a great and positive influence on the management of the schools. Additional facilities were said to have created a sense of orderliness in the schools. For example, because of adequate storage space books are kept in an orderly manner for use by teachers and pupils. Principals have their own private space in which work can be organized. Equipment such as cabinets, lockers and safes has contributed greatly to the security of materials and organization of work. In addition, offices provide space where principals can receive visitors, deal with individual issues with staff and meet parents, the Advisory School Committee and other structures of school management. Most shells provided have been completed and turned into staff rooms and meeting places. Before these were provided, most schools had no staff rooms or at best had small cramped rooms for staff rooms. Meetings would be held in one of the classrooms forcing the class to either move outside or to dismiss altogether. Thus, shells have contributed to improved management. Teachers stay longer on the school premises and have a place where they can plan their schoolwork together. There is increased opportunity for communication among the staff as reported in some responses. In fact, the practice of having the community complete the shells instils a sense of ownership and promotes active involvement of the community in the running of the schools.

Impact on Classroom Management

The additional classrooms and equipment that were provided had a positive impact on classroom management. In almost all schools under the project every grade has its own classroom. Almost all classrooms have sufficient furniture for each pupil to sit comfortably. Thus, movement in the classrooms is made easier and management is enhanced. The sitting arrangement enables teachers to monitor work and to identify and assist pupils who may have learning problems or special learning needs. It facilitates class supervision and control. Another factor to this is improved pupil: teacher ratios in most schools. All new classrooms are provided with lockers and teachers can safely store their teaching materials and easily retrieve them for lessons.

Impact on Quality Improvement

The new school physical infrastructure provides an environment conducive to proper teaching and learning. Below is a catalogue of instances of such an improvement as revealed by this review.

Provision of Shelter against Inclement Weather
Classrooms provided through the project serve as an appropriate venue for instructional purposes. As opposed to teaching outside under trees or in the open, the facilities protect both teachers and pupils against harsh Lesotho climatic conditions. Children's concentration and attention on instruction conducted in a proper classroom is higher than in a lesson conducted under a tree or in a church hall. The pupils are therefore likely to learn more effectively and efficiently.

Lowering of Pupil: Classroom Ratios
Additional facilities serve as a welcome support infrastructure for the enrolment increases that are being experienced as a result of the introduction of the FPE programme. In particular, the provision of new classrooms has lowered pupil: classroom ratios, a situation that has improved the teaching/learning climate in a number of ways, including comfortable sitting arrangements for pupils and enhancement of instructional management. The classroom sitting arrangement in turn facilitates proper classroom interactions and promotes free communication and development of confidence among pupils. The fact that most pupils are properly and comfortably seated on chairs and desks is also said to have improved their handwriting.

Improvement in School Attendance
It was reported that before additional classrooms were provided some pupils would not come to school in cases of inclement weather. Some schools would be suspended since some of their classes were held in the open. Now that there is effective shelter and sufficient room for almost all pupils, attendance in these schools has improved even during harsh weather. This in turn is said to have contributed to improvement in students' academic performance.

Working Space for Teachers
Teachers are no longer isolated because they have a staff room where they can meet and discuss academic and personal matters. The facilities further influence teaching positively in that teachers have a sufficient working space where they prepare lessons and mark pupils' work.

Boosting of Teachers' Morale and Motivation
The teachers' morale and motivation were reported to have been bolstered as a result of operating in an improved physical environment. This study was able to confirm, for example, that there is a tendency for qualified teachers to be attracted to schools with good facilities.

Boosting of Pupils' Morale and Motivation
A conducive environment, including adequate classroom furniture, fosters high morale among pupils, as demonstrated by regular attendance and enjoyment of being on the school premises. The learners' motivation is further exemplified by the fact that pupils often engage in their learning activities even in the absence of their teachers.
Due to the importance attached to the PSLE, the new classrooms are generally allocated to the upper grades. This is said to inspire and motivate pupils in the lower grades to work hard so that they too may one day be in the new, attractive classrooms. This motivating factor was reported to have also encouraged pupils to practise speaking English among themselves. English is a failing subject throughout the school system in Lesotho and is a medium of instruction from Standard 4 upwards. Good performance in this subject could therefore lead to improvement in the PSLE results.

Adoption of Innovative Instructional Strategies
Adequate classroom space enables teachers to adopt innovative teaching, as well as regular application of a variety of other established teaching and learning approaches such as demonstrations and drama. One of the most important benefits of the project, as reported by the categories of the respondents was that the additional facilities have contributed significantly to teaching and learning through such innovative approaches as the Break-Through-to-Literacy (BTL) programme. The BTL approach requires ample space for individual pupils to freely handle the learning materials and to display them on the walls. It allows for different approaches to teaching and learning.

Use of Instructional Aids and Materials
Both teachers and children have been able to make more use of instructional aids and materials, including books, since there is adequate space for storing and displaying these items. Previously, these materials had to be removed at the end of classes every Friday in preparation for Sunday church services. This situation obtained primarily in cases where church halls were used for teaching purposes. Instructional materials and notes can also be displayed for long periods of time, enabling pupils to refer to them for revision purposes. In general the culture of reading has been inculcated among children as a result of these developments.

Maximum Use of Teaching and Learning Time
Since there is less crowding and concomitant noise and other disturbances, teaching and learning time is used to the maximum. In other words, not only quality but also efficiency of instruction has improved. Teachers now have adequate space to move around during lessons and to pay attention to individual pupils. The situation further facilitates the grouping of pupils for learning activities. In a number of cases teachers have 'learning corners' in their classrooms where they cater for the needs of children in different subject areas and/or for teaching particular concepts. Similarly, there is enough space for children to move around and learn from materials displayed in these learning corners.

Lowering of Distractions in Classrooms
There is less distraction because each grade is housed in a separate classroom and thus pupils are able to concentrate more on their work.

Promotion of Independent Learning
The provision of facilities, together with learning materials, facilitates independent learning for pupils. It was reported that the environment has instilled in pupils a sense of responsibility and accountability for their own learning.

Community Involvement
Involvement of the community in the construction, maintenance and security of the facilities is moving into another level whereby some parents do visit schools to serve as resource persons in the teaching of certain lessons.

Health-related Issues
Attempts have been made to address issues of health in the provision of the facilities. The classrooms have been constructed such that they provide a healthy environment. The windows are many and large enough to provide sufficient light and ventilation. This aids reading and may lessen eye complications associated with reading under inadequate light. The classroom floors are covered with a carpet, which makes the classrooms habitable even in cold weather. The floors are not only relatively durable, but are also less dusty and easier to clean compared to mud floors of some of the old classrooms. Similarly, the environment has contributed to the cleanliness of the pupils since they no longer sit on mud floors.

Improvement of Children's Performance in Classroom Tests
Some schools claimed that pupils' performance in quarterly and end-of-year tests has improved since the new facilities were put in place. However, there was no way of verifying this.

SUSTAINABILITY AND MAINTENANCE OF THE FACILITIES

Government's Ability to Sustain Project without Donor Support

It was the feeling of some of the respondents that the Lesotho Government would be able to sustain the project, at least in the medium term, with reduced donor support. In the first place, the donor community has committed itself to supporting the Education for All (EFA) programme up to 2015, and FPE is a critical component of EFA. The Government is on the other hand strongly committed to investing in FPE and would be able to continue the provision of facilities through that programme. In fact, the provision of school facilities is one of the key elements of the FPE programme. However, the FPE programme itself has increased enrolment rates and this has exacerbated demand for more classrooms. The situation might call for more funding on the part of Government as the programme moves on to cover all grades.

Another important observation made was that there might be no need to keep the plan of building more classrooms at the pace at which they are being constructed currently. When the dust settles with FPE and grades enrol pupils of the right age, enrolments are likely to decrease, hence efforts to provide adequate space should be regulated by enrolment projections, lest we end up with more classrooms than we shall require. Such projections will of course be complicated by the unpredictable effects of the devastating HIV/AIDS pandemic.

Maintenance of Facilities

There has not been a maintenance policy or plan for the project. However, under the FPE the Lesotho Government, through the Ministry of Education and Training, is providing a maintenance fee of M5.00 per child per year, and there is supposed to be an officer designated to oversee this exercise.

The facilities, especially the structures from the foundation to the walls and the roofs, are relatively durable and are expected to be maintenance free in the foreseeable future. However, it was observed that the floor tiles might not withstand the winter cold or summer heat for long. Similarly, the lockers and locks on the doors are of poor quality and some of them have started giving problems.

Some schools are able to maintain the facilities, especially those whose respective surrounding communities are cooperative and actively involved in the security of the schools' infrastructure. There are fewer cases of vandalism and theft where the community uses the facilities for its activities because there is a sense of ownership.

One issue that the study tried to investigate is the capacity of the community to maintain the facilities without government and donor support. According to most of the respondents, the improvement of the school environment as engendered by the provision of new facilities has helped enhance cooperation and collaboration between the community and the schools. For example, community celebrations are held in the schools' premises, as are workshops on topics such as HIV/AIDS, concerts, and meetings. Such collaboration promotes a sense of ownership by the community and ensures security of the schools' property.

Advisory School Committees oversee the completion of the shells by the community, and ensure that the facilities are kept clean, well maintained and secure. They are actively involved in the drawing up of schools development plans, a situation that also fosters a sense of ownership of the facilities.

The policy makers interviewed reported that communities are being encouraged to form steering committees that would oversee their involvement in the maintenance of the school facilities. These include necessary training to equip community members with skills to undertake routine/minor maintenance work. The officials are confident therefore that maintenance will be sustained, should government and donor support come to an end. There are already members of the communities who possess requisite technical skills to assist in the maintenance work.

GENERAL OBSERVATIONS

This study has shown that the provision of physical facilities has improved the instructional environment and conditions. That situation can be taken to represent the first and crucial step towards the attainment of quality education. However, the realization of quality itself will also depend on how the human factor interacts with this physical factor. For example, certain basic minimum requirements such as teachers' qualifications and commitment must be met before the impact of the project can be realized. The provision of facilities must be examined concurrently with other inputs if its impact on quality improvement is to be realistically determined (Ireland Aid, 2000a). According to Lloyd, Mensch and Clark (2000), school and classroom environment is determined by a totality of "school and classroom dynamics", non-pedagogical factors (p. 119). These include orderliness of the school, instruction time, language, teacher/student interactions, and all have a bearing "not only on the effectiveness of the teacher in imparting knowledge and developing skills but also the quality of the classroom experience for the students" (p. 119).
The practice of allocating less qualified teachers to lower classes might have detrimental effects on the cognitive foundation of the children and the provision of quality education at that level. Similarly, the practice of assigning newer relatively better resourced classroom facilities to higher grades could disadvantage children in foundation grades.

Studies done in the country have shown that assessment of pupils at the classroom level is a routine activity undertaken by primary school teachers (Sebatane, Chabane, & Lefoka, 1992). Advantage can be taken of this fact to enhance teachers' skills in this area so that it becomes an integral component of quality enhancement and monitoring. In the same breath, classroom action research has been proven to have the potential to contribute significantly to the empowerment of teachers to monitor, evaluate and improve quality dynamics at the classroom level (Sebatane, 1994).
Where projections show a likelihood of no increase in enrolments, attention might be paid to the improvement and maintenance of existing structures rather than providing additional ones.
There is a need for an inter-ministerial coordination in the provision of various forms of schools' infrastructure in order to facilitate implementation, accessibility and improvement of the learning environment.
One of the most important criteria used in selecting schools for the project is enrolment size, the aim being to reduce or avoid overcrowding. It is obvious that the goal should also be to provide classrooms that are relatively well resourced in other aspects besides size if quality is to be attained and sustained.
The plan to introduce facilities that are user-friendly for children with disabilities will go a long way towards meeting the goals and aspirations of EFA. Such a move would also facilitate provision of quality education for this particular category of children.

There are some schools that are still concerned that with the introduction of the FPE programme they will no longer be able to continue charging children maintenance fee. This stance probably emanates from communication breakdown since Lesotho Government does provide maintenance fee for those schools and grades falling under the FPE programme.
According to some respondents, there is evidence of an existence of some negative aspects related to the project. For example, some of the schools that have not been provided with facilities feel neglected. They are also of the opinion that the criteria used in selecting project schools are unclear and have political undertones. Another negative element is that the provision of facilities by Government may tend to promote a dependency syndrome.
There are other alternative uses to which the new school facilities could be put in the interest of enhancing an environment conducive to quality improvement. For example, the additional classrooms could be used for evening classes not only to increase access but also for revision and homework purposes by pupils.

The study has established that there are a number of plans that might facilitate both the provision and maximum use of the physical facilities. For example, the Government is planning to undertake a school mapping exercise, a move that will help in identifying the needs of individual schools and

their environment. There are also plans to install electricity in schools under the FPE programme. This will enhance the use of the facilities at all times.

CONCLUSIONS

The facilities provided to schools have helped enhance the relevant environment, conditions and support for teaching and learning improvement at the classroom level. They support the activities of both teachers and pupils, and provide storage and facilities for display of materials. This is a necessary step towards attainment of quality education, in terms of pupils' academic prosperity (Lyons, 2003). In fact, some scholars aver that school "educational buildings need to be conceived around the concepts of quality learning" Beynon, 1997, p.21). The findings of this case study are consistent with the position of educators as indicated in literature. According to 7000 (1992), "A quality educational program can best function in an environment that is conducive to learning, supports and encourages excellence in teaching, and provides a safe and comfortable environment for students and staff" (p.1). Similarly, Johnson (1997) points out that "An orderly, safe and disciplined environment is imperative to maximize teaching and learning, and reflects the seriousness and purpose with which the school approaches the task of educating children and youth" (p.2). We cannot expect students' academic performance in school buildings that are sub-standard. As a supportive environment facilities are "an important component of successful teaching and learning" (Schneider, 2002, p.1). It may be noted that a supportive environment promotes not only proper teaching and learning conditions but also positive mental attitudes, class attendance and academic performance (Lyons, 2003; Stoecklin & White, 2003). To be supportive the schools facilities must have spatial configuration that engenders acceptable levels of noise, heat, cold, light, air quality and space (Schneider, 2002). According to Beynon (1997), "while school buildings and furniture do not teach (parents, teachers, textbooks and supplementary learning materials do) soundly built, well-maintained and adequately furnished and equipped buildings have a profoundly positive effect on both participation and achievement rates" (p.22).

Although the project reviewed here was launched in the early 1990s, in 2001 there were still 970 church halls that were used for instruction purposes in the primary schools, while 21.5 percent of the children did not have seats in classrooms (Ministry of Education, 2001a). Often the church halls house multiple grades without any dividers among them, a situation that creates a lot of noise. The Lesotho case study has revealed that the additional infrastructure has helped reduce overcrowding, thereby cutting down negative effects such as noise associated with it. Proper learning in classrooms requires high levels of concentration, listening, writing and reading, a phenomenon that is otherwise restrained by too much noise (Lyons, 2001). Studies have shown that external noise negatively affects students, leading to stress and dissatisfaction, lowered concentration and academic performance (Schneider, 2002).

One of the most significant aspects of the impact of the adequate school facilities is the improvement in teaching and learning patterns and approaches. In particular, flexible classroom facilities enable innovations in these approaches (Lyons, 2003). For example, whereas previously the conventional lecture/listen instructional style was in vogue, interactive group learning strategies such as peer-to-peer and group experiences are now being employed since there is adequate open and flexible space and floor plans (Lyons, 2003). According to Beynon (1997, p.20), "As educational quality standards rise there is a tendency to increase the number of specialized spaces and to increase the size of educational spaces to accommodate the trend toward active groups which is replacing traditional class lecturing".

Some studies, particularly in the West, have reported a link between the quality and adequacy of school infrastructure on the one hand and quality of education on the other (Schneider, 2002). The relationship is said to be strong enough to be educationally significant (Greenwald, Hedges, & Laine, 1996). In particular, these studies have revealed that students learning in proper buildings perform better academically than their counterparts housed in sub-standard buildings (Lyons, 2003). A study by Edwards (1991) showed that students' performance in standardized tests improved up to 10.9 percentage points with improvement in physical conditions of the schools. Perhaps the concept of adequacy of facilities should be underlined here since it is relevant to the case of Lesotho.

Adequacy refers to the "sufficiency of the school facilities to carry out the expectations of quality education as it pertains to teaching and learning" (Johnson, 1997, p.4).

Studies reviewed by Schneider (2002) have demonstrated that poor conditions of the schools' facilities may adversely affect teachers' morale, including reduction in effort, classroom effectiveness and job satisfaction, as well as an increase in absenteeism. Other studies reveal that general attitudes, behaviours, and relationships are more supportive to learning in schools with high capital investments than in schools with low level of investments. According to Beynon (1997), "The recent accumulation of solid research data is revealing that physical facilities are a fundamentally important factor in both school attendance and achievement" (p. 21). Other studies reviewed by Beynon confirm that effective learning and academic achievement cannot occur without basic facilities such as spaces for pupils and storage facilities for books and teaching materials. In a review of international research on environment, Fuller (1990) concluded that this phenomenon is particularly evident in developing countries.

While in some cases it is difficult to empirically establish a direct link between provision of school facilities and enhancement of quality education, it is argued elsewhere that common sense also tells us that well resourced schools are apt to have necessary elements that promote quality education, including equipment, qualified staff and environment conducive to learning (Johnson, 1997). Beynon (1997) notes that "The most obvious and generally agreed link between environment and learning is the need for a basic level of physical comfort so as to permit learners to concentrate on their studies" (p. 27).

LESSONS GLEANED FROM THE CASE STUDY

This case study has brought to the fore a number of issues from which other African countries and the international donor community can learn some useful lessons. Some of these issues have to do with problems of methodology in undertaking case studies addressing the concept of quality of education. Below is an analysis of these issues.

1. Researchers have noted that there are relatively few empirical studies that have been specifically geared at establishing a direct relationship between school facilities and quality improvement. According to Lloyd, Mensch, and Clark (2000), "in studies setting out to analyze the determination of enrolment, retention, and attainment, school quality has never been measured directly nor has any attempt been made to separate empirically the critical elements of quality that matter" (p.116). This situation is particularly pronounced in Africa, and it renders case studies like this one difficult in that there is not much to build on or glean lessons from.

2. The quality of research studies that have been carried out on school facilities has also been called into question. As Schneider (2002) points out, "The quality of facilities-related research ranges widely. Much of it is case-based and verges on the anecdotal, and many literature reviews use simple counts of articles, or they present undocumented summaries of findings. More rigorous approaches to summarizing large bodies of literature, such as metanalytic techniques, are few, and these studies often lead to disagreements over the methods themselves. Better research offering more definitive findings is needed" (p.17). This is a grim scenario indeed, and the recommendations of Schneider are opportune here. More rigorous studies on school facilities and quality enhancement need to be carried out in Africa.

3. Education is a multifaceted enterprise in which a number of elements interact in non-systematic manner. Likewise, quality or lack of it is a consequence of a combination of factors. It is difficult to isolate one factor and to determine its contribution to quality improvement because of confounding effect of factors. Physical facilities constitute only one of the many indicators that affect teaching and learning, others being teachers, textbooks, educational technology, and administration (Beynon, 1997).

4. In this case study there was no useful evaluation and monitoring information on the project relating to quality. A rather complicating factor is that there was no baseline data that could be used to facilitate measurement of change brought about by the intervention. PSLE is not appropriate for measuring quality of education, particularly at the classroom level, since it is a norm-referenced measure. It is ideal primarily for selecting candidates for secondary education. Many donor driven projects like this one often lack baseline data against which change, if any, brought about by interventions can be measured. It therefore becomes difficult to determine the impact of such projects. Where baseline and/or evaluation data exists, it rarely addresses or documents quality issues. Apparently this is a common phenomenon in the African setting (Association for the Development of Education in Africa, 2001). The need for baseline information cannot be overemphasized.

   The Impact Assessment on ESDP undertaken by the Ministry of Education and has served as the main, if not the only, mechanism designed to indicate progress that is taking place on the ground. However the exercise runs short of addressing quality issues. The plan for ESDP II is that the following will be used by way of monitoring and evaluating the project: quarterly and yearly implementation reports, a mid-term review, and completion reports (Ministry of Education and Training & World Bank, 1999). The problem with this arrangement is that the said reports are meant to benefit the donor agencies and policymakers in the Ministry of Education and Training regarding implementation progress, but have almost no impact on providing information related to quality at the classroom level.

5. While the provision of additional facilities may have helped improvement quality of education as designed, there are a number of outstanding challenges as a result of the way the project was conceptualized and implemented. First, it looks like not much thought was given to defining what quality is in the context of the project. Neither is it apparent that an attempt was made to identify and agree on a specific set of quality indicators. Secondly, the project, as an intervention, has been in operation for over ten years, and is continuing. Estimation should have been made at the onset about when its impact was expected to begin to be observed and measured. Finally, it was not clear how the indicators were to be measured. Specifically, there are no reliable instruments in place to determine the outcomes of the intervention in terms of quality improvement. Given this entire scenario it becomes difficult to empirically provide evidence of quality improvement.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. Quality indicators for primary education in the country should be identified and agreed upon by all concerned. Similarly, proper strategies for measuring these indicators should be devised. This could include the development of a national assessment programme.
2. This study was able to confirm that evaluation reports on the project, and indeed on other related projects and programmes in the country, do not address the quality issue, particularly what actually takes place in the classroom. It is therefore recommended that projects of this nature should have in-built monitoring and evaluation mechanisms that address quality.
3. The best strategy for sustaining and maintaining the project would be to continue building durable structures that require minimal maintenance. In a sense, the higher the quality of the buildings the fewer the future maintenance requirements.
4. In order to monitor pupil performance gains resulting from an intervention, teachers must be trained in proper record-keeping procedures.
5. Contractors should be urged to employ the villagers in the construction work. This will not only promote a sense of ownership and security of the facilities but will also improve the quality of life of the villagers through job creation.
6. The proposed community steering committees to plan and drive the process of

maintaining the facilities should be established.

7. Communities should be encouraged to continue using school facilities. This will enhance a sense of community ownership and ensure protection and care of the facilities.

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