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Access to education in sub-Saharan Africa: patterns, problems and possibilities

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The numbers of children with access to basic education in sub-Saharan Africa have increased substantially over the last two decades but many still remain out of school. Some fail to enrol at all, especially in fragile states, and many more start school but do not complete the basic cycle. Education for All (EFA) and the Millennium Development Goals (MDGs) have generated commitments to improve greatly access to education. This paper first develops an expanded vision of access. Second, it analyses participation by grade and identifies five different country patterns. Third, changes in enrolments over time are explored which show that in some countries progress has been very uneven and that overall expansion may conceal large increases in lower grades and little change in completion rates. Fourth, data on age in grade are used to show that many children are overage and this may have consequences for attempts to lower dropout and improve completion rates. Fifth, participation by household income remains very uneven, especially at secondary level and wealth remains the most powerful determinant of progression to higher educational levels. Sixth, there has been good progress on some other sources of inequality, e.g. gender disparities, but much remains to be achieved, especially in fragile states. Concluding remarks draw out some policy related conclusions for future EFA priorities.

Introduction

Improving access to education in sub-Saharan Africa (SSA) is central to prospects for alleviating poverty and achieving the Millennium Development Goals (MDGs) and the Dakar targets that relate to education. Access to primary schools has grown substantially in most SSA countries over the last two decades and Gross Enrolment Rates (GERs) now average 97%. However, it remains the case that over 32 million children remain out of school, only two-thirds of children reach the last grade of primary, and many of those enrolled are over age, repeating years, and failing to complete a full cycle of basic education, especially where this includes lower secondary grades.

This paper first makes the case for an expanded vision of access that extends beyond higher enrolment rates to include attendance, achievement, and progression and completion at appropriate ages. Second, patterns of participation by grade are analysed for 44 countries in SSA. Five different national patterns are identified which have strikingly different profiles. These are not evident from simple analysis of primary enrolment rates. Third, data on changing patterns of access over time in

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different countries are presented. From this it is clear that the evolution of access follows different pathways, some of which follow trajectories that are at variance with policy commitments. Fourth, the data also suggest that many of those enrolled in school are not in the appropriate grade for their age, with significant numbers being several years over age. This is important since curricula are generally not organised with multi-age classes in mind. It is also the case that multigrade teaching methods that can accommodate mixed-age classes are the exception rather than the rule. Fifth, evidence from household survey data suggests that access to schooling, especially at secondary level, is often very unequal and more closely related to household income than most other variables. Patterns are very different between countries. Sixth, gender is also a significant correlate of educational participation. Differences in enrolments by sex are often greater at secondary rather than primary level. Though girls are often disadvantaged, there are several higher enrolment countries in SSA where girls now out-enrol boys, especially at higher grade levels. Concluding remarks summarise some of the implications of the patterns of access identified by comparative analysis.

A note on educational expansion

Explorations of changing patterns of participation in education have a long history and a large literature. Boli et al. (1985) have argued that in Europe mass access to schooling preceded industrialisation, giving Prussia, Denmark and Austria as exemplary cases. They suggest that though England industrialised first it lagged behind these countries in providing schooling to the majority. They also argue that correlations between the development of mass schooling with urbanisation are weak or non-existent. Boli et al. (1985) challenge explanations for growth that lie in needs derived from increased social differentiation, the attractions of mass schooling as a mechanism for social control, and increased competition between interest groups. Instead they identify two patterns of growth. The first arises where central states are weak and civil society organisations support expanded opportunities to learn and create institutions of learning. The second arises in strong states where there is a conscious modernising drive to develop a national identity through shared experience of educational institutions and their curricula.

Soysal and Strang (1989) note that across 17 early developing countries there appears little correlation between compulsory schooling laws and rates of enrolment growth. A subsequent analysis (Colclough with Lewin 1993) on a sample of late developing countries confirms the finding that such laws are not closely linked to levels of participation. In low-enrolment countries they are often simply not enforced. Soysal and Strang (1989) share the view that urbanisation and industrialisation are not fundamental to educational expansion. Rather they argue that modernising states provide much of the impetus and, where states are weak, civil society and religious organisations are particularly significant.

Archer’s (1981) framework for the analysis of growth in educational access distinguishes three phases – take-off, growth, and inflation – echoing the stages of economic growth of Rostow (1960). Her European evidence suggested that during take-off groups began to compete and adopt differentiated provision related to special (often religious) interests. During system growth separate actors began to mobilise a common agenda that recognised the social and economic benefits of a public school system. Inflation occurred when growth became driven at least in part by endogenous
factors – e.g. the interests of the education profession, and the escalating need for higher qualifications.

Dore (1976) takes a view of the evolution of education systems that builds from Gershenkron’s (1952) ideas on late development. Mass schooling, he argues, developed slowly in the UK and USA until the social changes generated by industrialisation and urbanisation invited state intervention and subsidy. Old charitable notions of providing something for the mass of the poor, and newer insights that suggested that some of the governing elite began to fear the consequences of educating the poor less than the consequences of their continued ignorance, led to more systematic local and national support for school systems. Early developing country school system growth was not driven by qualifications and selection pressures to gain access to jobs since most of the labour market remained ascriptive and mobility was limited. Arguably, later developing countries with small modern sectors where access to jobs was rationed by educational qualifications developed differently, especially where post-independence politics took a populist character. New constraints on growth became apparent, not least the difficulties of supporting mass access to education from domestic resources especially where demographic transition had not occurred (Lewin 2008a).

These approaches, and others reviewed in Little (2008), provide some insight into the dynamics that may have shaped the development of mass education systems in the past. This paper is focused on recent patterns of transition towards universal access to basic education in poor countries in SSA. The parameters that surround these developments have their own specific characteristics. These include:

- An international architecture of expectations, commitments, and rights-based obligations to provide basic education for all.
- Promises of external resources linked to progress towards EFA and performance targets.
- Uncertain and changing levels of domestic political commitment and resource allocation.
- National vulnerability to external shocks and in some cases internal source of fragility and instability.
- Global influences on the public demand for access to education at all levels and expectations of social mobility linked to educational achievement.
- Urbanisation in advance of industrialisation, enrolment growth in advance of demographic transition, and state domestic revenues of less than 20% of gross domestic product (GDP).

Many of these conditions did not apply to countries where school systems expanded to mass levels in the nineteenth and early twentieth centuries. It may therefore be that new models are needed to explain how growth is occurring. Unlike the more distant past, where empirical data (e.g. on enrolment and completion rates, equity costs, and achievement levels) may be little more than inspired and informed guesses, much more data is available to track the patterns that are occurring, albeit with limitations. This paper sets out to present some of the changing patterns of access that exist in SSA with a view to encouraging greater analytic insight into what is happening. This can be a basis for more empirically based research into why, especially where the patterns are not those policy-makers expect or welcome.
Conceptualising access to education

The MDGs (UN 2000) commit countries to universalise primary education and achieve gender equity in enrolments. The Dakar Education for All Targets\(^1\) are more extensive and also include ambitions to extend access to early childhood education, provide more access to knowledge and skills to young people and adults, increase adult literacy by 50%, and improve quality (UNESCO 2008, 15). The international conferences on Education for All (EFA) at Jomtien (UNESCO 1990; Little et al. 1994) and Dakar (UNESCO 2000) consolidated the commitment of most countries and development agencies to achieve both the MDGs and Dakar Goals by 2015. Analysis showed that the countries furthest from the goals of universalising educational access were mostly in SSA and that a range of reforms was needed if universal access was to be sustainable and affordable (Colclough with Lewin 1993; Lewin and Caillods 2001; UNESCO 2008). As more and more countries achieved high primary gross enrolment rates after 2000 improved access to secondary schooling became a new preoccupation of many African Ministers of Education (Lewin 2008a).

Access to education can be defined in many different ways. The expanded definition adopted by the Consortium for Research on Educational Access, Transitions and Equity (CREATE)\(^2\) includes admission and progression on schedule for age in grade, regular attendance, achievement related to national curricula norms, appropriate access to post-primary opportunities, and more equal opportunities to learn (Lewin 2007a). This expanded vision is needed for several reasons. Though the majority of primary age African children are now enrolled, many are not in the appropriate grade for their age (Akyeampong et al. 2007; Motala et al. 2007; Lewin 2008b; Chimombo 2009). Those who are substantially over age, either because of late entry or because of repetition and interrupted schooling, are at risk of losing access as a result of premature dropout (Hunt 2008). Daily attendance rates can be below 70% and in some schools below 50% at some times of the year (e.g. harvest), resulting in substantial loss of learning time (Ampiah 2008). Indicators of achievement (e.g. Southern and Eastern Africa Consortium for Measuring Educational Quality (SACMEQ) show that many fail to reach acceptable levels of achievement, often by wide margins. In SSA fewer than 30% of all children successfully complete secondary schooling. Transition rates from primary to secondary are below 50% in the majority of low-enrolment countries and in some cases rates are falling as expanded cohorts reach secondary entrance levels. Though access to primary schooling has become more equitably distributed as primary enrolment rates have increased, sharp differences persist in access to secondary level and above with those in the top quintile of household income six or more times more likely to complete secondary school than those from the poorest households (Lewin 2008a).

Access to education within the framework created by EFA has little meaning and even less developmental impact if it is not defined broadly. At a minimum an expanded vision includes:

- **Local access to safe schools with acceptable levels of staffing, learning materials, and other facilities.** Rapid expansion has led to chronic shortages of learning materials and massive class sizes in some low-enrolment countries with consequent effects on quality.
- **Admission to and progression through primary school or its equivalent at the appropriate age for the grade.** Enrolment rates can be high but may conceal the
fact that many children are repeating grades and may be several years over age. They may also distract attention from low rates of successful completion.

- **Consistent and continuous attendance throughout the school year.** Learning achievement is linked to attendance; some studies suggest a third more of school time may be lost through teacher and child absences and poor school management.

- **Reasonable access to post-primary education and training.** Managed expansion of post-primary opportunities at affordable costs is essential for universalising primary school completion. If transition rates into post-primary fall, demand for primary completion may soften.

- **Learning outcomes that achieve national norms for successful completion of the educational cycle.** Levels of learning achievement can be very low with a majority failing criterion reference tests. Access has to result in learning outcomes with relevance and utility.

Other dimensions that could be included in an expanded vision of access include (1) universal participation in pre-school; (2) fee-free schooling through to the end of basic education; and (3) more rather than less equitable provision of publicly funded basic educational services. Each of these is desirable but needs careful consideration. First, some SSA countries (e.g. Ghana) have announced their intention to make pre-school available to all; others (e.g. South Africa) are extending provision downwards to reception years below Grade 1. The costs of extending access to formal schooling downwards are likely to be very large if publicly funded. Conversely if such provision is not publicly funded it will continue to be available only to the relatively wealthy. Second, fee-free primary schooling has to be available to all those unable to pay if access is to be universal. Most SSA countries are committed to fee-free primary school but many retain official and unofficial additional charges and levies that can sometimes discourage attendance. In contrast, at secondary level most SSA education systems have always charged fees and continue to do so, though several have announced fee-free secondary schooling in the recent past, e.g. Uganda and Kenya. This is more problematic than fee-free primary schooling since costs per child are often four or more times greater. It is likely to remain more efficient to retain fees for those who can afford to pay and use the savings to subsidise those who cannot pay. Extending fee-free schooling to secondary level and above is almost certainly regressive – the relatively rich will get most of the benefit. Thirdly, access which is very uneven in quality undermines the spirit if not the letter of the MDG commitments and Dakar EFA Goals. Access to ineffective schools with excessive class sizes, few teachers and no learning materials, where little is learned, is not meaningful access to education. In some countries where quality in public systems is low, high-cost private schooling has been growing (Lewin and Sayed 2005). This may reduce the chances for social mobility out of poverty for the less wealthy. Though some lower cost private schools exist few households outside the top two quintiles of income in SSA can afford to enrol their children.

**Zones of Exclusion from access**

The CREATE programme has developed a model to describe educational access for children of school age. This model identifies *Zones of Exclusion* within which there are likely to be different patterns of exclusion. The zones are Zone 0 – no pre-school
access; Zone 1 – children who never enrol; Zone 2 – primary dropouts; Zone 3 – over-age children, irregular attenders and low-achievers at primary level who are ‘silently excluded’ and learn little; Zone 4 – primary leavers not entering secondary; Zone 5 – secondary dropouts, Zone 6 – over-age children, irregular attenders, low-achievers and those silently excluded at secondary level (Lewin 2007a).

Figure 1 illustrates these zones schematically. It represents a system in which about 80% enrol in Grade 1 and half drop out by Grade 6. By the end of Grade 10 about 25% of children remain. Amongst those enrolled as many as 50% are placed in an ‘at risk’ zone where children are over-age, poorly attending, and low-achieving to the extent that their access to education is compromised.

Zone 0 covers pre-school participation. This is very poorly documented in SSA though it is clear that in low-enrolment countries large majorities experience little or no access to organised pre-school. Those that do are often enrolled in high-cost private facilities. This pattern almost certainly disadvantages the poor who miss out on the head start in basic learning skills that pre-school can provide.

Zone 1 captures those who never attend school. It includes at least two different sub-populations. First there are those who could and should be enrolled in existing or planned conventional schools. For them the best strategy is likely to be extending the reach of the existing formal system. Second, there are those whose location (e.g. low population density, fragile states), livelihood style (e.g. nomadic), health status (e.g. disability, HIV/AIDS), or social and civil identity (e.g. excluded castes, ethnic minorities), may preclude conventional school solutions. Other strategies are needed for these groups including mobile schools, evening and weekend classes, non-formal pedagogies, radio and other available information technologies.

Zone 2 includes the great majority of children who are excluded after initial entry. Typically, dropout is greatest in the early grades, with a substantial subsequent push-out at the transition to secondary school. Precursors to dropout include repetition, low

![Figure 1. Zones of exclusion – participation by grade level.](http://www.create-rpc)
achievement, temporary withdrawals, low attendance, overage enrolment, poor teaching, degraded facilities, very large classes, household poverty, child labour and poor health and nutrition. Those dropping out usually become permanently excluded with no pathway back to re-enter. The zone includes disproportionate numbers of girls, HIV/AIDS orphans, and others in vulnerable circumstances.

**Zone 3** includes those in school but at risk of dropping out. These children may be low-attenders, repeaters and low-achievers. Many will be overage. Children who remain formally enrolled in school may be *silently excluded* if their attendance is sporadic, their achievement so low that they cannot follow the curriculum, or if they are discriminated against for sociocultural reasons. Nutritional deficiencies and sickness can compound these problems. Too little is known of how the range of influential factors is changing as EFA evolves, how these result in decisions to enrol and attend at different grade/age levels, and how they have an impact on different disadvantaged groups.

**Zone 4** contains those excluded from lower secondary school as a result of failing to be selected, being unable to afford costs, or dropping out before successful completion of primary. This exclusion is important for EFA since transition rates into secondary affect demand for primary schooling, primary teacher supply depends on having enough secondary graduates, and gender equity at the secondary level is an MDG. Access to secondary schooling promotes the social mobility needed to give poor households more access to higher income employment.

**Zone 5** includes those children who enter lower secondary school but who fail to progress to the end of the cycle. In most countries lower secondary is now considered part of basic education. Many who fail to complete the cycle are likely to be below the legal working-age if they are in the appropriate grade for their age. The reasons for dropout include poor performance, affordability, loss of motivation, and early pregnancy. Demand to remain in school may weaken as a result of high opportunity costs where paid work is available, and where there is pressure to contribute to household economic activity.

**Zone 6** contains lower secondary children at risk of dropout. As with Zone 3 some will be *silently excluded* though enrolled, and at risk as a result of poor attendance and low achievement. Costs and affordability are also likely to be significant.

The largest numbers of those excluded from education are those who enrol in Grade 1 but fail to complete their schooling. Of the 113 million children of primary school age in SSA over 32 million children remain outside primary schools. More than double this number fails to participate through to the end of secondary schooling. Only in some fragile states where civil unrest, war and other forms of conflict have destroyed infrastructure and disrupted education systems, is it likely that a majority of those out of school are those who have never attended school.

### Cross-national patterns of participation

The MDGs and EFA are intended to accelerate progress towards universalising access to schooling up to at least Grade 6 (and often Grades 9 or 10 where this is defined as the end of the basic education cycle). The most recent Global Monitoring Report (GMR) (UNESCO 2008, 280) indicates that in 2005 the average weighted Gross Enrolment Rate (GER) for primary was 97%, with 22 out of 40 SSA countries exceeding 100% and a further 4 above 90%. This can be compared to an average GER for primary of 78% in 1990 with only 12 countries exceeding 100%. Clearly more
children are now enrolled. Having said this at least 19 countries in SSA are judged to be at serious risk or having a low chance of achieving universal primary education (UNESCO 2008, 180).

The overall pattern of enrolment for 23 low enrolment SSA countries on which data are available is shown in Figure 2. The numbers enrolled in Grade 1 are typically greater than the number of children of Grade 1 age. This is mostly the result of Grade 1 including overage children, though in some countries some children are also under age. The numbers enrolled fall grade by grade as repetition and dropout occurs. Often there is an inflexion around the end of primary schooling (most frequently at Grade 6) where repetition to retake primary school leaving examinations inflates enrolments. Attrition then continues through the higher grades. Figure 2 provides a reminder that, in the aggregate, there are generally fewer children enrolled than there are in the age group, especially in low-enrolment countries. Thus more school places will be needed to universalise enrolment, especially at lower secondary level.

Patterns of enrolment by grade differ markedly between countries. Disaggregated analysis of data on participation across 40 countries reveals five distinct country profiles as Figure 3 indicates.

Group 1 countries are all high-participation. In most the grade-specific GER (GSGER) is close to 100% through the primary grades and to the end of lower secondary. Group 2 countries are different. Here the GSGER is over 200% in Grade 1 but rapidly falls so that by Grade 6 it is usually below 50% and may be lower. Group 3 countries have enrolments in Grade 1 over 100% but not as high as in Group 2. The GSGER falls with higher grades, but not as fast as in Group 2, with more children enrolling in lower secondary. In Group 4 the GSGER in Grade 1 is below 100% and overall levels of participation are low, especially in secondary grades. In Group 5 the GSGER in Grade 1 can be even lower than in Group 4, indicating that many never

Figure 2. Enrolments by grade in 23 SSA countries (Grade 1 enrolments = 1).
Source: Author’s chart.
enroll. Dropout results in a GSGER under 50% by Grade 6 with few enrolling at secondary level.

These patterns represent different starting points for investment in expanded access at different levels. In Group 1 priorities are likely to focus on improved educational quality and managed expansion of upper secondary schooling since most children are enrolled to Grade 9 and beyond. In Group 2 enrolment patterns suggest very high levels of repetition and over-age enrolment in the lower grades and high dropout with low completion rates at primary. Although primary GERs may be high, completion rates are low with less than half of all children completing primary. In these countries internal efficiency at primary is low and this must be addressed with some urgency. Expanded secondary schooling will also be limited by the supply of qualified primary leavers who need to have completed secondary grades. In Group 3...
overall enrolment rates at primary are in the mid range and most children complete the primary grades and about half proceed into lower secondary schools. These countries are likely to have concerns for balanced growth of secondary schooling and improved quality at primary. Group 4 and Group 5 countries are a long way from universal access to primary schooling. Expanding the capacity and the reach of the primary school system is likely to remain a priority. Especially in the case of Group 5 countries many children fail to enrol and most do not complete a full cycle of primary school.

A synthetic chart summarises enrolments patterns by grade and is shown in Figure 4.

There are several conclusions to be drawn from this analysis. First, different countries face very different challenges in achieving EFA. These depend on current patterns of entry, dropout and progression through primary, transition rates into secondary, and overall levels of participation at different levels. No one strategy of investment will suit different country contexts.

Second, it is tempting to imagine the patterns fall into a sequence. Group 5 and 4 countries may become more like Group 3 as participation improves. They may or may not resemble Group 2 for a period. Group 2 countries have experienced rapid expansion, especially in lower grades, as a result of EFA programmes. Group 2 can be a step on the pathway to the high participation rates found in Group 1. As noted below, at least in some countries, Group 2 patterns have persisted where massive increases in Grade 1 enrolments have not been reflected in enrolments in higher grades through to completion of primary schooling. Expansion has led to higher attrition rather than a smooth transition to higher enrolment rates in all grades.

Third, the patterns provide a reminder that increased participation at one level (primary) will increase pressure for places at the next level. In Groups 2 to 5, pressure from increased primary output is accelerating the demand for entry into lower secondary.
In Group 1 the pressure is more likely to be for entry to upper secondary. In SSA secondary schooling is commonly about four times as expensive per child as primary (Lewin 2008a). This in itself means that universal access is unlikely to be affordable without cost-saving reforms of magnitude. Note also that where secondary output is very small it will be difficult if not impossible to staff primary schools with enough teachers, assuming they should be successful secondary graduates.

Fourth, the patterns presented are derived from GSGERs. The average primary GERs for Groups 1 to 5 are 104%, 111%, 107%, 74% and 58% respectively. Perhaps surprisingly the first three groups do not differ much on GER values. However, their enrolment patterns over the primary cycle are very different. Thus primary GERs measured over the 6-year cycle are not a very useful indicator of progress towards EFA. They conceal different patterns of enrolment within the cycle.

Figure 5 illustrates this problem. The enrolment curve for country A and country B by grade are shown along with a line representing the number of children in each grade group. Both countries have GERs close to 100% for Grades 1–6. However, country A greatly over-enrols in Grade 1 with far more children enrolled than the number in the 6-year-old age group (dotted line). It has high attrition through the primary grades. In country B most of those who enter Grade 1 complete primary. The GER for both countries is the same. Net Enrolment Ratios (NERs) are often argued to be a better indicator. However, with modestly different assumptions about overage enrolment, see Figure 5) country A and country B can also have similar NERs. Not only is it true that the values of GER and NER for a cycle can mislead, so also can the direction of changes. Thus GERs and NERs can fall when the number of overage children within the cycle is reduced, even though internal efficiency is increasing. This and other problems with targets (Lewin 2005) indicate that it may be time to revisit their specification and use.

Figure 5. Gross and net enrolment rates by cycle – a problem.
Source: Author’s Chart.
Changing patterns of access over time

Analysis of enrolment patterns by grade over time is illuminating. It indicates that, at least in some countries, although GERs (and NERs) have increased, the main increase has been persistent over-enrolment in the lower grades. Attrition has remained high and higher grades have not grown in ways that reflect an increased intake.

Three country cases make the point. Figure 6 shows how enrolments have changed in different grades in Uganda since before universal primary education (UPE) was announced in 1997. UPE led to a massive increase in the numbers of Grade 1 students reflected in the spike in the chart. In one year the increase went from about 700,000 Grade 1 students in 1996 to nearly 2.2 million in 1997. Enrolments in Grade 1 fell back the following year to about 1.6 million, and then gradually increased towards 2 million. The 1997 cohort of 2.2 million Grade 1 students did not progress through to Grade 7. In 1998 Grade 2 had only 1.4 million enrolled. By Grade 7 in 2003 only 500,000 students were enrolled. There was no enrolment spike moving through the higher grades over time.

Each age cohort of children in Uganda was about 900,000 in 2003 suggesting that the primary system was choked with many over-age children in the lower grades where there are more enrolled than in the age group. By Grade 7 those enrolled are about 60% of the age group (though not of course drawn from a single age cohort). Many clearly drop out before reaching Grade 7 and selection for secondary.

Figure 7 shows that bottlenecks have developed in the flow of children from Grade 6 to Grade 7. The Primary Leaving Examination (PLE) is held at the end of Grade 7. In the early 1990s enrolments in Grade 6 were about 30% greater than those in Grade 7. Almost all in Grade 7 registered for the PLE. By 2004 the number in Grade 6 was 90% more than the number of PLE candidates. Much larger numbers of children were reaching Grade 6 and not progressing to Grade 7. The most likely explanation was that

![Figure 6. Enrolments by year and grade Uganda.](source: EMIS data Ministry of Education and Sports.)
pupils were being kept out of the Grade 7 PLE and repeating Grade 6 if they were thought unlikely to do well. School examination results are published and strongly influence a school’s reputation. By 2006 the PLE which was taken by less than half an age cohort.

Similar patterns are to be found in other countries. In Tanzania UPE was first pursued in the 1970s with a national campaign for Education for Self-Reliance led by President Nyerere. From 1974 enrolments increased rapidly to 1978. During the recession of the 1980s, enrolments fell back to well below universal levels and did not recover through the 1990s. In 2002 a new commitment to UPE was announced and enrolments increased rapidly. In both 1979 and 2002 Grade 1 enrolment increased dramatically by as much as 60% in one year, and over 150% in less than five years. These gains were only partly reflected in increases in higher grades. It is noticeable that in the 1980s, with higher overall levels of enrolment, Grades 5–7 begin to diverge from Grades 1–4, suggesting dropout in higher grades was increasing (Figure 8). It is too early to establish whether these patterns will repeat themselves for the post-2002 cohorts, but the initial patterns are similar. Somerset (2009) shows how in Kenya cohort attrition curves have evolved and how the short-term impact of UPE policy changes has been mainly manifest in spikes in enrolments in the lower grades and is not generally reflected in changing completion rates. Sifuna (2007) has noted that in both Kenya and Tanzania attrition and completion rates have stagnated and indicators of quality have failed to improve in line with expectations of universal access with higher levels of achievement. Okech and Rolleston (2007) also note that Uganda and Tanzania still have problems in enrolling the last 10% in school and that both have experienced problems with quality that are yet to be resolved.

In Malawi UPE was announced in 1994. Grade 1 enrolments increased by about 60% in one year. As in Uganda the spike of enrolments in Grade 1 disappeared by
Grade 4 which showed a steady increase over the succeeding years. Over 1 million students were enrolled in Grade 1 in 1996, but only about 150,000 were in Grade 8 in 2003. The output for Grade 8, the end of the primary system, did not grow very fast. It was 143,000 in 1996 and only 151,000 in 2003 seven years later. At the same time enrolments in Grade 1 stabilised at about 800,000. Whereas before 1996 there were more children in Grade 7 than Grade 6 (as a result of repetition of the primary school leaving examination), by 2003 there were about 15% more in Grade 6 than Grade 7 (Figure 9). Chimombo (2009) details how expanded access in Malawi has failed to change the pattern of attrition over more than a decade, and how reliable evidence suggests that levels of achievement have fallen as participation has increased.

The three country examples chosen here for discussion all demonstrate how UPE related policy interventions can have a large impact in the short term on enrolment patterns. They illustrate several important issues for future EFA policy.

First, they show that policy interventions may have a transient impact that is eroded over time. Large enrolment gains in Grade 1 may not be sustained, and that bulges in enrolments are often followed by troughs. This can make it difficult to manage flows of children through schools and deploy teachers efficiently. It may mean that some of the gains made in enrolment rates are subsequently lost.

Second, gains in participation at one grade level are not always sustained or reflected at higher grade levels. Patterns of attrition from grade to grade may persist and intensify such that the proportion of those entering who complete successfully remains the same or falls. Sustained gains in access through to the end of primary school may be elusive.
Third, over periods longer than about 5 years enrolments in these education systems tend to follow long-term trends that shadow the rate of growth of the age cohort. Where the underlying rates are above the growth rate of the age cohort then participation rates will improve and vice versa.

Fourth, more in-depth analysis of enrolment patterns is needed. Over-enrolment in Grade 1 can be a complex phenomenon. Underage as well as overage children may be enrolled in Grade 1. Substantial numbers may be enrolled for two years or more as a result of repetition and underage initial enrolment leading to inflated estimates of dropout, as is argued to be the case in South Africa (Crouch 2005). Changing practices on promotion from grade to grade can alter flow patterns, create bottlenecks, and have an impact on age-in-grade progression.

Fifth, though the growth profiles have common features for the three countries chosen, and some other countries have similar patterns, e.g. Kenya (Somerset 2009), other SSA countries have very different patterns, e.g. Ghana (Akyeampong 2009). Translation of the patterns discussed into policy dialogue therefore needs grounded analysis at the country level.

**Patterns of enrolment by age in grade**

Across SSA GERs average 97%. NERs, which only count those of primary school age in school, are much lower and average about 70%. Though some of those enrolled are underage, far more are overage. Overage enrolment is the main reason for the differences between GERs and NERs.

Data on Gross Intake Rates\(^8\) (GIR) indicate that these average 113% in SSA with 23 countries exceeding 100% and five more over 90%. By comparison average Net Intake Rates\(^9\) (NIR) average only 48%, with only two countries exceeding 90%. Thus

![Enrolments by year and grade in Malawi, Grades 1–8.](image)

*Figure 9. Enrolments by year and grade in Malawi, Grades 1–8. Source: EMIS data collated by E. Kadzamira.*
many children enter primary school late. Many also repeat grades compounding age/grade slippage arising from late entry. Grade by grade repetition rates average 15% in each year (UNESCO 2008, 298) in SSA, suggesting that most children will repeat at least once during their school career, and thus be at least one year overage. A further cause of age/grade slippage relates to interrupted schooling as a result of migration, civil unrest and other instabilities. Children who miss substantial amounts of schooling may be readmitted to the grade they left or even the grade below, independent of their age.

Age-in-grade patterns in SSA vary greatly. Figure 10 shows the patterns for five countries. In Ghana those in Grade 1 vary in age between 4 and 11 years old. In Grade 6 the range is 9 to 16 years. At lower secondary (junior secondary school) the age range appears less and most are in the range 11–16 years. There appears to be a bulge of enrolments in Grade 9 which is likely to be related to the selection examination for senior secondary school. In senior secondary, children may be as young as 14 and as old as 20 years old. Kenya has a similar pattern. However, the variation in age within grade appears even wider through primary school. As in Ghana it is very wide at secondary level. Lesotho has a different pattern with much higher attrition with age. It is also clear that age-within-grade ranges are high. The pattern in Malawi shows high attrition in higher grades and a bunching of children in Grades 7 and 8 close to the examination selection point. Those who enter secondary have a narrower range of ages. Lastly Mauritius illustrates the pattern in a country where most children are within a single year of the same age within a grade.

There are several reasons why age-in-grade relationships are important. First, delayed entry to school almost certainly disadvantages children, especially where late entry is associated strongly with poverty. Those entering later are usually from the poorest households with the least cultural capital and least ability to pay the costs of pre-schooling. They are also disproportionately likely to suffer disadvantage from poor health and nutritional status, so they may be doubly disadvantaged. This is likely to increase the probability of dropout before completion.

Second, primary school curricula are generally not purposefully multigraded (Little 2006). All children in a grade receive the same curriculum independent of their level of cognitive development. With wide ranges in age the natural variation in capability within an age group is overlaid on that which stems from age-related cognitive development. Monograde curricula assume learning readiness across class groups of children who can progress at the same pace. Wide age-in-grade ranges with monograde learning and teaching seem likely to increase the chances of failure and dropout of those much overage for their grade. Amongst the reasons will be repeated failure to succeed and the effects this may have on motivation; social tensions arising from different levels of maturation in the same group with older less capable children alongside younger peers; and pedagogies that may be suited to one age group necessarily being experienced by children in other age groups.

Third, being significantly overage almost certainly has adverse effects on girls’ participation where cultural practices give preference to boys’ schooling, young ages of girl marriage are common, and puberty occurs whilst still in the primary grades. Two patterns exist in low-enrolment countries. In the first, fewer girls enter school than boys in Grade 1 and differences in enrolments persist through the primary grades. This problem has to be addressed at the point of entry with incentives to enrol girls and public campaigns to change attitudes. The second pattern occurs where enrolments of boys and girls in the lower grades are at parity or better. As
Children get older differential rates of dropout occur. This is often correlated with puberty and is especially prominent in secondary schools in many low-enrolment countries. Part of the reason is related to girls being overage since older boys tend to persist longer in low-enrolment school systems than older girls. If all girls progressed on age for grade a significant proportion of the enrolment differences up to age 14 would disappear. The solution is to ensure initial entry as close as possible to the official age and organise learning and teaching in ways that do not result in excessive age-in-grade slippage.

Fourth, for different reasons some middle level enrolment education systems face problems in retaining overage boys. In Southern Africa, parts of South Asia and in the

Figure 10. Age in grade in five countries.
Caribbean, girls consistently out-enrol boys. Above a ‘tipping point’ it is boys who differentially drop out, usually in the early secondary grades. Overage boys may experience rising opportunity costs which pull them out of school where income earning livelihoods are available. Boys may also be more likely to truant and consider school curricula irrelevant. The more overage they are, the more compelling these motivations may be.

Fifth, in many low-enrolment systems low-achievers are held back from final year primary school leaving examinations where schools are judged by league tables of pass rates. Blocking progress through to the last grade may discourage overage children from remaining enrolled as it becomes clear that they have little chance of gaining access to secondary schools.

Patterns of participation by household income and gender
Patterns of participation at primary and secondary level are often closely related to household income. The Demographic and Health Surveys (DHS) data sets allow some analysis of these patterns and indicate to what extent poverty marginalises large proportions of populations from participation. If households in these data sets are divided into the richest 20%, and the poorest 40% then children from the richest 20% of households in SSA have on average more than six times the chance of reaching Grade 9 than those from the poorest 40% of households. Gender is less important in explaining differences in enrolment. Amongst the richest 20%, boys are more likely to be enrolled with the ratio of 53% to 47% in Grade 9. Amongst the poorest 40%, the boys/girls ratio is only slightly worse (55%/45%). Urban children have about 4 times more chance of being enrolled in Grade 9 than rural children in the data set.

Patterns of participation by wealth and gender vary between countries (Figure 11). In Ghana differences related to wealth are relatively small throughout the primary grades, as are those for gender. Attrition accelerates in the secondary grades and differences increase in junior secondary school. In Uganda poor girls are more disadvantaged than other groups on entry, and household wealth differences are more important than in Ghana, especially at higher grade levels. In Mozambique there are large differences in participation from Grade 1, linked to household income, and large differences related to gender. Attrition is high throughout the primary grades. In Tanzania rich girls out-enrol rich boys but the opposite is true of poor girls. The effects of low transition into secondary grades are very striking. In Malawi wealth is important from Grade 1 and poor girls appear especially disadvantaged. Attrition in participation is rapid. In contrast, in Kenya almost all enrol through to the mid-primary grades, above which wealth becomes important. Within income groups girls and boys enrol almost equally.

The Gender Parity Index (GPI) is used to measure gender disparities in education. At primary level 35% of countries in SSA have gender disparities in GER inside the range GPI 97–103, which is generally considered to represent parity. A further 18% of countries fall within GPI 94–106. Thus over half of all countries have primary
gender disparities better than 47%/53%. At secondary level about 27% fall inside GPI 97–103, and a further 9% within GPI 94–106.

Analysis of GPIs shows that very few countries in SSA achieve gender equity at secondary level unless participation is greater than GER2 50%. The countries that do are ones that have special circumstances and are mostly in Southern Africa. Almost all those countries with secondary GERs over 50% have more girls than boys enrolled at secondary (Figure 12).

The GPI is more favourable to girls at primary than at secondary in all but five countries in SSA. These five are generally higher enrolment countries and have gendered migration patterns (Figure 13). In general GPI primary is not correlated with
GPI secondary in a systematic way, suggesting that differences reflect policy choice. Gender equity at primary and secondary level is a MDG. Achieving this goal almost certainly requires secondary enrolment rates to increase (Lewin 2007b).

Many different patterns of enrolments by gender are evident. In some countries (e.g. Tanzania) boys and girls enrol equally through the primary grades and different
rates of dropout begin to appear during secondary schooling. Selection to secondary may result in girls and boys being selected in proportion to their numbers in the last grade of primary or may result in more boys (e.g. Malawi) or more girls (e.g. Ghana) relative to the number of candidates. In other cases girls may be excluded disproportionately from Grade 1 (e.g. Mozambique).

More nuanced patterns also exist. Girls may be excluded more than boys from Grade 1 but girls who do enrol may persist more than boys. This was the case in Kenya for a period (Somerset 2007). Similarly girls may enrol younger on average (e.g. Ghana), and even outnumber boys at particular age levels (e.g. Tanzania). As noted above, being overage as a girl, especially at secondary level, generally appears to increase the probability of being excluded. Paradoxically, in some systems girls who remain enrolled in higher grades have average ages which exceed those of boys (e.g. Kenya). This may in part because of the greater opportunity costs of boys remaining in school. Not only that, in systems where equal numbers of boys and girls enrol in Grade 1, girls may out-enrol boys in higher grades above a ‘tipping point’ where dropout of boys results in a GPI above 1 (e.g. South Africa, Lesotho, Namibia).

Thus patterns of enrolment related to gender are complex and differentiated by context. It follows that efforts to reduce differences in enrolment rates at different levels will also need to take different forms in different countries.

**Concluding remarks**

This paper has presented insights into changing patterns of access to education in SSA. It is important to understand these patterns, and to link these to country contexts if policy dialogue is to be based on robust assumptions. Several conclusions stand out.

First, access to education needs to be broadly conceived if it is to be used as a focus for domestic policy and to targets which shape policy and practice. Simple definitions of enrolment need to be accompanied by a broader vision which includes entry and progression at an appropriate age, regular attendance, satisfactory achievement, appropriate chances to progress to post-primary, and more equitable distribution of opportunity.

Second, SSA is far from homogeneous in the progress it has made towards greater levels of participation. Patterns of enrolment by grade produce at least five common patterns which are very different from each other and constitute different starting points for future development.

Third, the use of GERs and NERs to set targets has some value but can also provide very misleading indications of progress. At the very least, grade by grade GERs and NERs should be used to distinguish between radically different patterns of enrolment by grade.

Fourth, enrolments by grade have not grown as anticipated in a number of SSA countries. Massive gains in enrolment in Grade 1 have not been matched by similar increases in higher grades in subsequent years. This is of considerable concern since despite expansion it means that many children still fail to complete a full cycle of basic education.

Fifth, the range of children’s ages within grades remains wide in many SSA countries. National curricula and pedagogy in SSA remain essentially monograde in their assumptions. Wide age-in-grade ranges are likely to disadvantage the already disadvantaged (e.g. the poor, late entrants, girls, learners with disability) and lead to dropout before completion.
Sixth, household income remains a powerful determinant of progression to Grade 9 and beyond. It is more significant than gender or location for most populations in SSA. Higher rates of enrolment are associated with greater gender equity and few SSA countries succeed in approaching gender equity until their primary GERs are over 100% and secondary GERs exceed 50%.

Seventh, the patterns of growth that are observed are not always those that are anticipated by commitments to EFA and the MDGs. They also may have few historical precedents. The countries that massified their education systems in the nineteenth and twentieth centuries did so under very different conditions with little external assistance. The analyses do suggest that education systems evolve in response to national and international policy initiatives, but that these initiatives can have transient effects that disappear as longer-term trends become more influential. However, simple conclusions that are removed from particular country contexts are difficult to draw.

If an expanded vision of access to education is adopted, and access to basic education is to become universal, then policy and practice must address the implications that arise from analysis of past achievements. Sustained gains in access broadly conceived require a dynamic appreciation of education systems as systems embedded in different national contexts with many internal interconnections. Both supply-side and demand-side approaches to improving access are needed for different systems at different stages of development. And development partners need to appreciate that quick fixes are often just that, quick but not sustainable. Sustainable gains in patterns of access are determined by many things that extend beyond simple mono-dimensional policy interventions. Planning is needed that takes a more realistic and differentiated view of pathways to greater access, and which builds on insights from the last two decades of effort. International policy initiatives are needed and can be useful. But some experience suggests their impact is not always benign or benevolent.

Notes

1. The MDGs include two specifically educational goals – universalising access to basic education and gender equity in primary and secondary education - and many others that imply increased access to education (Lewin 2007b) EFA has six associated targets (See UNESCO 2008).
2. CREATE is based at the Centre for International Education, University of Sussex and is funded by the Department for International Development. See www.create-rpc.org.
3. These parameters are typical of poor countries with low primary enrolments.
4. GER= those enrolled in primary of any age/those in the primary age group.
5. In each chart the y axis is the Grade Specific GER generated by comparing enrolments in each grade with the number of children in the population of the age appropriate to the grade. The x axis is the grade.
6. A GER for primary schooling uses the enrolments for primary grades and the population of 6–11-year-olds or another appropriate age depending on the system. Grade-specific GERs compare enrolments within a grade with the population of children of the age appropriate to that grade.
7. i.e. those enrolled in primary of primary age/those in the primary age group.
8. i.e. the numbers entering Grade 1 divided by the number in the age group for Grade 1.
9. i.e. the number entering Grade 1 of the correct age.
10. Demographic and Health Surveys are available for many countries. The latest data available have been used in this analysis drawn from 25 SSA countries. Wealth is ranked by the top 20%, middle 40% and poorest 40% of households in the charts.
11. Based on median values across the 26 countries in the data set for highest level of participation amongst 15–19–year-olds.
12. i.e. Gross Enrolment Rate for Girls/Gross Enrolment Rate for Boys.
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