

**CHALLENGES TO THE PROVISION OF QUALITY BASIC EDUCATION FOR ALL:  
EVIDENCE FROM MALAWI SACMEQ PROGRAMS.**

**By**

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**Abstract**

*A new United Democratic Front (UDF) government of Malawi embarked on an ambitious programmed of Free Primary Education (FPE) policy in 1994 as a response to the calls for Education for All (EFA). To this effect, Malawi was one of the first few developing countries to respond to the Jomtien call for EFA. Can quality EFA really be attained? The results reported in this paper were from the studies undertaken by the Southern African Consortium for Monitoring Educational Quality (SACMEQ) which were done in 1998 and 2002 for Malawi. In this report the overall levels of provision of resources to primary schools in Malawi and the achievement levels as measured by tests in reading and mathematics given to Standard 6 pupils have been assessed.*

*The results from these studies showed that the overall levels of provision of resources in Malawi primary schools was very poor and grossly inadequate. Consequently, there has also been an associated decline in the levels of performance by pupils. These results showed that the quality of education in Malawi was declining fast and demonstrated the overall challenges faced by developing countries in providing for quality basic education for all. In particular, the main message from the studies was that developing countries have an insurmountable task of sustaining high levels of support to the education sector if they are to successfully implement the EFA goals.*

## **Introduction**

One of the main turning points in the history of Malawi has been the transition from an authoritarian to a multi-party and democratic state in 1994. The new United Democratic Front (UDF) government embarked on an ambitious programmed of Free Primary Education (FPE) policy. Malawi was one of the first few developing countries to respond to the Jomtien call for Education for All (EFA). As noted by Chimombo (1999), FPE was not only a response by the newly elected leaders to popular demands for education from the electorate but was also perceived as the main instrument for a more egalitarian society, for expanding and modernizing the economy as an essential element of the development process (: 117). The FPE policy can also be seen to have been the new government's response to international declarations for the achievement of EFA. However, over forty years since the Universal Primary Education (UPE) agenda was put on the table, the goal of UPE still remains elusive in Malawi and elsewhere.

Using evidence from two Southern African Consortium for Monitoring Educational Quality (SACMEQ) studies in Malawi, the difficulties embedded in such attempts were highlighted in this paper. The evidence provided an idea of the difficulties countries like Malawi face when they try to respond to international declarations. First a brief on SACMEQ is presented and thereafter, the SACMEQ results are presented and discussed.

## **SACMEQ Brief**

In 1991 the International Institute for Educational Planning (IIEP) and a number of Ministries of Education in Southern and Eastern Africa began to work together in order to

address training and research needs in the area of planning and research. The focus for this work was on establishing long-term strategies for building the capacity of educational planners to monitor and evaluate the quality of their basic education systems. In 1993 a proposal was prepared by a group of educational planners (Moyo et al., 1993) that aimed to extend the reach and formal status of this work by creating an association known as the Southern Africa Consortium for Monitoring Educational Quality. The proposal received a positive reaction from Ministries of Education and in 1995, SACMEQ was officially launched with the generous assistance of the Governments of Italy and the Netherlands. Fifteen Ministries of Education are now members of SACMEQ and these are: Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania (Mainland), Tanzania (Zanzibar), Uganda, Zambia, and Zimbabwe. The IIEP was invited to become a member of the consortium in 1997.

SACMEQ's main mission is to undertake integrated research and training activities that will: (a) expand opportunities for educational planners to gain the technical skills required to monitor and evaluate the general conditions of schooling and the quality of basic education, and (b) generate information that can be used by decision-makers to plan improvements in their education systems.

### **Methodological Perspectives**

The first two educational policy research projects undertaken by SACMEQ (widely known as "SACMEQ I" and "SACMEQ II") were designed to provide detailed information that could be used to guide planning decisions aimed at improving the quality of education in primary

school systems. During 1995-1998, seven Ministries of Education participated in the SACMEQ I Project and the results of this research were reported in a series of national policy reports (Kulpoo, 1998; Machingaidze et al., 1998; Milner et al., 2001; Nassor and Ali Mohammed, 1998; Nkamba and Kanyika, 1998; Nzomo et al., 2001; Voigts, 1998).

The SACMEQ II Project commenced in 1998 and has involved 15 Ministries of Education. Moving from the SACMEQ I Project (covering around 1100 schools and 20,000 pupils) to the SACMEQ II Project (covering around 2500 schools and 45,000 pupils) resulted in a major increase in the scale and complexity of SACMEQ's research and training programmes. SACMEQ II extended the testing of pupils to include mathematics test in addition to reading. Technical information about the sampling, instrument construction, and fieldwork for the SACMEQ I and II Projects may be found in the reports.

There were several steps that were involved in the preparation and design of SACMEQ studies. These were the pre-planning and initial planning which moved through instrument construction, trial testing, sampling, main data collection, data preparation, data merging and scoring, data analyses, and concluded with the writing of national policy reports. Sample design procedures involved the selection of probability samples of schools and pupils for the SACMEQ II Project. The sampling procedures were evaluated through an examination of response rates and the calculation of design effects, effective sample sizes, and standard errors of sampling. The main activities involved in test construction for the SACMEQ II Project utilized advanced scaling procedures that were used to score the tests and to describe pupil and teacher literacy levels according to increasing "levels of competence". Eight levels of competence as presented in Appendix 1 were developed for the literacy and numeracy measures, and these represented a

departure from “traditional approaches” (based on means and mastery percentages) to describing and comparing the educational performance of groups.

### **Research Questions**

In order to demonstrate the challenges faced by countries as they attempt to provide quality basic education for all, the following 12 main questions were addressed in this paper:

1. What were the general levels of resource provision in schools?
2. What kind of water supply did schools have?
3. What was the classroom space available for pupils?
4. What was the general condition of school buildings?
5. What was the nature and provision of toilet facilities in schools?
6. What was the availability of classroom furniture for teachers and classroom equipment in Standard 6 classrooms?
7. Did teachers have teaching aids (for example, a map, dictionary, geometrical instruments, and teachers’ guides)?
8. Were the living conditions of the teachers acceptable?
9. How were resources distributed in Malawi schools?
10. What were the achievement levels of pupils?
11. Did pupils achieve equitably in reading and mathematics?
12. Can education of good quality really be delivered?

## **Main Findings from the SACMEQ Studies.**

This report benefited from the two Malawi SACMEQ studies (Milner et al., 2001 and Chimombo et al., 2005) to highlight issues of provision for education for all and the impact that inadequacy in provision was likely to have on the quality of education provided. In the first part, an idea of the inadequacy in provision has been presented.

### **What were the general levels of resource provision in schools?**

Problems of access to education can either be due to inadequate supply or due to lack of demand for education. In *Table 1* below, information on availability of four categories of general school facilities (school buildings, school grounds, general services and equipment) has been displayed. What should be noted at the onset is that primary schools in Malawi do not have modern technological equipment such as computers, photocopiers, television sets and video cassette recorders.

### **Put Table 1 around here**

It can be noted from *Table 1* that only 36.2 per cent of the pupils were in schools which had libraries. This was a significant increase from 26.4 per cent in SACMEQ I. Again only 38.7 per cent and 30.6 per cent of the pupils were in schools which had a head teachers' office and a staff room respectively. It was worrying to note that the percentage of pupils in schools with a head teacher's office dropped (though not significantly) from 43.3 per cent in SACMEQ I. The reasons for this were not known. The percentage of pupils in schools with a staff room

significantly increased from 20.2 in SACMEQ I to 30.6 per cent in SACMEQ II. The percentage of pupils in schools with a storeroom insignificantly increased from 32.2 per cent in SACMEQ I to 34.5 per cent in SACMEQ II. There were also insignificant increases in the percentage of pupils in schools with halls and cafeterias. Despite some increases in provision of resources, in general, it would appear that Malawi schools were not well endowed with specialised school buildings like head teacher's office, libraries, storerooms, and staff rooms.

It can also be noted from the table that only seven point seven per cent of the pupils in SACMEQ II were in schools which had electricity. This was an insignificant increase from six point three per cent in SACMEQ I. Similarly in SACMEQ II, only eight point nine per cent of the pupils were in schools owning telephones as compared to seven point seven per cent of pupils in schools with telephones during SACMEQ I although this increase was not significant. The 2004 education statistics (MOE, 2004) indicated that 95 per cent of the schools had no electricity. If pupils need electricity for studying, this then meant that the majority of them simply did not have proper means of studying. While most of the technology in schools may require electricity, it would appear that the Ministry's Supplies Unit has not yet decided that electricity is a basic requirement in schools and so does not provide them. Even more surprising was the indication that only nine point eight per cent of the pupils were in schools with First Aid Kits in SACMEQ II representing an insignificant increase from four point seven per cent in SACMEQ I. The results of the analysis indicated that the majority of the pupils in Malawi were in schools that did not have some basic equipment and the differences between SACMEQ I and SACMEQ II were in general not significant.

### **What kind of water supply did schools have?**

It can also be noted from *Table 1* above that even more surprising was the proportion of pupils in schools which had piped water or wells or boreholes. In SACMEQ II only 72.8 per cent of the pupils were in schools whose heads indicated that they had safe drinking water representing a decrease (although not significant) from 75.2 per cent during SACMEQ I. The fact that the provision of safe drinking water was low and decreasing should be a worrying sign for the Ministry of Education given the negative effects that may result from the absence of water especially on girls.

### **What was the classroom space available for pupils?**

The classroom space available for pupils can be an indication of the learning environment. In SACMEQ studies, the number of square metres per pupil was calculated by dividing the total square metres available by the total school enrolment. The results have been presented in *Table 2* below.

### **Put Table 2 around here**

The old education act of 1962 (the only available document on benchmarks for Malawi) gives a classroom space requirement of one square metre per pupil. Although this target seemed to have been reached by the national average, there were serious classroom space shortages in the divisions of Central East, South West and Shire Highlands. Further, it should be pointed out that



these national figures obscured serious classroom shortages at the school level where about a third of all classes are held outside under trees (Dzimadzi, Chimombo and Kunje, 2003).

It has been noted in this section that the majority of the pupils were in schools which did not have specialized school buildings like the head teacher's office and libraries. The majority of the pupils were also in schools that did not have some basic equipment. There was need for the Ministry of Education to institute the necessary mechanism so that appropriate benchmarks were established and followed. The need to have the 1962 act urgently revised cannot be over-emphasized.

### **What were the conditions of Buildings?**

In addition to having teaching and learning resources, a conducive school environment enhances the quality of education. School buildings should not pose hazards to the teachers and learners. Teachers and learners too need to work in conditions which will not hamper their interactions. Safety, health and comfort are the basic considerations taken into account when constructing schools. In the SACMEQ studies, head teachers were asked to describe the general conditions of their schools in terms of the need for repairs and the availability of toilets. The percentages of buildings that needed repair in the divisions have been presented in *figure 1* below.

**Put Figure 1 around here**

The information from this figure showed that in all the divisions, over half of the building needed major repair. While the construction of more primary schools was an obvious priority for Malawi after the introduction of FPE, these results showed that Malawi was failing to maintain the few buildings in schools. According to the 2004 education statistics, 32 per cent of the classrooms were temporary in the 2004 academic year.

### **What was the nature and provision of toilet facilities in schools?**

A student's ability to learn is heavily influenced by the school environment. Learning occurs more easily if order prevails and if facilities are clean and in good state of repair. Pupils need to learn under conducive environment if they are to be encouraged to stay on in schools. Very often, the learning conditions of pupils are very pathetic, under trees and in dilapidated building. Toilets, as part of the basic essential facilities in schools, are often a problem in many countries. In *Table 3* below, information about the provision of toilet facilities has been presented.

### **Put Table 3 around here**

It can be seen from the above table that the provision of toilets was even more problematic in Malawi. In general, there were 111.6 pupils to a toilet in 2002. Although there were insignificant decreases in the number of pupils per toilet in five divisions, these provisions were still low. The Northern division registered better provision of toilets in both studies. These low levels in provision of toilet facilities had a lot of implications on attendance and dropping out of school especially in the case of girls and in the case of those areas prone to water borne

diseases. The fact that the increases were insignificant was an indication that Malawi was struggling to provide adequate levels of resources.

**What was the availability of classroom furniture for teachers and classroom equipment in Standard 6 classrooms?**

In *Table 4* below, the material resources for reading and mathematics teachers at the classroom level in SACMEQ I and SACMEQ II have been presented.

**Put Table 4 around here**

In SACMEQ II, the percentages of pupils who had reading and mathematics teachers with usable blackboards were 94.5 and 94.7 respectively. In the case of reading teachers, this represented a significant increase of eight point four per cent from SACMEQ I. Chalk was available to 96.4 per cent of the pupil's teachers in SACMEQ II and there were insignificant differences from the situation in SACMEQ I when 96.7 per cent of pupils had reading teachers who indicated that chalk was readily available to them. Of course this meant that chalk was not readily available to 3.6 per cent of the pupils' teachers in SACMEQ II.

Similarly, 58.2 per cent of the pupils had reading teachers who reported having wall charts and this represented an insignificant difference from 57.5 per cent during SACMEQ I. However 63.1 per cent of the pupils had mathematics teachers who had wall charts of some kind. In the case of cupboards availability, there was a significant improvement from 18.1 per cent in SACMEQ I to 51.2 per cent of pupils with reading teachers who had cupboards and 48.4 per cent

of pupils had mathematics teachers with cupboards in SACMEQ II. As for book shelves, there was an insignificant improvement from 14.9 per cent to 17.7 per cent of pupils with reading teachers who had bookshelves and only 17.5 per cent of the pupils had mathematics teachers who reported having book shelves.

The percentage of pupils with reading teachers who had a classroom library or a book corner significantly increased from 13.5 per cent to 20.4 per cent between the two studies. In SACMEQ II, the percentage of pupils with mathematics teachers who had a classroom library or book corner was 18.8 per cent. In the case of the availability of teachers' tables and chairs there was also a significant increases in SACMEQ II compared to SACMEQ I. In SACMEQ II, 49.1 per cent of the pupils had mathematics teachers who had teachers' tables. Overall there were increases in provision of teacher resources although the general levels of provision in some cases were still very low. For example, the system still had about five per cent of its pupils with reading and mathematics teachers without blackboards, five point one per cent of pupils with maths teachers without chalk and about 50 per cent of pupils with teachers without tables and chairs. Again, this was an indication that the system was struggling to make adequate provision for resources

A teacher checklist of the classroom resources available to reading and mathematics teachers in Standard 6 generated teaching material indices for SACMEQ I and SACMEQ II. The main indices for the six divisions have been presented in *Table 5* below.

**Put Table 5 around here**

Out of a possible mean index of eight, the Standard 6 pupils had reading teachers (and mathematics teachers) who had a mean classroom resource index of four point four for SACMEQ II which was a significant improvement from the mean classroom resource index of three point seven in SACMEQ I for reading teachers. This meant that on average, the pupils' reading teachers had slightly over half the required teaching materials. It appeared then that the Ministry of Education was finding difficulties in allocating resources to Standard 6 reading and mathematics teachers.

**Did teachers have teaching aids (for example, a map, dictionary, geometrical instruments, and teachers' guides)?**

In *Table 6* below, information on the percentages and sampling errors of reading and maths teachers with teaching aids in the schools (SACMEQ II) has been presented.

**Put Table 6 around here**

The commonly available teaching aid was the teachers' guide for both reading and mathematics teachers. Very few of the pupils (20.8%) had mathematics teachers who reported that they had a geometrical instrument, while only 41.3 per cent of the pupils had reading teachers with a map. Clearly, schools were not well resourced in terms of aids for the teachers.

The main finding in terms of classroom resources was that Standard 6 pupils had teachers who had access to very few resources in their classrooms. The provision of teaching aids was also

very low. In sum the ministry still had a lot to do to make sure that as many teachers as possible had all the necessary resources so that the quality of teaching could improve.

### **Were the living conditions of the teachers acceptable?**

Teachers were also asked about their living conditions. They were asked to rate their living conditions as:

1. Generally poor or major repairs needed
2. Minor repairs needed or generally good

The percentages and sampling errors of pupils with reading and mathematics teachers who answered that the conditions were generally good or that they needed minor repairs for both SACMEQ 1 and II have been presented in *Table 7* below.

### **Put Table 7 around here**

It can be seen from *Table 7* that 20.3 per cent and 22.5 per cent of the pupils had reading and mathematics teachers respectively, who declared their living conditions to be acceptable. The converse of this was that many teachers (up to 79.7% of the reading teachers) had declared their living conditions to be unacceptable. The situation did not significantly improve between SACMEQ I and II. In fact the 2004 education statistics indicated that 33 per cent of the teachers' houses were temporary. The government of Malawi introduced a housing allowance scheme in 2003 but this seems not to have helped. The main reason being that there are no houses for rent in some parts of Malawi. Such a situation can lead to teacher demotivation and hence can affect the

quality of education being provided. Lack of teachers' houses (and indeed other amenities) in rural areas is one of the major factors inhibiting the supply of teachers and until this problem is solved, it will be difficult to tackle problems of unequal distribution of teachers in Malawi. Hence it is difficult to see how EFA can be achieved. Thus, while it is the policy of some donors not to be in "the business of providing teachers' house", the evidence above clearly pointed to the importance of providing houses in the rural areas and the negative impact this may have in our drive towards achieving education for all

### **How are Resources Distributed in Malawi Schools?**

The provision of basic education for all children is sometimes hampered by inequalities in provision between urban and rural areas or between the sexes or different social classes. Lockheed and Verspoor, (1991) observed that major impediments to education in rural areas include a general lack of resources such as teachers, materials, facilities and equipment. *In this section of the report, another dimension to the challenge of EFA as exemplified by the unequal distribution of resources in Malawi primary schools has been highlighted. This rural/urban differentiation is displayed in Table 8 below.*

### **Put Table 8 around here**

It can be noted from *Table 8* that in the isolated/rural area, 87 per cent of standard 6 pupils were taught by reading teachers who indicated that their houses were poor or needing repair. In the town/city area, 65per cent of Standard 6 pupils were taught by reading teachers who indicated that their houses were poor or needing repair. These differences were significant and there were

also similar significant differences for the maths teachers. In terms of percentage of pupils with female teachers, it can be noted from *Table 8* that only 10.09 per cent of the pupils in isolated areas had female teachers while 69.29 per cent of the pupils in town had female teachers. Again these were significant differences. In fact the rural versus urban differentiation as measured by the variables in *Table 8* were significant for all the variables except for the conditions of school buildings. It can also be noted that while not significantly different, the condition of buildings were poor for both rural and urban; again an indication of the challenge to the provision of quality basic education in Malawi.

This table clearly demonstrated the disadvantaged nature of rural pupils and indeed the challenges to achieving education for all. Thus, rural children, who are mostly poor, have limited opportunities to obtain a viable basic education that would help them break out of the poverty cycle. These results ran counter to the principles of the FPE and poverty alleviation policies. While the FPE was introduced with the aim of getting more pupils especially from the rural areas and the poor into school as a means of alleviating poverty, the evidence showed that it was the poor and those from the remote areas who were not benefiting from the policy. The poor, it would seem, are part of the ‘interlocking logjam’ of disadvantages (IFAD, 2001) in that the lack of learning opportunities is both a cause and effect of rural poverty. The challenge to the provision of EFA is how to get people from the rural areas out of this logjam of disadvantages. When planning for education, it is important to recognize that the poor bear disproportionately the burden of deprivation from essential social services including education.

This evidence showed that the challenge to EFA has to do with how to reach deprived groups. It was clear from the results that a simple linear expansion of conventional primary



schooling faces serious limitations. These results agreed with the fact that when educational policies are generally devised to affect the total education system (as the case was in Malawi), certain groups in virtually all societies are disadvantaged in terms of both access to education and opportunity to complete the various levels of education (Anderson,1988).

### **What were the achievement levels of pupils?**

In SACMEQ studies, the test results of the analysis on achievement were reported in developmental or criterion referenced terms. This is because criterion referenced interpretations of performances have meanings for the kind of assistance needed by pupils, teachers and curriculum developers as the new curriculum is ushered into the system and the schools. The development assessment strategy illustrated in SACMEQ provides powerful diagnostic and substantive information about pupils' performance and related curriculum. The overall scores for reading and mathematics for pupils have been presented in *Table 9* below.

### **Put Table 9 around here**

It can be seen from the table that Malawi's pupils performed far below the mean of 500 for all the SACMEQ countries. In fact, Malawi's pupils performed the least compared to all other 14 countries. The performance of these pupils on all the items had significantly decreased between SACMEQ I and SACMEQ II. This was also true for all the divisions. This was an indication of the overall declining quality of education being offered in Malawi primary schools. It can also be seen that in SACMEQ II, the pupils performed better in mathematics than in English. Across the divisions, this was true for the Northern, Central East, Central West and

Shire Highlands divisions. Since English is the medium of instruction, this overall poor performance in English meant that the pupils had problems in learning the other subjects as well.

The pupils' performance was also assessed in terms of some minimum and desirable reading levels. The percentages and sampling errors of pupils reaching minimum and desirable reading levels of mastery have been presented in *Table 10* (SACMEQ I and SACMEQ II).

**Put Table 10 around here**

It can be seen from the table that in SACMEQ I, 19.4 per cent of the pupils reached the minimum level of mastery in reading while in SACMEQ II, only eight point six per cent of them reached the minimum level of mastery in reading. This was a very significant decrease. This meant that up to 80.6 per cent of the pupils in SACMEQ I and 91.4 per cent of the pupils in SACMEQ II did not reach the minimum level of mastery in reading prescribed by reading specialists in Malawi. In terms of percentage of pupils reaching the desirable levels of reading mastery, it can be seen from the table that while only one point three per cent of the pupils reached the desirable level of mastery in SACMEQ I, far much fewer (0.9%) did so in SACMEQ II. As observed in SACMEQ I, this was a very deplorable state of affairs and was an indication of the magnitude of the schooling problems the Malawi Education System was facing. The worrying thing was that the performance had significantly deteriorated between SACMEQ I and SACMEQ II. This again was an indication of the overall challenge faced by countries like Malawi in sustaining some levels of quality education. There were several factors that might have contributed to the poor performance of the pupils. However, the evidence in SACMEQ studies

was all pointing to the appalling environment in which children in Malawi were learning. These poor conditions were likely to contribute to the low levels of performance for Standard 6 pupils.

The percentages of pupils reaching the eight different levels of reading have been presented in *Table 11* for SACMEQ II while the table for SACMEQ I is in Appendix 2. As pointed out earlier, these achievement levels can also be regarded as instructional levels. For instance, those pupils who were functioning at level 3 but not at level 4 were in position to begin to learn the knowledge and skills embodied in level 4 and to consolidate the work represented by the skills listed in level 3. At the national level, this type of information can be used to guide curriculum planners.

**Put Table 11 around here**

If level 4 was taken as the point where children could read independently, then the Malawi results showed that 71.1 per cent of the pupils had not mastered that level. The situation had significantly deteriorated from 42.7 per cent of the pupils in SACMEQ I not reaching that level. The highest percentage of pupils without independent reading skills was from the Central East division (92.3%) followed by the Northern division (83.2%). While there was one division with some zero point six per cent of pupils who were able to interpret analogy and allegory and deeper significance and cohesiveness of ideas in the text in 1998, there was no single division in 2002 in which pupils had reached that level. The evidence showed that more and more pupils had drifted into lower literacy levels. These results demonstrated the degree of the shortcomings in the teaching and learning processes in Malawi Primary Schools. This indeed meant that the majority of the pupils proceed to higher levels without good mastery of relevant skills. These

SACMEQ studies demonstrated that the provision of quality basic education for all remains an insurmountable task for Malawi.

### **Did pupils achieve equitably in reading and mathematics?**

Achieving gender equity in education is one of the concerns of the Ministry of Education in Malawi. According to the Policy and Investment Framework for Malawi, gender equity is to be promoted by making the school environment supportive of the needs of both boys and girls. The reading and mathematics data was analyzed further by classifying pupils into three sub-groups: sex, socio-economic level and location of school.

A list of possessions in the home was used as a surrogate measure of the socio-economic circumstances of the homes from which the pupils came. On the other hand, schools were categorized as being in rural or in the city. In this paper, a focus was specially made on the rural/urban divide because problems of schooling are about the poor who are mostly from rural areas. In this section therefore, an attempt was also made to examine how the pupils performed by sex, socio economic status and school location. In the three tables that follow (12a, b, c), an analysis of variance has been performed to examine whether there were any significant differences between the pupils along these sub-groups. The Analysis of variance, (usually abbreviated as ANOVA) is a method of testing the null hypothesis that several group means are equal in the population, by comparing the sample variance estimated from the group means to that estimated within the groups.

**Put Tables 12a, b, c around here**

The results of the analysis of variance shown in the tables above indicated that whether examined by sex, socio-economic status or school location, there were significant differences in the performance of pupils by these sub-groups. Thus, boys performed better than girls in both reading and maths (although the difference was much more significant in maths), pupils from lower socio-economic status achieved significantly less than those from upper class and pupils from rural areas also achieved significantly less. The differences in achievement demonstrated the difficulties embedded in achieving EFA.

### **Can education of good quality really be delivered?**

This paper attempted to answer this last question through a discussion of the issues raised by the results of the Malawi SACMEQ studies. Both the Jomtien and Dakar declarations recognized the quality of education as the prime determinant of whether EFA is achieved or not. The sixth goal of the Dakar framework committed nations to the provision of primary education 'of good quality'. This goal embraced the improvement of all aspects of educational quality so that everyone can achieve better learning outcomes, especially in literacy, numeracy and life skills. While there is less agreement about what quality means, quality in SACMEQ was measured in terms of two aspects namely: resource provision and achievement levels as measured by reading and mathematics tests given to Standard 6 pupils. In terms of resource levels, the evidence above has showed that schooling conditions in Malawi primary schools were very poor meaning that the system still needed an injection of massive resources in order to reach acceptable levels of resources in most schools. These results also demonstrated that achievement

levels in Malawi left a lot to be desired. What lessons then can be got from these Malawi results?

This is what was finally discussed in this paper.

Analyses by many scholars (Chimombo, 1999; Kadzamira and Chibwana, 2000; Kadzamira and Rose, 2003; Chimombo, 2005) on the development of primary education in Malawi indicated that the impressive achievements made in access had to be balanced against a number of emerging problems. Low levels of material provision had meant that schools were operating in very pathetic conditions and this had resulted in overall low levels of pupil achievement. The danger was that it was those households with lower socio-status which had a lower propensity to send their children to school and keep them there and it was the girls who were more sensitive to this household status (Chimombo, 1999). This was counter to the objectives of FPE and indeed of the Millennium Development Goals. As donors and governments design Poverty Reduction Strategy Papers for example, with a focus on pro-poor, they need to realize that with respect to education, despite considerable achievement in terms of meeting quantitative targets, consequent deterioration in quality raises questions about the extent to which the needs of the poor are being met (Kadzamira and Rose, 2003). It has been suggested that it might have been wiser to delay EFA and ensure that the school conditions and teachers were of reasonably good quality for some of the pupils, and then expanding slowly (Chimombo, 2005). It takes time to equip schools well, produce sufficient textbooks and train good teachers. These results indicated that quality in education matter. The challenge to the EFA agenda is not just enrolling all children in school. *These schools must also be of certain standards in order to achieve the acclaimed benefits to education* (Chimombo, 2005: 168).

The Malawi experience demonstrated some of the kinds of difficulties to be encountered when trying to implement EFA. The major problem was one of the supply of education. Overall levels of supply by the state were so low that effectively, what happened was that many pupils were marshaled into schools that were not equipped in terms of material and human resources to teach them. According to Chimombo (1999), the drive towards EFA was undermined by the persistently large number of pupils taking longer than normal to complete the cycle and the many who dropped (or are dropping out) out before attaining permanent literacy as demonstrated in *figure 2* below.

**Put Figure 2 around here**

The information from the figure pointed to the long-standing problem of diminishing enrolment in Malawi Primary Schools. Issues related to problems of diminishing enrolments are: unfavourable schooling conditions, distance to school, incomplete schools, disability, delivery by non-governmental providers, direct and indirect costs of schooling including child labour among others. The main message from *figure 2* above is that Malawi faces an uphill battle in building an education system capable of providing EFA. Despite increased enrolments, the drive towards EFA is being undermined by the high level of inefficiency in the education system. The SACMEQ results pointed to the fact that the poor learning conditions and the consequent deterioration in quality should be of major concern to planners and policy makers in Malawi. If Malawi is to make strides in the drive towards poverty alleviation, it is imperative that dropouts be reduced so that a greater number of children complete the primary cycle and hence are able to meaningfully participate in the economic, social, political and cultural life of their communities.

In Malawi, the development of sound and inclusive strategies to accelerate progress towards good quality education for all is urgently needed.

The Malawi example demonstrated the clash between the quantity of education – the ideal of universal access and quality, such as measurable improvements in pupil performance and teacher knowledge and skills. In the Malawian case, this ideal has been over-powered by the reality of sheer numbers. The lesson here is that if EFA is to be achieved, educational quality and quantity need to be aligned with policies and interventions which will ensure that pupils coming out of the system are of minimum quality (Chimombo, 2005). In commenting about the SACMEQ results for Malawi, IIEP (2004: 9) observed that the EFA challenge for Malawi will be to (a) maintain participation rates, (b) improve quality (by directing efforts into raising the low average pupil reading score), and (c) maintain equity (by ensuring a continuation of small variations in pupil reading scores – both between and within schools). The deteriorating standards demonstrated by SACMEQ studies in Malawi illustrated the huge challenges on route to EFA.

The global education agenda dates back to the early 1960s with the great conferences in Addis Ababa, Santiago, and Karachi. When the agenda was resurrected in 1990 with the Jomtien conference which advocated an expanded vision for EFA, it was realized that many countries had failed to provide basic education for all their citizens. And an assessment of the provision of genuine EFA in Malawi has proved the task to be insurmountable. At the moment, the provision of EFA through FPE as envisaged by the Jomtien conference is yet to become a reality in Malawi's schools. The evidence pointed to the fact that countries like Malawi, which try to provide EFA, may put themselves in a state of predicament in the absence of genuine outside support (Chimombo, 2004). And it would also be safe to say that the goal of gender parity by



2005 for primary and secondary has clearly not been met and attention needs to be focused not only on access but also on retention and quality. It is definitely important to understand better what works for girls and share the experiences. Despite numerous attempts on improving girls' education in Malawi, girls still lag behind in terms of completion.

Thus, more than four decades of declaring international targets have passed but the achievement of these targets remains elusive. It would seem that missing in these target setting, is a holistic approach to planning which goes beyond the quantitative targets to explore how to go about financing these policies and indeed what happens after achieving their targets. The evidence from Malawi suggested that unless attention is paid to the quality, relevance and fit of primary schooling, the possibility that it can contribute to a pro-poor strategy is unlikely to be realized (Kadzamira and Rose, 2003; Chimombo, 2004).

While the ultimate goal of the EFA is to try and have all eligible children in school, Hallak (1991) observed that the obstacles to the universal achievement of EFA are many. Hallak observed that in the poorest societies, the achievement of EFA will be a long-term process, requiring tenacious effort, strong and sustained political will, and perhaps brighter economic prospects. And as Colclough (1994) also observed, it is obvious that the detailed reasons as to why many children remain out of school in developing countries are complex and that they will differ from country to country- probably with as much variation as is found in the individual historical, political, social and economic circumstances of different nations. Since the 1960s when the UPE agenda was first tabled, the various policies have not been capable of delivering an education for all of reasonable quality. Emerging evidence from the Malawi SACMEQ studies demonstrated that it is easier to achieve reforms which secure increased access to schooling than

it is to enhance robust improvements in schooling quality. Indeed, as observed by Chimombo (1999), countries like Malawi lack the necessary economic vitality to provide the necessary resources (human and material) in order to deliver an education of minimum quality. Consequently, the provision of quality basic education to all remains a dream for most of Malawi's pupils.

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## Tables:

Table 1: Percentages and sampling errors for schools with general facilities (SACMEQ I and SACMEQ II)

Facility	Percentage with facility			
	SACMEQ I		SACMEQ II	
	%	SE	%	SE
<b>School buildings</b>				
School library	26.4	3.64	36.2	4.59
Staff room	20.2	3.33	30.6	4.25
School head's office	43.3	3.93	38.7	4.45
Store room	32.2	3.83	34.5	4.34
<b>School grounds</b>				
School garden	66.1	3.92	66.5	4.43
<b>General services</b>				
Piped water/ well or bore-hole	75.2	3.57	72.8	4.05
Electricity	6.3	2.07	7.7	2.50
Telephone	7.5	2.15	8.9	2.57
<b>Equipment</b>				
First-aid kit	4.7	1.72	9.8	2.67
Fax machine	1.4	1.01	4.5	2.57
Typewriter	10.6	2.60	4.7	1.96
Radio	8.5	2.29	10.4	2.59

SACMEQ I variables: xsrs01, xsrs03, xsrs04, xsrs06, xsrs26, xsrs0809, xsrs15, xsrs1011, xsrs12, xsrs13, xsrs07, xsrs14, xsrs16, xsrs18. School Question 31

SACMEQ II variables: zsres01, zsres03, zsres04, zsres05, zsres12, zsres08, zsres09, zsres10, zsres06, zsres11, zsres13. School Question 38

**Table 2. Means and sampling errors of the classroom space available for pupils (SACMEQ II)**

Division	Classroom space	
	Mean	SE
North	1.1	0.13
Central East	0.8	0.27
Central West	1.7	1.29
South East	3.3	2.77
South West	0.5	0.14
Shire Highlands	0.6	0.05
<b>Malawi</b>	<b>1.4</b>	<b>0.51</b>

SACMEQ II variable: ZSSPACE. School Questions 22, 18.2, 35.1 and 35.2

**Table 3. Provision of toilet facilities (SACMEQ I and SACMEQ II)**

Region	SACMEQ I		SACMEQ II	
	Toilet provision		Toilet provision	
	Mean	SE	Mean	SE
North	86.1	31.70	63.8	10.83
Central East	109.3	15.38	122.1	14.97
Central West	127.9	28.45	132.4	20.01
South East	111.1	23.28	109.3	13.81
South West	153.9	21.66	138.9	26.24
Shire Highlands	118.4	35.69	94.5	10.07
<b>Malawi</b>	<b>117.8</b>	<b>11.06</b>	<b>111.6</b>	<b>7.41</b>

SACMEQ I variable: XSTRATIO. School question 29, 30.1 and 30.2

SACMEQ II variable: ZSTRATIO. School question 36, 37.1 and 37.2

**Table 4: The amount of resources available in reading and mathematics**

Availability of Classroom Resources						
SACMEQ I			SACMEQ II			
Resource	Reading Teacher		Reading Teacher		Mathematics Teacher	
	%	SE	%	SE	%	SE
A usable writing board	86.1	2.92	94.5	1.99	94.7	2.01
Chalk	96.7	1.50	96.4	1.57	94.9	1.88
A wall chart of any kind	57.5	4.25	58.2	4.54	63.1	4.46
A cupboard	18.1	3.27	51.2	4.65	48.4	4.63
One or more bookshelves	14.9	3.11	17.6	3.32	17.5	3.35
A classroom library or book corner	13.5	3.04	20.4	3.85	18.8	3.71
A teacher Table	41.3	4.29	47.9	4.58	49.1	4.70
A teachers chair	43.9	4.27	50.5	4.65	51.4	4.72

SACMEQ I variables: XTRESCKB, XTRESCHL, XTRESWCH, XTRESCPB, XTRESBKS, XTRESCLI, XTRESTTA, XTRESTCH. Teacher question 10

SACMEQ II variables: ZXCRES1, ZXCRES2, ZXCRES3, ZXCRES4, ZXCRES5, ZXCRES6, ZXCRES7, ZXCRES8, ZYCRES1, ZYCRES2, ZYCRES3, ZYCRES4, ZYCRES5, ZYCRES6, ZYCRES7, ZYCRES8. Teacher question 12.

**TABLE 5: Classroom Resources Index**

Region	SACMEQ I		SACMEQ II			
	Reading Teacher		Reading Teacher		Mathematics Teacher	
	Mean	SE	Mean	SE	Mean	SE
North	3.6	0.34	4.7	0.46	4.9	0.46
Central East	2.5	0.37	4.0	0.38	3.8	0.40
Central West	4.3	0.31	4.2	0.22	4.3	0.26
South East	3.9	0.35	4.3	0.51	4.1	0.50
South West	4.0	0.38	4.8	0.38	4.7	3.30
Shire highlands	4.0	0.32	4.3	0.29	4.3	0.30
Malawi	<b>3.7</b>	<b>0.14</b>	<b>4.4</b>	<b>0.15</b>	<b>4.4</b>	<b>0.15</b>

SACMEQ I variable: XTCLRES8. Teacher Question number 10.

SACMEQ II variables: ZXCLRES8, ZYCLRES8. Teacher question Number 12.



**Table 6: Percentages and sampling errors of reading and maths teachers with teaching aids in the school (SACMEQ II)**

Division	Teaching aids									
	For teaching reading					For teaching mathematics				
	Map		English dictionary		Teacher's guide		Geometrical instruments		Teacher's guide	
	%	SE	%	SE	%	SE	%	SE	%	SE
North	51.0	11.20	81.5	8.81	91.2	6.41	27.2	9.98	83.0	8.24
Central East	43.6	14.34	47.2	14.09	76.1	15.21	7.1	5.23	65.5	16.65
Central West	24.0	8.45	34.7	8.94	87.6	6.26	13.3	6.47	80.0	7.70
South East	38.6	11.43	63.1	12.07	86.1	9.38	31.5	10.81	86.1	9.38
South West	53.4	11.58	76.4	9.60	94.4	3.91	16.3	8.26	82.7	9.43
Shire Highlands	48.4	11.89	71.5	11.54	100.0	0.00	32.1	11.89	67.0	11.35
Malawi	41.3	4.53	60.0	4.37	89.0	3.27	20.8	3.66	78.3	4.06

SACMEQ II variables: ZXACCES1, ZXACCES2, ZXACCES4, ZYACCES3, ZYACCES5.  
Teacher question Number 13.

**Table 7. Percentages and sampling errors for teacher housing in acceptable conditions (SACMEQ I and SACMEQ II)**

Teacher housing in acceptable conditions						
Division	SACMEQ I		SACMEQ II			
	Reading teacher		Reading teacher		Mathematics teacher	
	%	SE	%	SE	%	SE
North	13.4	7.41	19.1	8.98	31.4	10.47
Central East	19.0	8.82	14.5	8.58	10.4	7.87
Central West	21.6	7.56	27.1	8.33	31.6	9.11
South East	17.6	9.59	14.1	6.97	11.1	6.35
South West	17.5	7.71	23.0	10.39	21.5	8.83
Shire Highlands	23.8	9.55	19.2	9.41	18.5	9.09
Malawi	18.7	3.39	20.3	3.65	22.5	3.76

SACMEQ I variable : XTCONDLI. Teacher Question Number 31

SACMEQ II variables : ZXCONDLI, ZYCONDLI. Teacher Question Number 30

**Table 8: Distribution of Resources between Rural and Urban Schools**

Percentage of Pupils				
	Isolated/Rural		Town/City	
	Mean	SE	Mean	SE
Reading Teachers house Poor or Major Repair	86.6	3.55	65.5	8.21
Maths Teachers house Poor or Major Repair	82.1	4.15	67.4	7.67
Schools with no Water	29.7	5.10	22.1	6.63
Reading Teachers Female	10.09	3.6	69.29	7.43
Maths Teachers Female	14.20	3.76	58.10	7.88
School Buildings poor or Major Repair	59.5	5.54	55.5	8.33
Means				
	Isolated/Rural		Town/City	
	Mean	SE	Mean	SE
Pupils' Number of Days Absent	2.1	0.21	1.8	0.20
Reading Teachers No. of Periods per Week	33.84	1.63	27.13	2.31
Reading Teachers No. of Periods per Week	33.46	1.72	23.00	2.36
Average Distance to Facilities	20.3	1.75	9.0	2.09

SACMEQ II Variables: ZSLOC- School question 14  
 ZXCONDLI and ZYCONDLI - Teacher Question 30  
 ZSRESO8 - School Question 38  
 ZXSEX and YSEX Teacher Question 2  
 ZSBLDGCO – School Question 36  
 PAbsent- Pupil Question 19  
 XPERIODS and YPERIODS – Teacher Question 14  
 ZSDIST - School Question 13

**Table 9: Means and sampling errors for the reading and mathematics test scores of pupils with all items (SACMEQ I and SACMEQ II)**

Pupil performance on all items						
Division	SACMEQ I		SACMEQ II			
	Reading		Reading		Mathematics	
	Mean	SE	Mean	SE	Mean	SE
North	443.5	4.54	416.6	6.39	419.9	5.65
Central East	457.0	3.38	405.9	5.38	418.4	8.34
Central West	465.5	6.44	435.1	4.70	436.7	3.68
South East	468.5	3.83	438.4	5.90	434.1	4.95
South West	467.1	6.27	444.9	5.62	451.0	4.47
Shire Highlands	482.9	6.38	429.5	5.00	436.1	4.64
<b>Malawi</b>	462.6	2.42	428.9	2.37	432.9	2.25

SACMEQ I variable: ZRALOCP.

SACMEQ II variables: ZRALOCP, ZMALOCP.

**Table 10: Percentages and sampling errors of pupils reaching minimum and desirable reading levels of mastery (SACMEQ I and SACMEQ II)**

Division	SACMEQ I				SACMEQ II			
	Pupils reaching minimum level of mastery		Pupils reaching desirable level of mastery		Pupils reaching minimum level of mastery		Pupils reaching desirable level of mastery	
	%	SE	%	SE	%	SE	%	SE
North	8.3	2.77	0.0	0.00	4.8	1.75	0.3	0.33
Central East	15.3	2.50	0.3	0.32	3.1	1.56	0.0	0.00
Central West	20.6	3.99	2.2	1.50	9.8	2.16	0.4	0.27
South East	22.2	3.37	0.4	0.39	11.8	2.22	0.0	0.00
South West	23.4	4.25	1.3	0.87	13.9	3.16	1.3	0.55
Shire Highlands	32.5	5.69	3.8	1.53	7.5	2.09	0.0	0.00
<b>Malawi</b>	19.4	1.62	1.3	0.45	8.6	0.95	0.3	0.12

SACMEQ I variables : ZMINRDP, ZDESRDP.  
SACMEQ II Variables: ZMINRDP, ZDESRDP.

**Table 11: Percentages and sampling errors for literacy levels of pupils (SACMEQ II)**

Division	Percentage of pupils reaching the reading competence level															
	1		2		3		4		5		6		7		8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
North	19.1	3.35	35.0	3.59	29.7	3.25	12.0	2.69	3.3	1.12	0.5	0.52	0.3	0.33	0.0	0.00
Central East	20.9	4.14	45.0	3.74	26.4	3.58	5.2	2.44	2.1	1.04	0.4	0.40	0.0	0.00	0.0	0.00
Central West	6.7	1.61	33.4	3.92	35.7	3.42	17.5	2.86	4.5	1.53	1.9	0.57	0.2	0.17	0.0	0.00
South East	6.7	2.27	29.1	3.71	33.2	2.70	25.2	4.52	5.1	1.12	0.8	0.59	0.0	0.00	0.0	0.00
South West	7.5	2.02	23.1	2.39	38.7	2.74	20.5	2.87	7.8	1.67	1.8	0.76	0.7	0.40	0.0	0.00
Shire Highlands	9.1	2.15	33.7	3.67	36.8	3.16	16.5	3.97	2.9	1.16	1.1	0.66	0.0	0.00	0.0	0.00
Malawi	11.3	1.08	33.2	1.58	33.6	1.36	16.2	1.38	4.3	0.58	1.2	0.24	0.2	0.09	0.0	0.00

SACMEQ II Variable: ZRALEVP.

Table 12a: ANOVA on Achievement of Pupils by Sex

		Sum of Squares	df	Mean Square	F	Sig.
pupil reading-all 500 score [mean=500 & SD=100]	Between Groups	22906.380	1	22906.380	9.24	.002
	Within Groups	5774456.079	2331	2477.244	7	
	Total	5797362.459	2332			
pupil math-all 500 score [mean=500 & SD=100]	Between Groups	57998.276	1	57998.276	18.5	.000
	Within Groups	7256748.932	2321	3126.561	50	
	Total	7314747.208	2322			

SACMEQ II Variables: Psex Pupil Question Number 3 and achievement variables- Zralocp and malocp

Table 12b: ANOVA on achievement by Socio-economic Status

		Sum of Squares	df	Mean Square	F	Sig.
pupil reading-all 500 score [mean=500 & SD=100]	Between Groups	165872.428	1	165872.428	68.6	.000
	Within Groups	5631490.031	2330	2416.949	29	
	Total	5797362.459	2331			
pupil math-all 500 score [mean=500 & SD=100]	Between Groups	101218.103	1	101218.103	32.5	.000
	Within Groups	7213529.105	2321	3107.940	68	
	Total	7314747.208	2322			

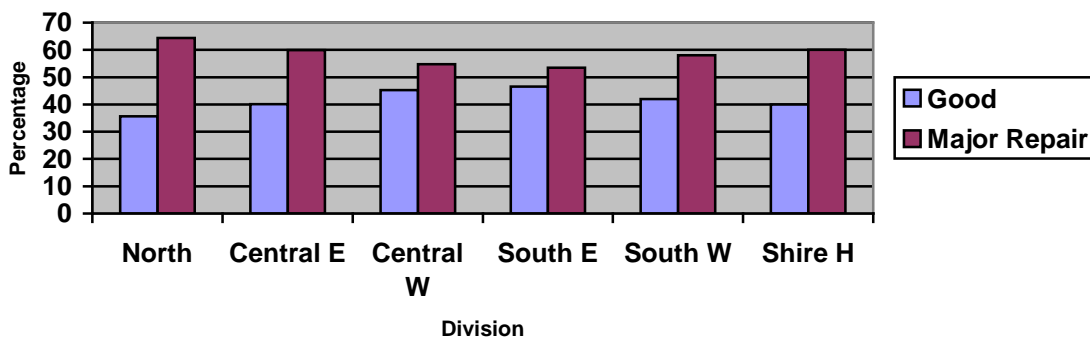
SACMEQ II Variables: Zposlev: Pupil Questions Number 7, 8 and 9 and achievement variables- Zralocp and malocp

Table 12c: ANOVA on achievement by School Location

		Sum of Squares	df	Mean Square	F	Sig.
pupil reading-all 500 score [mean=500 & SD=100]	Between Groups	138623.260	1	138623.260	57.078	.000
	Within Groups	5658739.199	2330	2428.643		
	Total	5797362.459	2331			
pupil math-all 500 score [mean=500 & SD=100]	Between Groups	68425.793	1	68425.793	21.917	.000
	Within Groups	7246321.415	2321	3122.069		
	Total	7314747.208	2322			

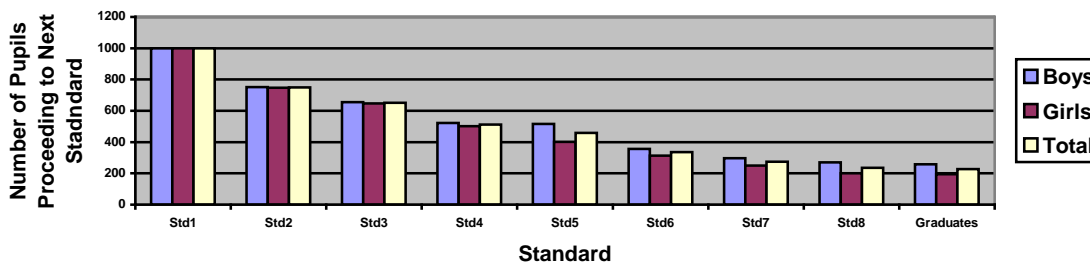
SACMEQ II Variables: Zsloc: School Question Number 14 and achievement variables- Zralocp and malocp  
Figures:

Figure 1: Condition of Buildings by Division



SACMEQ II Variables: ZSBLGCO- School Question 36.

Figure 2: Survival Rates by Sex



Source: MoE Education Statistics various years.

## Appendixes

Appendix 1: Reading and Mathematics skill Levels

Level	Reading	Mathematics
Level 1	<b>Pre reading:</b> Locates familiar words in a short (one line) text; Matches words to pictures. Uses letters to help identify unknown words. Follows short, familiar instructions.	<b>Pre numeracy:</b> Counts illustrated objects. Recognizes basic numbers and shapes. Carries out simple single operations of addition and subtraction
Level 2	<b>Emergent reading:</b> Reads familiar words. Identifies some new words. Uses simple, familiar prepositions and verbs to interpret new words. Matches words and phrases. Uses pictures for clues. Reads short simple texts with simple repetitive patterns	<b>Emergent numeracy:</b> Links simple verbal, graphic and number forms with single arithmetic operations on whole numbers up to two digits. Recognizes common shapes or figures in two-dimensions. Estimates accurately lengths of simple shapes
Level 3	<b>Basic reading:</b> Uses context, simple sentences structures to match words and short phrases. Uses phrases within sentences as units of meaning.	<b>Basic numeracy:</b> Recognizes three-dimensional shapes and number units. Uses a single arithmetic operation in two or more steps. Deals with place value and effects of a single operation.
Level 4	<b>Reading for meaning:</b> Interprets new words by referring to word parts; interpret sentences and paragraph level texts; matches phrases across sentences; uses information outside the text to confirm opinion; able to locate information in longer text passages.	<b>Beginning numeracy:</b> Interprets a visual or verbal prompt in order to count, recognize shape, number and time. Uses a single familiar basic (add, subtract, multiply or divide) in simple arithmetic, measurement and data tasks
Level 5	<b>Inferential reading:</b> Interprets and makes inferences from different types of more complex texts. Extracts information from unusually formatted. Interprets maps, tables and graphs. Makes judgment about the author's intended purpose	<b>Competent numeracy:</b> Carries out multiple and different arithmetic operations using visual or verbal prompts where the order of operations is important. Converts basic measurement units. Understands the order of magnitude of simple fractions
Level 6	<b>Analytical reading:</b> Combines several pieces of information from a range of locations in complex and lexically dense text or documents. Analyses detailed text or extended documents for underlying message. Identifies meaning from different styles of writing.	<b>Mathematically skilled:</b> Conducts multiple steps with a range of basic operations in a strict sequence using an analysis of a short verbal or visual prompt. Deals with three-dimensional perspective. Applies operations to units of time. Uses basic operations (addition and subtraction) on mixed numbers, multiplies larger numbers
Level 7	<b>Critical Reading:</b> uses the structures of text to identify author's assumptions/aims/views and evaluates them. Offers a critical analysis of text.	<b>Concrete Problem Solving:</b> Can perform complex and detailed mathematical skills that require detailed knowledge of mathematics not supplied in the task. These tasks involve abstraction of verbal, visual and tabular information into symbolic forms and algebraic solutions. Understands use of extended verbal or graphic prompt (involving an analysis of steps) to identify correct sequence of calculations. Uses range of arithmetic operations on mixed number



		systems. Applies external knowledge or rules for problem solving. Converts and operates on units of measurement including time, distance and weight.
Level 8	<b>Insightful Reading:</b> Identifies the authors motives, biases, beliefs and suggestions in order to understand the main theme of the text. Interprets analogy and allegory and deeper significance and cohesiveness of ideas in the text	<b>Abstract Problem solving:</b> Identifies nature of problem, translates the information given into a mathematical approach and then identifies strategy for solving problems. Can readily apply the strategy and solve the problem. This is higher order numeracy involving mathematical insight

## Appendix 2: Percentages and sampling errors for literacy levels of pupils (SACMEQ I)

### Percentage of pupils reaching the reading competence level

Division	1		2		3		4		5		6		7		8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
North	4.6	1.23	12.2	2.27	45.7	3.41	31.2	3.23	5.3	1.36	1.0	0.72	0.0	0.00	0.0	0.00
Central East	3.2	0.99	8.7	1.46	34.6	3.63	41.5	3.09	10.6	1.98	1.1	0.68	0.3	0.32	0.0	0.00
Central West	2.1	0.73	9.8	2.37	31.1	2.74	39.5	3.24	13.1	2.26	2.2	1.02	2.2	1.50	0.0	0.00
South East	1.8	0.85	6.0	1.60	27.3	3.87	47.5	2.72	16.3	3.15	0.8	0.53	0.4	0.39	0.0	0.00
South West	3.7	0.80	8.1	1.59	31.9	3.11	36.6	2.76	15.2	2.75	3.6	1.23	0.2	0.21	0.6	0.46
Shire Highlands	1.4	0.61	3.7	1.45	23.6	4.16	46.3	3.84	17.5	3.76	4.7	2.01	2.8	0.99	0.0	0.00
Malawi	2.9	0.38	8.7	0.86	33.1	1.41	39.5	1.35	12.5	1.03	2.1	0.43	1.0	0.41	0.1	0.09

SACMEQ I Variable: XRALEVP.

**Appendix 3: Percentages and sampling errors for literacy levels of pupils by sub-groups (SACMEQ I)**

Sub-groups	Percentage of pupils reaching the reading competence level															
	1		2		3		4		5		6		7		8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
<b><i>Gender</i></b>																
Boys	2.2	0.45	9.2	1.15	29.6	1.71	40.4	1.71	14.4	1.25	3.0	0.59	1.2	0.51	0.1	0.08
Girls	3.7	0.65	8.1	1.01	36.9	2.05	38.6	2.09	10.5	1.36	1.2	0.58	0.7	0.36	0.2	0.17
<b><i>Socio-economic level</i></b>																
Low SES	3.3	0.59	10.0	1.37	34.7	1.90	38.3	1.89	11.5	1.10	1.4	0.36	0.8	0.28	0.0	0.00
High SES	2.1	0.63	6.9	0.95	28.4	2.05	42.6	2.01	15.0	1.57	3.4	0.85	1.4	0.85	0.3	0.21
<b><i>School location</i></b>																
Isolated/Rural	3.0	0.46	9.4	1.04	34.3	1.59	39.8	1.54	11.5	1.20	1.4	0.36	0.6	0.19	0.0	0.00
Small town	2.6	0.80	8.7	2.17	34.7	3.99	39.7	3.22	11.8	2.38	2.0	1.22	0.5	0.36	0.0	0.00
Large city	2.9	1.48	3.9	1.85	21.7	5.20	36.1	6.21	21.2	3.90	8.2	2.62	4.8	4.05	1.2	0.88
<b>Malawi</b>	2.9	0.38	8.7	0.86	33.1	1.41	39.5	1.35	12.5	1.03	2.1	0.43	1.0	0.41	0.1	0.09

SACMEQ I variables: XRALEVP, XPSEX, XPOSLEV, XSLOCATI.

SACMEQ II variables: ZRALEVP, ZPSEX, ZPOSLEV, ZSLOCATI.