A REPORT ON OUT-OF-SCHOOL CHILDREN IN ESWATINI

MINISTRY OF EDUCATION AND TRAINING

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INTRODUCTION

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The conceptual and methodological framework for analysing dimensions of exclusion was developed by UNICEF and UIS in 2011. The first five dimensions refer to children of pre-primary age who are not in pre-primary or primary school (Dimension 1), children of primary age who are not in pre-primary, primary or secondary school (Dimension 2), children of lower secondary age who are not in school (Dimension 3), children in primary school at risk of dropping out before completing primary school (Dimension 4), and children in lower secondary school at risk of dropping out before completing that phase (Dimension 5). For this study, two dimensions are added: children of senior secondary age who are not in school (Dimension 6); and children in senior secondary school who are at risk of dropping out (Dimension 7). While Dimensions 1, 2, 3 and 6 can be quantified directly from survey or census data, children at risk of dropping out (Dimensions 4, 5 and 7) need to be identified in a different manner. The methodology adopted is to investigate the behaviour of previous cohorts of children to see what proportion of those in each school phase dropped out before completing the phase and using this as indicative of what proportion of the current cohort would be at risk of dropping out.

SOME DATA ISSUES

Eswatini is fortunate to have a good education management information system (EMIS) that captures data well and presents an excellent analysis of the data in **annual education census** reports, but survey and census data sources are also needed. Data from the 2017 Census will only be available for analysis later. After considering alternatives it was decided to use Census 2007. As the census is so dated, the methodology usually employed to analyse out-of-school children was expanded to also utilise the EMIS data in combination with population projections. This made it possible to derive estimates of out-of-school children by subtracting enrolment from population estimates but raised a question of which population projections to use for 2016. Two possible population projections were available: the population projections by the Central Statistical Office (CSO) and those by the United Nations Population Division (UNPD). UNPD estimates for 2016 are around 20% higher than the CSO

estimates. CSO population estimates for 2016 give out-of-school estimates that are low, thus when enrolment figures are subtracted from the population estimates this would tend to under-estimate the extent of out-of-school children. On the other hand, the UNPD figures appear far too high and are thus not used. Instead, the CSO figures, which are the official ones, are used and in addition a **high population estimate** is also presented to give some indication of a possible upper limit to the out-of-school estimates (discussed further below).

CSO did not adjust Census 2007 figures for undercount. The mid-2007 CSO estimate was 1.020 million, against the 1.138 million of the UNPD, 11.6% larger. Differences in mortality and fertility assumptions account for part of this gap. The UNPD estimates assume 18% growth over this nine-year period, as against only 11% that the CSO estimate implies.

Those most likely to have been excluded during undercount include children who are "invisible" or "semi-visible". UNICEF's so-called visibility model (UNICEF, 2015: 17, 37) emphasises that children are captured in official data with differing levels of precision. **Visible out-of-school children** can be identified using education data. These are typically dropouts, who had earlier been recorded in education data. **Semi-visible out-of-school children** are children who can be found through cross-referencing of government databases and include unrecorded dropouts and out-of-school children who never enrolled in school. Finally, **invisible out-of-school children** are children who have not been recorded in any official databases and who are often the most vulnerable and disadvantaged.

It is likely that any population undercount would disproportionately undercount out-of-school children, particularly the invisible and semi-visible ones. If that is the case, the 2007 Census data probably gives a somewhat optimistic picture of the out-of-school phenomenon at that time.

How large could census undercount and under-estimation of population in the projections be? Using UNPD projections with EMIS enrolment numbers would imply that almost 48 000 primary school-aged children were out of school in 2016, almost double the 25 000 recorded in the 2007 Census, implying almost 220% of children were out of school in 2016, compared to the 14% recorded in 2007. It is unlikely that the proportion of primary-aged out-of-school children would have increased so dramatically, particularly considering the implementation of free primary education (FPE) in the intervening period.

On the other hand, the number of primary-aged children has hardly increased between 2011 and 2016, growing by only 400 to almost 171 200. Total primary enrolment increased much more, from 213 986 in 2000 to 232 572 in 2007 and then 237 992 in 2011 before declining marginally to 237 088 in 2016. Clearly, there appears to have been more rapid growth of primary enrolment (and presumably also the primary-aged) before 2011, whereafter the slackening off became even more prominent. If enrolment growth since 2007 is considered against the 11% growth of the school-aged population over this period that CSO projected, it is clear that only limited progress has been made in attracting a greater proportion of primary-aged children into school.

Considering the above, this report presents the CSO data and the implied out-of-school numbers as the official level, but with a caution that the failure to incorporate any provision for an undercount in the 2007 Census and the CSO population projections based on the census, may mean that out-of-school numbers may be underestimated.

SEVEN DIMENSIONS OF EXCLUSION

Estimates for 2007 based on the census

Comparing CSO population estimates with enrolment numbers shows that most children in Eswatini enrol in school around age 7 and stay in the system until age 16. Only thereafter is there a large drop in enrolment. Out-of-school children thus only seem to be a problem among adolescents aged 16 to 19. The census is the only possible source of information of **Dimension 1**, i.e. that part of the population aged 5 who are not in early childhood care, development and education (ECCDE). This was almost 10 000 children in 2007, 44.8% of the age group. The largest out-of-school category in 2007 was amongst primary school-aged children (6 to 12), almost 25 000 (**Dimension 2**). This was before the full introduction of FPE. Another approximately 11 300 lower secondary-aged children (13-15) were out of school (**Dimension 3**), as well as about 13 800 senior secondary-aged children (16-17) (**Dimension 6**).

The risk of dropout at all school phases was still quite high according to Census 2007. It must be kept in mind though that these risks could only be assessed by extrapolating from experience of older age cohorts: as circumstances have changed considerably since 2007, these estimates may be too high.

Estimates for 2016 based on EMIS and CSO population projections

If the EMIS enrolment numbers for 2016 are subtracted from the CSO population projections for the same year, out-of-school numbers in 2016 would be quite small compared to the 2007 Census data: about 11 300 primary-aged children (**Dimension 2**), 6 500 lower secondary-aged children (**Dimension 3**) and 6 400 senior secondary-aged children (**Dimension 6**) would then be out of school. These are quite low numbers compared to the 2007 Census and, if accurate, would imply that the nature of Eswatini's out-of-school children problem is not that children never enrol, but rather that children remain in the early phases of the school system for far too long, and are thereby at risk of dropping out before reaching higher grades. It is not possible to estimate the at-risk numbers for 2016 using the same methodology as used for the census,[1] but applying the 2007 Census proportions to the enrolment numbers in each of the school phases would imply that about 54 500 are at risk of dropping out of primary school (**Dimension 4**), 23 600 out of lower secondary **(Dimension 5**) and about 8 275 out of senior secondary school (**Dimension 7**). These estimates imply that Eswatini's out-of-school children problem is more severe along Dimensions 4, 5 and 7 (those at risk of dropping out) than Dimensions 2, 3 and 6 (school-aged children who are not in school).

The population size **in each school-age cohort** is just over 5 000 higher in the UNPD population estimates than in the CSO estimates. That seems unrealistically high, as it would imply that the estimates for Dimension 2 (ages 6 to 12, i.e. 7 cohorts) would be more than 30 000 higher, for

[1] The UNICEF manual suggests that this proportion should be calculated as the number of pupils in the last grade of a school phase (e.g. primary) divided by the number of children in the first grade of that phase. However, if there are high rates of repetition in either of these two grades, this method would over-estimate the real risk of dropping out before completing the phase. Moreover, it does not consider high failure rates in the final grade of a phase due to external examinations.

Dimension 3 more than 15 000 (3 cohorts), and for Dimension 6 more than 10 000 higher (2 cohorts). These are large numbers, much larger than in Census 2007 even in Dimension 2. Such a rise in numbers of out-of-school children amongst primary-aged children during the period that FPE was introduced seems particularly unlikely, casting doubt on the large population estimates of the UNPD.

Table i: *Estimates of dimensions of exclusion based on Census 2007 only and on EMIS and CSO population projections*

DIMENSION		CENSUS ONLY (2007)		EMIS + CSO PROJECTIONS (2016)	
		NUMBER	% OF REFERENCE GROUP	NUMBER	% OF REFERENCE GROUP
1	Pre–primary aged not in school (age 5)	9 824	45%	n/a	n/a
2	Primary aged not in school (age 6–12)	24 981	14%	11 347	6%
3	Lower secondary aged not in school (age 13–15)	11 286	15%	6 542	8%
4	In primary school and at risk of dropping out before completing this phase	n/a	23%	54 530	23%
5	In lower secondary school and at risk of dropping out before completing this phase	n/a	34%	23 601	34%
6	Senior secondary aged not in school (age 16–17)	13 837	29%	6 352	12%
7	In senior secondary school and at risk of dropping out before completing this phase	n/a	25%	8 275	25%

Notes: The first two sets of data are based on census data only for 2007. Except for the at-risk categories (Dimensions 4, 5 and 7), the 2016 estimates were obtained by subtracting EMIS numbers from the projected population. For the at-risk categories, the proportions in 2007 were maintained and applied to 2016 enrolment numbers.

Source: Own calculations using Census 2007, population projections and EMIS 2016

PATTERNS OF ENROLMENT AND FLOWS OF PUPILS THROUGH THE SYSTEM

There is a large drop in enrolment between Grade 6 and 7, between Form 2 and 3, and between Form 4 and 5. This could be due to repetition or dropout, or a combination of the two. The pseudo survival rates (that is, the number of learners enrolled in Form 5 as a proportion of those enrolled in Grade 1) are low: 45% for Hhohho, 31% for Lubombo, 41% for Manzini and 38% for Shiselweni. This indicates that pupils from the Lubombo region are most at risk of being excluded from education.

BARRIERS AND BOTTLENECKS

Repetition and dropout are serious problems throughout the system, and even more so as children become older. Moreover, high repetition rates add considerably to the likelihood of dropout. Many children also start school late in Eswatini, which, combined with high repetition rates, leads to the majority of learners in the system being overage. The proportion of overaged learners in each grade increases in higher grades.

FPE has increased the demand for education in Eswatini. However, when children are somewhat older, the opportunity cost of their being at school rather than being active in the household to assist with agricultural activities or household chores becomes a greater issue for some parents. If in addition education also becomes costly at secondary school level, it makes further education less attractive. This is particularly the case in households involved in subsistence activities.

It does not appear that the supply side (providing enough schools across the country) is a major problem. However, a related acute problem in Eswatini is inadequate availability of well-trained teachers. The Ministry has argued that a shortage of appropriately qualified teachers is a major cause for concern (MoET, 2011: 41).

CONCLUSION AND RECOMMENDATIONS

Early childhood development

What is clear from the available data is that far too many children in Eswatini fall under Dimension 1. Access to ECCDE is still very low and very uneven, and the quality of the care in these facilities is generally weak. In general, ECCDE receives little state support, is very underdeveloped, expensive and poorly attended.

- **RECOMMENDATION 1:** *MoET should devote more attention to monitoring ECCDE in community-based facilities to ensure that the health and education needs of young children receive adequate attention and that they enter school better prepared than is currently the case.*
- **RECOMMENDATION 2:** *The low coverage of ECCDE in Shiselweni, and to some extent also Lubombo, should be investigated with a view to implementing remedial measures, which may include subsidies to these regions.*
- **RECOMMENDATION 3:** *MoET should implement its plans for Grade 0 without delay and government should allocate the fiscal resources to make this possible.*

Primary school

- **RECOMMENDATION 4:** *Make primary schools more attractive by providing health support while continuing to provide a nutritious meal as part of the school day.*
- **RECOMMENDATION 5:** *Ensure there is capacity for all children to enrol in Grade 1 at the appropriate age (six years) and encourage parents to do so.*
- **RECOMMENDATION 6:** *The restriction on repetition in each grade in a school should be seriously implemented. Considering current high rates of repetition, it appears better to initially set a limit for repetition at not more than 10% (rather than the current 5%) of children in a single grade in a school, and then to implement this. Once this is fully achieved, a further restriction should be introduced that children should not repeat more than one grade in a school phase.*

This would initially have the effect that more children get promoted to higher grades without having adequately mastered the material of the previous grade. This will require attention to the quality of education provided in primary school, as well as a remedial education programme for learners who would previously have been held back. Doing so would mean that teachers and principals give more serious attention to which children should be promoted or held back, and that those at risk of repetition are identified for remedial attention. This would ideally lead to greater attention to the causes of weak learning in the first place.

- **RECOMMENDATION 7:** *The performance of schools in the system-wide examination in Grade 7 should be assessed, taking into account not only how children perform in the examination but also how successful it each school has been in promoting children to higher grades.*
- **RECOMMENDATION 8:** *To minimise the possible negative impacts of more lenient promotion policies, serious attention must be given to steps to improve the quality of teaching and to provide remedial support to children who have difficulties.*
- **RECOMMENDATION 9:** *MoET should set in place a strong programme of pre-service and in-service training and coaching for teachers on how to teach reading.*
- **RECOMMENDATION 10:** *Graded readers should be made available in all junior primary classrooms.*

International research points to a structured and systematic approach to teaching reading as best, particularly for children from poor backgrounds. In order to teach reading properly, teachers should be trained in how to use resources like graded readers and big books.

Secondary education

Many children never reach secondary school even if they stay at school for a large number of years, because of excessive repetition. Further, many older children who reach secondary school drop out easily when they must repeat again. Two further factors that impact on children dropping out of secondary school are the financial and opportunity costs, and pregnancy amongst girls.

- **RECOMMENDATION 11:** *The Ministry should act against principals of schools who do not implement the policy of not allowing excessive repetition.*
- **RECOMMENDATION 12:** *Information should be made available to schools and to the community at the same time as the SGCSE (Form 5) examinations as to the number and proportion of children in a school who entered in Form 1 and successfully completed Form 5 five calendar years later.*
- **RECOMMENDATION 13:** *Free secondary education should be phased as budgetary constraints allow.*

Given budgetary constraints, this would have to be phased in in much the same way as FPE was, for example by first making Forms 1 and 2 free and then applying the same policy to the senior secondary grades. This will help address the financial constraints to completing secondary education in Eswatini.

- **RECOMMENDATION 14:** *School principals, teachers and communities should be informed that the policy of allowing pregnant girls to return to school is government policy and would be strictly enforced.*
- **RECOMMENDATION 15:** *The sexual information and education campaigns that form part of the life skills curriculum should be strengthened to assist in further reducing teenage pregnancies.*

General education

- **RECOMMENDATION 16:** *Eswatini should continue to take part in the Southern Africa Consortium for Monitoring Education Quality (SACMEQ).*
- **RECOMMENDATION 17:** *Eswatini should also participate on a regular basis in other appropriate international assessments, including the Progress in International Reading Literacy Study (PIRLS) literacy (aimed at Grade 4 children in developing countries) and the Grade 4 Trends in International Mathematics and Science Study (TIMSS), the version of TIMSS aimed at developing countries.*
- **RECOMMENDATION 18:** *Eswatini should apply to the Organisation for Economic Cooperation and Development (OECD) to become part of the Programme for International Student Assessment (PISA) for Development (also called PISA-D), an international assessment programme for 16-year-olds that expands the well-known PISA assessment but is designed for a developing country context.*
- **RECOMMENDATION 19:** *In addition to participating in international assessments in order to measure Eswatini's progress amongst its peers, it is also necessary to undertake on an annual basis a large scale systemic test of reading fluency and reading for meaning at the end of Grade 3. Financial support for this can be sought from Eswatini's development partners.*

OTHER GENERAL ISSUES

EMIS is doing excellent and important work to measure aspects of the education system in Eswatini. This should be strengthened and expanded insofar as that is possible.

- **RECOMMENDATION 20:** *EMIS should be enabled to collect quality data on ECCDE on an annual basis, given the inadequate information that is currently available on this important matter. This would require additional resources.*
- **RECOMMENDATION 21:** *EMIS personnel should receive training to enable them to link data over time and across different fields, so that time trends and data for further analysis can more readily be extracted. The development partners should be requested to provide financial support for such training.*
- **RECOMMENDATION 22:** *EMIS identifiers should be linked to the examination data for ease of analysis.*
- **RECOMMENDATION 23:** *CSO should be requested to consider all necessary steps to account for possible undercounting in the census and to ensure the best possible population projections for purposes of planning. Projections should be regularly adjusted as new information becomes available.*

Uncertainty about the numbers of children that are not at school create difficulties for MoET in analysis and implementation of policies. It is essential to have data and projections that can be used with confidence. This requires that CSO takes steps to implement a good post-enumeration survey after the 2017 Census to allow for undercount and also for adjustment for future population projections.

1. INTRODUCTION

THIS REPORT

This report investigates both the magnitude and the nature of the problem of out-of-school children in Eswatini, considering out-of-school children in the primary, lower secondary and senior secondary phases of schooling. The objective of this report is to identify and consolidate the main issues regarding out-of-school children in Eswatini. Its main purpose is to inform further systematic research into this issue of out-of-school children in Eswatini, but also to consider other related issues. Such research is the focus of the UNICEF-UIS Global Initiative on Out-of-School Children. This report is based on an overview of the existing literature as well as analysis of available quantitative data sources.

LIMITATIONS OF THE PRESENT STUDY

Apart from the specific data issues raised elsewhere in this report, this study is further subject to a number of limitations that stem largely from the nature of the available data.

Firstly, the reported dropout patterns may not be a true reflection of the nature of dropout in Eswatini. This is due to the fact that the education management information system (EMIS) only captures total enrolment and cannot tell whether a child who drops out in one grade enrols again in a later grade. It is assumed in the estimates that those who drop out never return to the system, though those who drop out at one stage return to school (so-called "interrupted schooling") at a later stage. Data that follow individual learners as they move through the education system would allow one to overcome this limitation in future.

Another major limitation that plagues many of the findings of this report is that it does not incorporate qualitative data and therefore cannot account for some of the more specific reasons behind individual children being out of school. The report provides only a snapshot image of the magnitude and nature of the out-of-school problem, based on EMIS and census data, and therefore cannot present an in-depth understanding of the specific reasons for children not being enrolled in school.

The report attempts to get some idea of the reasons for children being out of school by considering possible reasons for dropout. To this end its makes use of teacher reports of the reasons behind learners dropping out, however doing so presents its own limitations since such reports from teachers may not always be accurate. This is especially problematic for children who drop out of school after completing primary school, since their teachers may not be aware that they dropped out. This may especially be the case for the low numbers of children reported as dropping out due to school fees in Grade 7, since attending Form 1 comes with a financial burden that is absent from primary school attendance.

The report also attempts to identify some of the reasons for dropout using multivariate analysis. However, this too presents its own limitations. Learners who are at risk of dropping out are identified by considering the characteristics of past cohorts who have dropped out of school. This type of analysis assumes firstly that the characteristics considered of adults who are no longer in school were the same when they attended school, and secondly that the factors contributing to dropout in previous cohorts still contribute to dropout today. The accuracy of these estimates for learners who are at risk of dropping out therefore depends on the validity of these two assumptions. For example, it is possible that people move to different regions as adults in search of work. The region reported for the adults in this analysis would therefore be different from the region where they resided as children. The analysis does not make provision for this kind of migration between childhood and adulthood and could therefore fail to reflect the true characteristics that are associated with dropout. Data that follows individual learners over time would once again pose a possible solution to this problem.

In general, future research would do well to make use of qualitative data (for example captured through nationally representative surveys) to better interrogate the reasons behind individual learners dropping out of the education system. However, the collection of such data is a very resource intensive process. Policy makers and practitioners could first implement the changes proposed in this report, despite the limitations discussed here, before undertaking such a resource intensive exercise. The findings of the report contribute substantially to what is known about out-of-school children in Eswatini and constitute an important starting point for policy reform.

COUNTRY CONTEXT (GEOGRAPHIC, POLITICAL, SOCIO-ECONOMIC)

The Kingdom of Eswatini is a small, landlocked country in southern Africa with a population of 1.343 million. The country is bordered by South Africa and Mozambique. The region of modern-day Eswatini was first settled by early Swazi people during the period 1745 until 1780. The nation became a British protectorate after British victory in the South African War in 1903 and gained full independence from Britain in 1968. The monarchy was threatened by democratic political parties calling for political reforms in the late 1980s, followed by the first democratic elections in 1993. The current Eswatini Constitution was introduced in 2005, following continued student and labour protests for political reforms throughout the 1990s. The country remains an absolute monarchy with constitutional provisions. While the monarch appoints the Prime Minister and approves the Parliament, 55 out of the 65 Members of Parliament are elected by universal adult suffrage through the Tinkhundla electoral system.

With a GDP per capita of US$ 2 775, Eswatini is classified as a lower middle-income country. The majority of the population live in rural areas and 63 percent of the population lives in poverty. With a Gini coefficient of 0.50, Eswatini is also one of the most unequal countries in the world. Eswatini's economy is closely linked to South Africa's, owing in part to both countries' membership of the South African Customs Union (SACU). Eswatini receives about 90 percent of its imports from South Africa and sends about 70% of its exports there. The country enjoys relatively well-developed infrastructure, with roads linking it to South Africa. An established rail network makes it possible to export goods through the port of Maputo in Mozambique. Eswatini is the fourth largest producer of sugar in Africa and immense focus is placed on the sugar industry to boost economic growth.

Three-quarters of Eswatini's population is employed in low-productivity subsistence agriculture. This low productivity, in addition to repeated droughts and the devastating effects of the HIV/AIDS pandemic, have all contributed to low economic growth in recent years, even in comparison with Eswatini's southern African neighbours. Although Eswatini showed promising economic growth in the period 2002 to 2011, this upward trend was dramatically reversed in 2012, in the aftermath of the global financial crisis. The country's GDP has been steadily declining since then, from US$ 4.82 billion in 2011 to US$ 3.727 billion in 2016 (Eswatini, 2016). From a regional perspective, Eswatini *"is not only failing to catch up, but is falling behind countries which once had much lower growth rates"* (Marope, 2010: 1). Marope (2010: 1) ascribes this economic downturn inter alia to Eswatini's diminished attractiveness as an investment destination.

Government spending in Eswatini has been increasing steadily since the 1990s, adding to a growing budget deficit. Unfortunately, despite large portions of government expenditure going towards wages, transfers and subsidies, this spending has not benefited the poor as much as expected. One reason for this might be the large government sector in the country: the public wage bill comprised 15% of GDP and 55% of total public spending in 2010. These are some of the highest levels on the African continent. The Government of Eswatini spent 24.9% of its total budget on education in 2014. This is slightly higher than other countries in the region. 19.7% of South Africa's expenditure, for example, was allocated to education in 2013/2014 (Provincial Budgets and Expenditure Review, 2017: 34).

Eswatini has one of the highest rates of HIV prevalence in the world, estimated at one stage at 38.8% among the adult population (Poulsen, 2006: 48). Accordingly, life expectancy fell from 60 years in 1997 to 45 years in 2007, which is among the world's lowest (Nordtveit, 2010: 234), before recovering to around 56 years in 2015 (UNPD, 2017). In 2010, approximately half of young women in the 25-29 age group were infected with HIV, and their children therefore faced a high probability of being orphaned at a young age (Nordtveit, 2010: 234). There were already an estimated 200 000 orphans and vulnerable children in Eswatini in 2010.

THE EDUCATION SECTOR

Education access

In 1999, the Government of Eswatini articulated a long-term and broad development reform framework in the form of *Vision 2022* (Marope, 2010: ix). One major policy goal of *Vision 2022* was to accelerate economic growth in order to improve the quality of life for all Swazis. From the outset, the government has emphasised the critical role of education in achieving this goal. With the adoption of the new Swazi constitution in 2005, government committed itself to providing free primary education (FPE) to all children of school-going age (Khumalo, 2013b). This policy was to be implemented from 2009, with the ultimate goal of all children of school-going age being enrolled by 2015. However, implementation of the FPE goal was slow. Khumalo (2013b) explains:

> *"Civil society organisations had to pressurise the government for change, and, eventually, a protracted court case between the Swaziland National Ex-Miners' Association (SNEMA) and the government led to a court order that compelled government to roll out FPE in 2010."*

FPE has been implemented in a phased manner, starting in Grades 1 and 2 in 2010 and then moving to Grade 3 in 2011 and Grade 4 in 2012 (Khumalo, 2013b). FPE has succeeded in increasing access to education for all children, especially those who had previously been prevented from attending school due to prohibitive school fees (Khumalo, 2013b). Enrolment in primary school has steadily increased since the introduction of FPE.

Education quality

Despite these successes, the implementation of FPE remains fraught with challenges, such as limited infrastructure, inadequate learning facilities and issues related to the sustainability of FPE (Khumalo, 2013b). The system is also plagued by underpaid and unqualified teachers (Khumalo, 2013b). These challenges cast doubt on the system's capacity to provide quality education to all Swazi children. This is evidenced by consistently low levels of educational attainment, despite increased access to education. Even after the impressive gains in access to primary school discussed above, the average adult Swazi has still completed only 7.5 years of education (Khumalo, 2013b). This is the result of very low grade survival rates: while almost all Swazi children enrol in Grade 1, the primary school completion rate in Eswatini is only 60%, which is lower than in many neighbouring countries like Botswana (87%), Zimbabwe (81%) and Zambia (72%) (Khumalo, 2013b).

One reason for the low levels of educational attainment despite increased access rates is consistently high rates of repetition. Each year, about 15% of primary learners enrolled in each grade are not promoted to the next grade. This has resulted in a situation, according to the Ministry of Education and Training (MoET, 2015b: 20), where "*Although there have been improvements in the repetition levels, the situation has not improved much, there is still a high repetition of 37 698 learners. … the number of repeaters could take up a whole grade*".

Such high repetition rates result in many learners being overage: Khumalo (2013b) reports an alarming 74% and 88% of children in primary and secondary school respectively not being enrolled in the appropriate grade for their age. Repeated repetition also eventually leads to dropout: as learners fail to progress to higher grades, they grow frustrated and disinterested in school and eventually drop out altogether. The link between repetition and dropout is explored in more detail later in this report.

Repetition at school is a drag on the system and adds high costs. The 2013 EMIS report (MoET, 2013: 5) considered the cost of the FPE grant of E560 per Grade 1 child and estimated that the 40 370 primary repeaters in 2013 would have cost the state E23 million, without even considering personnel and other costs, or the fact that the Grade 1 FPE grant is the lowest of all grades. According to this report, this amount would be enough to set up 46 classrooms at a cost of E500 000 each, or to pay the salaries of 160 teachers with degrees for a year at E12 000 per teacher per month. For that reason, the report emphasises the need to investigate the reasons for the high repetition rates in primary schools.

These issues related to school quality seem to be contradicted by Eswatini's performance on international tests. Eswatini scored better in both reading and mathematics than all other SACU countries in SACMEQ 2007, a test conducted in 15 countries in southern and eastern Africa at the Grade 6 level. This performance does not seem consistent with a poor-quality education system. However, it is possible that Eswatini performed well on SACMEQ precisely because of its high repetition rates: a system with such stringent selectivity is bound to "weed out" weaker students by Grade 6, leaving only relatively well-performing learners in the system to participate in the test. Interesting also about the SACMEQ results in Eswatini is that there is not a sharp social gradient: the performance differential between the poorest and the richest quarter of children participating in the test is only around 20 points in mathematics and 40 points in reading (100 points is the standard deviation across all SACMEQ countries). In contrast, these differentials are a massive 120 and 180 in South Africa, and even in Botswana as high as 70 and 110 points for the two tests respectively (calculations based on Spaull, 2011). Thus Eswatini's performance in Grade 6 is encouraging in regional context both in terms of the levels of performance and the relatively good performance amongst children from poor households who reached Grade 6. However, this still leaves Eswatini far behind developed countries and Latin American middle-income countries.

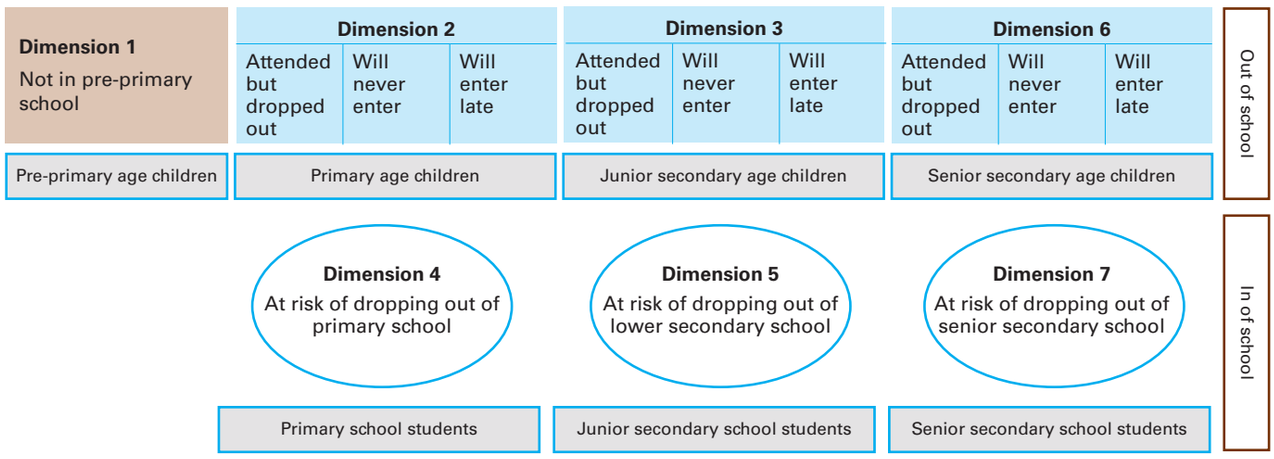
Inequality in Eswatini's education manifests itself in a different manner, though. Poor children in rural areas tend to have lower access, as well as fewer educational inputs such as qualified teachers, than their urban, wealthier counterparts (Marope, 2010: xxiii). This is evidenced in the higher educational attainment of urban dwellers compared to rural dwellers: while less than 30% of rural dwellers had completed Grade 9 in 2006, about half of their urban counterparts had done so (Marope, 2010: 32). Education, then, instead of having redistributive effects, contributes to the perpetuation and even perhaps deepening of existing social inequalities (Marope, 2010: xxiv), something that is widespread on the African continent.

INTRODUCTION TO THE SEVEN DIMENSIONS OF EXCLUSION IN ESWATINI

The conceptual and methodological framework was developed by UNICEF and UIS in 2011 as part of the Global Initiative on Out-of-School Children. This is an adaptation by UNICEF and UIS of a methodology developed by CREATE (Consortium for Research on Educational Access Transitions and Equity) and documented by Lewin (2007). Although the framework developed in 2011 comprises just five dimensions of exclusion, Eswatini preferred to assess seven dimensions of exclusion. The first five dimensions of exclusion refer to children of pre-primary age who are not in pre-primary or primary school (Dimension 1), children of primary age who are not in pre-primary, primary or secondary school (Dimension 2), children of lower secondary age who are not in primary or secondary school (Dimension 3), children in primary school at risk of dropping out before completing primary school (Dimensions 4), and children in lower secondary school at risk of dropping out before completing that phase (Dimensions 5).

For this study, which also includes attention to senior secondary school, two dimensions are added, as was also done in a recent study of out-of-school children in Namibia: children of senior secondary age who are not in primary or secondary school (Dimension 6); and children in senior secondary school who are at risk of dropping out (Dimension 7).[2] While Dimensions 1, 2, 3 and 6 can be quantified directly from survey or census data, those children at risk of dropping out (Dimensions 4, 5 and 7) should be identified in a different manner. The methodology adopted is to investigate the behaviour of previous cohorts of children (e.g. the youngest age group that has completed the grades in question), to see what proportion of those in each school phase dropped out before completing the phase and then using this as indicative of what proportion of the current cohort would be at risk of dropping out (UNICEF & UIS, 2014a: 13). The different dimensions of exclusion can be presented schematically as follows:

Dimensions of exclusion (derived from UNICEF and UIS, 2011)



[2] For the sake of comparability with other studies, the numbering of the first five dimensions remains unchanged with the addition of the additional two dimensions relating to senior secondary school, though according to the logic of the conceptual framework Dimension 6 should have followed after Dimension 3.

In Eswatini, children who turn six before the start of the calendar year qualify to enter Grade 1. However, as the 2007 Census, which will be used for much of the data analysis, was conducted in April and May, some Grade 1 children would already have turned 7. However, it appears that many Swazi parents send their children to school rather late, so new entrants in school are more often 7 than 6 years old. In 2015, for instance, there were fewer than 11 000 new entrants to Grade 1 who were 6 years old, as against more than 14 400 7-year-olds and another 5 200 who were even older when enrolling in Grade 1 for the first time. Thus, for the methodology, the official school ages will be used as the first option, with Grade 1 starting at age 6, but alternative calculations have also been undertaken for the situation when Grade 1 starts at age 7, though these calculations will not be shown here. Thus the pre-primary age is set to be 5, with 6 as alternative. The official primary ages are then taken to be inclusive ages 6 to 12 (Grades 1 to 7), lower secondary education ages 13 to 15 (Forms 1 to 3 or Grades 8 to 10) and senior secondary education ages 16 to 17 (Forms 4 to 5 and Grades 11 to 12). The alternative calculations have been done with one additional year added to all ages.

A final methodological caveat is in order: the method for determining the risk of dropout for lower secondary school, for example, is aimed at determining how many children '*have entered lower secondary school but fail to progress to the end of the cycle*' (Lewin 2007: 23). Yet this cannot be exactly determined from survey or census data for previous cohorts, as such data do not give an indication of whether a person had entered a certain grade, only whether he/she had completed it. Thus, for lower secondary, the assumption is made in these calculations that those of the cohort studied who had a highest completed grade of Grade 7 had not entered Grade 8 and failed, thus that those who entered and had not completed lower secondary were only those who ended up with Grade 8 or Grade 9 as the highest grade completed.

2. SOME DATA ISSUES

Before analysing the situation regarding out-of-school children in Eswatini, it is first necessary to address a few of the strong data limitations affecting such an analysis. A few such issues will be mentioned, particularly those that place serious restrictions on the accuracy of the estimates that are obtained, and thereby also constrain what analyses can be undertaken.

A study of this nature requires two types of data: good EMIS data and good and recent survey or census data. Eswatini is fortunate to have a good EMIS system that captures data well and presents an excellent analysis of the data in **annual education census** reports. There has been little time series analysis of these data, something that is also constrained by the fact that the EMIS section in MoET does not have the original data for the period before 2011. It is nevertheless possible to obtain a good picture of the Eswatini school system from the EMIS data, and of recent trends by linking data from different years (2011 to 2016).

The situation regarding survey or census data is not as positive. Part of the reason is timing: the 2017 Census was in the field this year and data will only be available for analysis with a lag. Other surveys that were potentially available were the SHIES **(Swaziland Household Income and Expenditure Survey)** dataset of 2010, but the Central Statistical Office (CSO) was only willing to provide a smaller sample of this survey. As the focus of much of the analysis is on specific age groups, smaller samples are often inadequate for parts of the analysis. For instance, where the focus is on the education levels obtained by 15-year old girls residing in a specific region. or the proportion of such girls who have already given birth, small samples are inadequate because of the large confidence intervals that they imply. The **Demographic and Health Survey** of 2006/7 is a good potential source of information, but it has a limited sample and is as old as the 2007 Census. Similarly, a few **Eswatini Multiple Indicator Cluster Survey (MICS)** are available. Though a good and extremely well-designed survey for the purposes it was required for, it was found upon inspection of MICS 2014 that the number of children in different school categories was too small for the required analysis and that it has few questions dealing with information on education.

Under these circumstances it was decided that Census 2007, with the limitations regarding the version of the data made available to the team, held the most promise. Unfortunately, the research team only obtained access to (approximately) a 5% samples of the census. This sample did not come with sampling weights, however, and there are concerns surrounding the representativeness of the sample. Upon further request the team was also given the full anonymised sample of children up to the age of 18. Part of the analysis required having data for ages below and above 18; in those cases, the team simply had to make some assumptions to splice the two parts of the census data.

From the age of 8 onwards, the 5% sample over-represents the percentage of children in school for each age category. For most of the analysis, it was possible to utilise the full sample. However, to assess at-risk children, it was necessary to consider older cohorts who had already passed through the schooling system. For this the 5% sample was used. While not 100% accurate, it provides the best alternative and the divergence between the two samples is not very large.

To assess at-risk children, it was necessary to define at what age individuals dropped out and what their highest qualifications were. This proved challenging because there are substantial inconsistencies between answers individuals provided on the different education questions. The questions, taken from the 2007 Census questionnaire (CSO, 2007), were the following, with categories of answers shown:

- **P16: Has [Name] ever attended preschool, school or literacy programme?**
  - *Has never attended, Has ever attended, Is currently attending.*
- **P17: What is the highest level of school or literacy programme [NAME] attended? And how many years of school did he/she complete at that level.**
  - *Levels: Preschool, Literacy Programme, Lower Primary, Standards, Secondary/High School, College, University*
  - *Years: Are dependent on the level but start at 0.*
- **P18: What is the highest qualification [NAME] attained?**
  - *None, Primary Certificate, Junior Certificate, O-level/GCSE, A-level/IB, Certificate, Diploma, Degree, Masters, PhD.*

From these categories the definitions shown in Table 1 were used to minimise inconsistencies yet to retain the most observations. These definitions were used to define the at-risk children into different categories.

As the census is so dated, the methodology usually used in analyses of out-of-school children was expanded to also utilise the good quality EMIS data in combination with population projections. This makes it possible to derive estimates of out-of-school children by subtracting enrolment from the population estimates but raised a question about which population projections to use for 2016. Two possible population projections were available: the population projections by CSO and those by the United Nations Population Division (UNPD). The problem is that these two potential sources of population estimates for 2016 give greatly varying results for the population in the age groups of interest for this study, i.e. children up to approximately age 19. Table 2 shows that the UNPD estimates for 2016 are around 20% higher than those of the CSO estimates, with particularly large differences in the age group 5 to 9.

Table 1: *Education category definitions*

SCHOOL CATEGORY	EVER ATTENDED OR ATTENDING SCHOOL (P16)	SCHOOL LEVEL ATTENDED (P17)	YEARS AT LEVEL (P17)	HIGHEST QUALIFICATION (P18)
None	Never Attended			
Preschool	Attending/Attended	Preschool		
Literacy Programme	Attending/Attended	Literacy Programme		
Incomplete Primary	Attending/Attended	Lower Primary or Standards		None
Complete Primary	Attending/Attended	Lower Primary or Standards		Primary Certificate
Incomplete Lower Secondary	Attending/Attended	Secondary School		Primary Certificate
Complete Lower Secondary	Attending/Attended	Secondary School	<= 3	Junior Certificate
Incomplete Senior Secondary	Attending/Attended	Secondary School	>3	Junior Certificate
Complete Senior Secondary	Attending/Attended	Secondary School	>3	O-levels, A-levels, College, Certificate, Diploma, Degree, Masters, PhD

Table 2: *2016 population in certain age groups according to two alternative population projections*

POPULATION PROJECTIONS	AGE				
	0-4	5-9	10-14	15-19	TOTAL: 0-19
CSO	151 020	133 487	129 494	127 480	541 481
UNPD	179 605	168 565	154 064	149 214	651 448
UNPD estimate exceeds CSO estimate by:	18.9%	26.3%	19.0%	17.0%	20.3%

Source: CSO, 2012; UNPD, 2017

The CSO population estimates for 2016 are low and when enrolment figures are subtracted from the population estimates this would tend to under-estimate the extent of out-of-school children. On the other hand, the UNPD figures appear far too high and are thus not used. Instead, the CSO figures, which are the official ones, are used and in addition a high population estimate is also presented to give some indication of a possible upper limit to the out-of-school estimates (discussed further below).

It is not fully clear what the source of the rather large discrepancy between the two sets of estimates is. For the base year (2007), CSO did not adjust the Census 2007 figures for possible undercount. This may be an important oversight, as there is usually considerable undercount in such censuses, and it is to be hoped that adjusting for undercount will receive attention after the 2017 Census. The mid-2007 CSO estimate was 1.020 million, against the 1.138 million of UNPD, 11.6% larger. In addition, differences in mortality and fertility assumptions between the two estimates also account

for part of this large gap. For 2016 the CSO estimate is 1.133 million, whilst the UNPD estimate is 1.343 million, 18.6% larger. The UNPD estimate assumes 18% growth over this nine-year period, as against only 11% that the CSO estimate implies.

Undercount is likely to have occurred, as in all censuses. Those most likely people to have been excluded during such undercount include children who are "invisible" or "semi-visible". UNICEF's so-called visibility model (UNICEF, 2015: 17, 37) emphasises that children are captured in official data with differing levels of precision. **Visible out-of-school children** can be identified using education data. These are typically dropouts, who had earlier been recorded in education data. **Semi-visible out-of-school children** are children who can be found through cross-referencing of government databases and include unrecorded dropouts and out-of-school children who never enrolled in school. Finally, **invisible out-of-school children** are children who have not been recorded in any official databases, and who are, as UNICEF notes, often the most vulnerable and disadvantaged.

It is likely that any population undercount would disproportionately undercount out-of-school children, particularly the invisible and semi-visible out-of-school children. If that is the case, the 2007 Census data probably presents a somewhat optimistic picture of the out-of-school phenomenon at that time, because of the undercount.

How large could census undercount and under-estimation of population in the projections be? If the UNPD estimates were correct and given EMIS enrolment numbers, it would imply that almost 48 000 primary school-aged children were out of school in 2016, almost double the 25 000 recorded in the 2007 Census, implying almost 20% of children were out of school in 2016, compared to the 14% recorded in 2007. It is unlikely that the proportion of primary out-of-school children would have increased so dramatically and would be so large, particularly considering the implementation of FPE in the intervening period.

On the other hand, enrolment of primary-aged children hardly increased between 2011 and 2016, growing by only 400 to almost 171 200. Figures by age group are not available for earlier periods, yet it is instructive to note that total primary enrolment increased much more from 213 986 in 2000 to 232 572 in 2007 and then 237 992 in 2011 before declining marginally to 237 088 in 2016. Clearly, then, primary enrolment (and presumably also the primary aged) appears to have grown more rapidly before 2011, whereafter the slackening off that was observed between 2007 and 2011 became even more prominent. If enrolment growth since 2007 is considered against the 11% growth of the school-aged population over this period that CSO projected, it is clear that little if any progress has been made in attracting a greater proportion of primary-aged children into school.

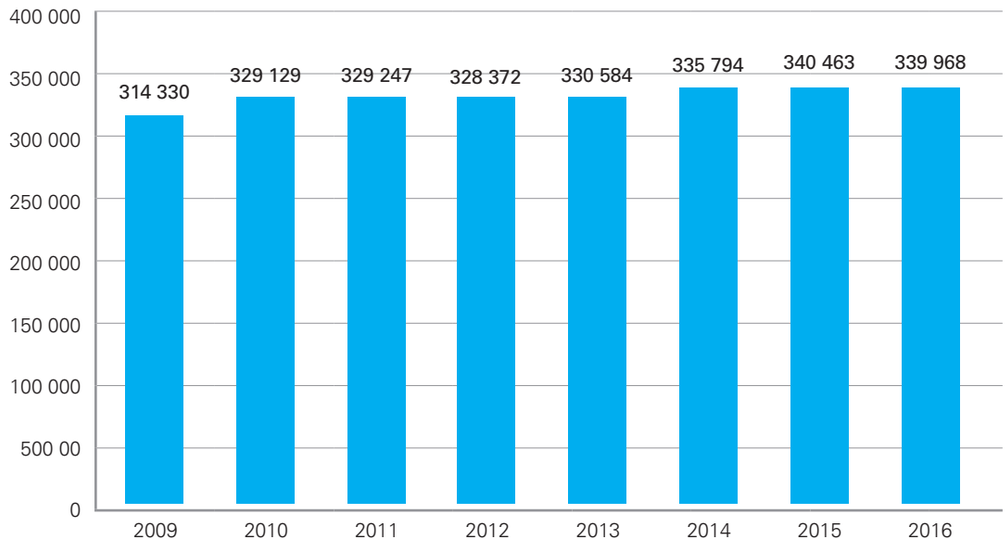
Considering the above, this report presents the CSO data and the implied out-of-school numbers as the official level, but with a warning that the failure to incorporate any provision for an undercount in the 2007 Census and the CSO population projections based on the census, may mean that out-of-school numbers may be underestimated.

3. PATTERNS OF ENROLMENT AND FLOWS OF PUPILS THROUGH THE SYSTEM

CENSUS DATA ON OUT-OF-SCHOOL CHILDREN AND EDUCATIONAL ATTAINMENT

Figure 1 shows that there was an increase in total enrolment in the Eswatini education system of roughly 8% over the period 2009-2016. This constitutes only moderate total enrolment growth, similar to the CSO's estimate of 11% population growth for this period.

Figure 1: *Enrolment by year*



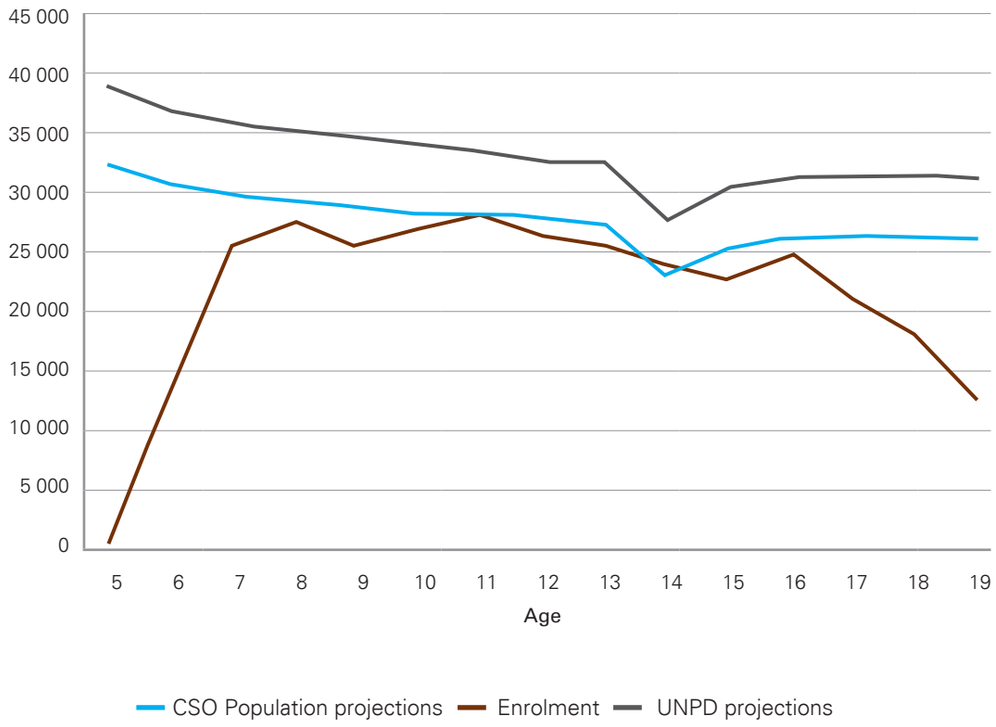
Source: Own calculations from EMIS data

Figure 2 shows the number of school-age children attending school compared to the two population projections discussed in Section 2, those of CSO and UNPD. Using the CSO population estimates implies that most children in Eswatini enrol in school around age 7 and stay in the system until age 16 – according to this estimate, almost all children aged 7 to 16 are enrolled in school. It is only after age 16 that there is a large drop in enrolment, and a significant gap between the population projections and enrolments. Out-of-school children thus only seems to be a problem for adolescents aged 16 to 19.

The graph also shows that children tend to start school late in Eswatini, since there are more 11-year-olds enrolled in school than seven-year-olds, whilst population projections show more younger children than older ones. It is encouraging to note all children, according to the CSO population projections, will have enrolled in school at least by age 11. That is, the CSO projections based on the census data imply that all Swazi children enrol in school by age 11, even though some enrol late.

The UNPD population estimates, however, would imply that there is a considerable number of children out-of-school in Eswatini, a number that seems at odds with the roll-out of FPE in the period concerned. For this reason, the UNPD estimates will not be used.

Figure 2: *Proportion of school-age population attending school*

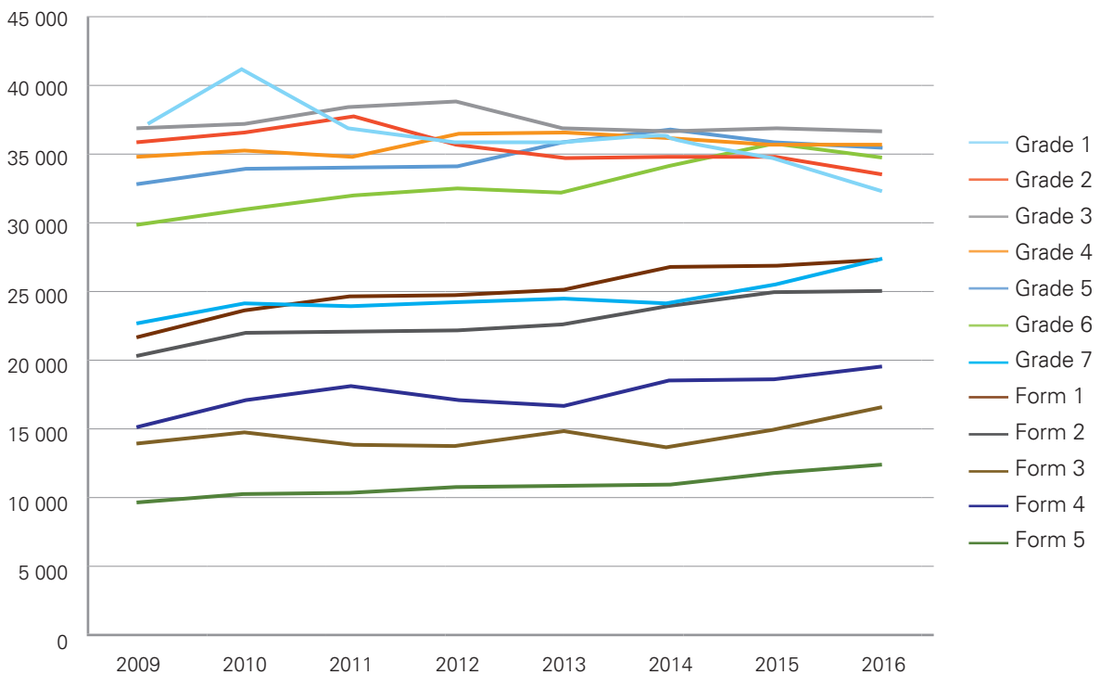


Source: Own estimates using EMIS and population projections of CSO and UNPD

ENROLMENT PATTERNS BY GRADE, YEAR, SCHOOL TYPE, AGE, GENDER AND REGION

Figure 3 shows enrolment in all grades for the period 2009-2016. Enrolment in all grades is relatively stable over time, with enrolment in Form 4 growing the fastest over the period 2009-2016, by 28% over the full period. Since total enrolment in the system only grew by 8% over this period, it can be concluded that proportionally more learners who started school made it to the highest grades over this period, thus constituting an improvement in the system's throughput rate. This is important considering that throughput rates are so low. Despite this growth, however, enrolment in Forms 3, 4 and 5 (senior secondary phase) remains very low.

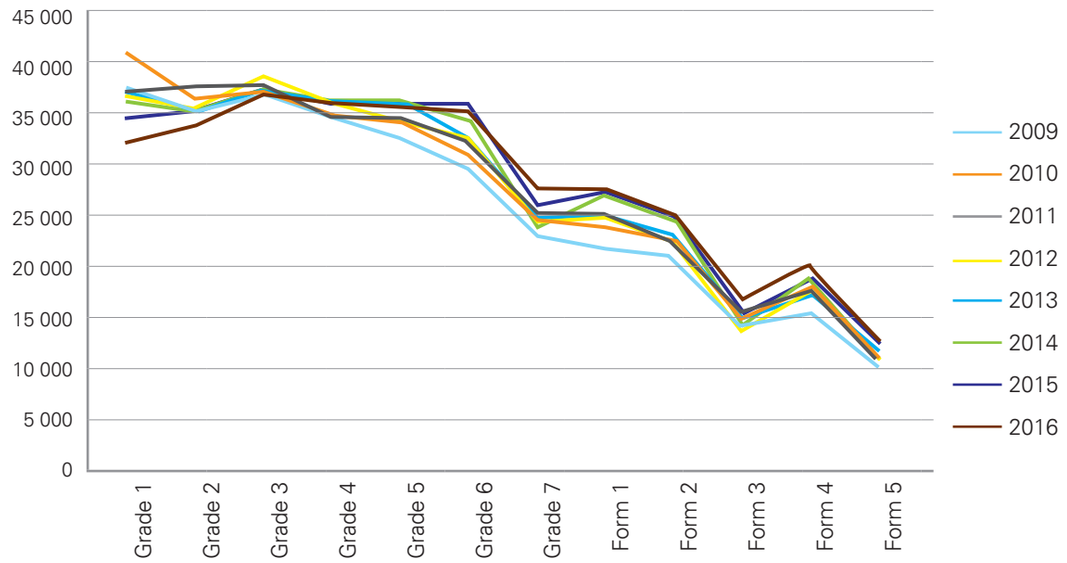
Figure 3: *Enrolment by grade and year*



Source: Own calculations from EMIS data

Figure 4 shows enrolment by grade and year for the period 2009 to 2016. Like the previous figure, this figure illustrates the stability of enrolment in the system. Enrolment follows the same pattern across grades for all years in this period. The relative growth in enrolments in the senior secondary phase compared with earlier phases is also evident here.

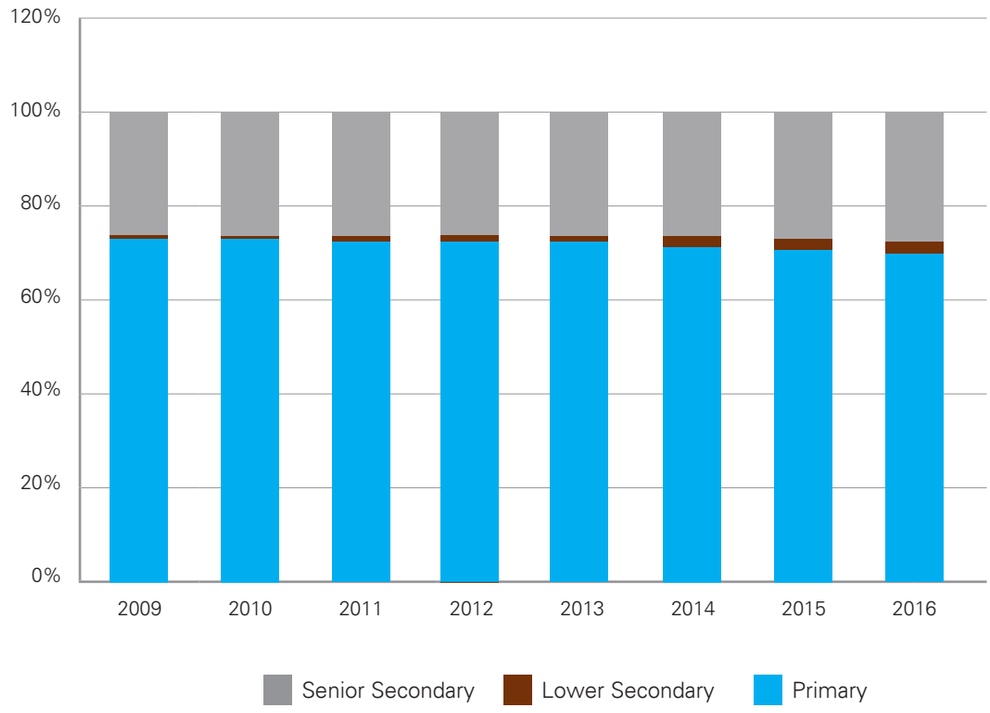
Figure 4: *Enrolment patterns by grade and year*



Source: Derived from EMIS data 2011-2016

Figure 5 shows a high percentage of learners (70 plus percent) in the primary school phase. The growth in the proportion of secondary school learners mentioned above is evident here. It is also notable that there are few children in schools that only offer lower secondary education.

Figure 5: *Percentage of learners according to school type*

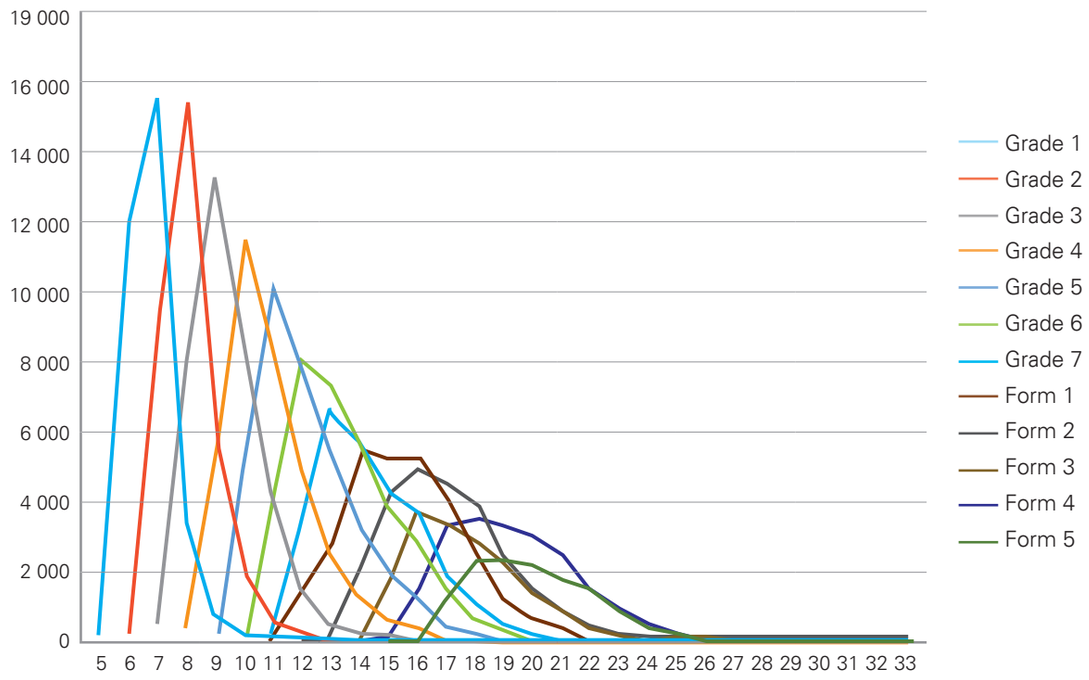


Source: Own calculations from EMIS data

Figure 6 presents an interesting way to consider grade and age patterns. The different colour lines present the different grades. It is evident that even in Grade 1, there is a tail to the right, implying that there are large numbers of overaged learners in this grade. The peak for the Grade 1 curve is at age 7 and not at the official entry age of 6 years, implying that many children enter school late, as discussed earlier. Yet there is still a strong peak, albeit at age 7: almost 16 000 children in Grade 1 are aged 7.[3] The peak in Grade 2 is almost the same height and represents children a year older. Thereafter the peak starts to decline, implying more and more children are repeating and thus older for their grade, which also explains the widening of the lines for higher grades. In Form 5 there are scarcely 2 000 pupils left who are aged 18, i.e. of the appropriate age for their grade. This is the result of both repetition, leading to more children being further overaged, and dropout that reduces the number of learners in the system. Of course, the older cohorts contain fewer children, but this only accounts for a small part of the differences in the lines representing the different grades in this figure.

[3] Note that the earlier discussion of children entering school late focused on first time entering Grade 1 pupils, excluding repeaters, who are included in this analysis.

Figure 6: *Enrolment patterns by age and grade in 2016*



Source: Own calculations from EMIS data

Table 3 shows enrolment numbers by gender for the school-age population over the period 2009 to 2016. Fewer girls than boys were enrolled in school for the duration of the period. Although girls' enrolment grew slightly faster than boys' over this period, at 8.3% and 8.0% respectively, a gender gap in favour of boys remained by the end of the period. Despite this, it is not clear whether boys or girls are more at risk of being excluded from education. According to MoET:

> *"The data still indicated that there are more boys enrolled in the system than girls. However, we need to observe that the number of boys falling within the official primary age dropped slightly in 2015 than in 2014. The number of girls within this category increased from 84 131 in 2014 to 84 590 in 2015. This may be attributed to the fact that boys are generally older than their female counterparts and fall outside the official age for primary level. The overagedness could be for a number of reasons including that boys generally repeat more grades than girls and enter the system a bit older than their female counterparts." (MoET, 2015b: 18)*

One of the factors that play a role in this regard is higher dropout amongst older girls, exceeding that of boys because of the relatively high prevalence of girls dropping out because of pregnancy, as discussed later in this report.

Table 3: *Enrolment by year and gender*

YEAR	FEMALE	MALE	TOTAL
2009	151 492	162 838	314 330
2010	158 283	170 846	329 129
2011	158 053	171 194	329 247
2012	157 734	170 638	328 372
2013	158 660	171 924	330 584
2014	161 683	174 111	335 794
2015	164 175	176 288	340 463
2016	164 134	175 834	339 968

Source: Derived from EMIS data

Table 4 shows total enrolment, across all grades, by region. Hhohho, Lubombo and Manzini all had growth rates in excess of 10% over this seven-year period, whilst in sharp contrast, enrolments decreased in Shiselweni. While it is difficult to establish empirically, a possible hypothesis regarding this negative enrolment growth in Shiselweni could be that over this period, learners from that region migrated to South Africa to attend school there.

Table 4: *Enrolment by region and year*

REGION	2009	2010	2011	2012	2013	2014	2015	2016	ENROLMENT GROWTH 2009-2016
Hhohho	85 638	89 948	91 816	90 923	92 599	93 735	94 738	94 090	10%
Lubombo	65 856	69 935	70 056	70 001	70 314	72 652	73 362	72 853	11%
Manzini	91 509	95 989	95 691	96 692	97 840	98 973	101 617	102 902	12%
Shiselweni	71 327	73 257	71 684	70 756	69 831	70 434	70 746	70 123	-2%
Total	314 330	329 129	329 247	328 372	330 584	335 794	340 463	339 968	8%

Source: Derived from EMIS data

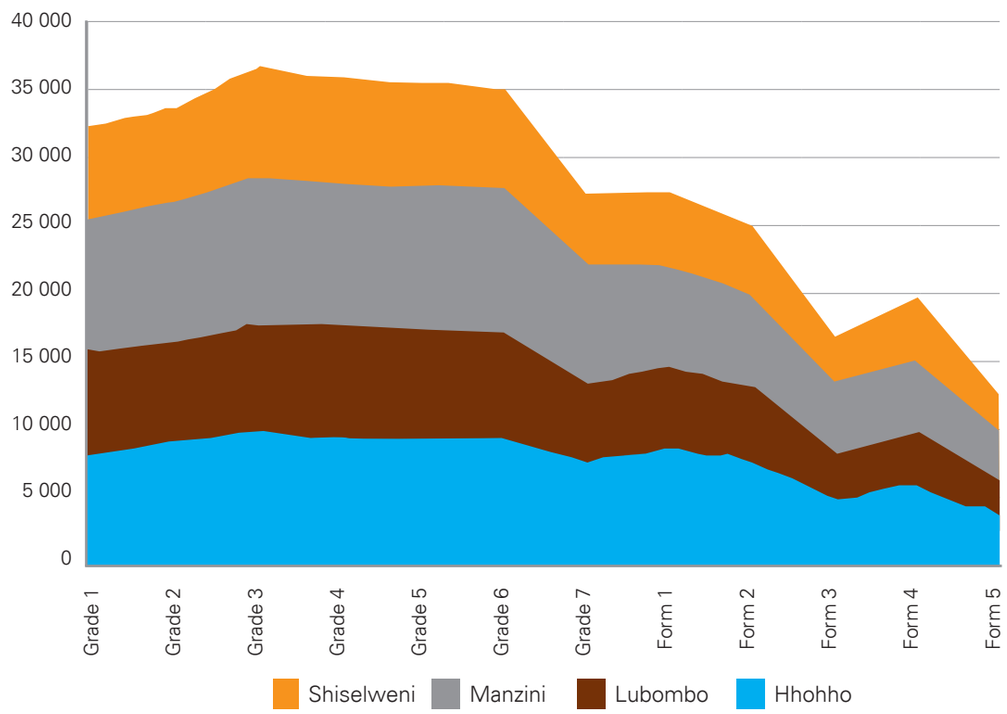
Table 5 and Figure 7 show enrolment numbers per grade and region. There is a large drop in enrolment between Grade 6 and Grade 7, between Form 2 and Form 3, and between Form 4 and Form 5, in all four regions, as can be observed in the figure. This drop in enrolment could be due to repetition or dropout, or a combination of the two. The pseudo survival rates (that is, the number of learners enrolled in Form 5 as a proportion of those enrolled in Grade 1) for the four regions are as follows: Hhohho: 45%; Lubombo: 31%; Manzini: 41%; Shiselweni: 38%. Assuming fairly stable age patterns across years and regions, these pseudo survival rates indicate that pupils from the Lubombo region face a smaller probability of reaching Form 5 than learners from any of the other regions. In this sense, they are more at risk of being excluded from education than their counterparts in Hhohho, Manzini, and even Shiselweni. It is surprising that MoET reports that some pupils from the Hhohho region are moving into the Manzini region (MoET, 2015b: 19), since pupils in Hhohho appear to face a slightly higher probability of reaching Form 5 than their counterparts in Manzini.

Table 5: *Enrolment by grade for each region in 2016*

GRADES	HHOHHO	LUBOMBO	MANZINI	SHISELWENI	TOTAL
Grade 1	8 375	7 382	9 933	6 801	32 491
Grade 2	8 955	7 381	10 617	6 859	33 812
Grade 3	9 708	8 035	11 145	7 985	36 873
Grade 4	9 404	8 236	10 741	7 616	35 997
Grade 5	9 373	7 979	10 865	7 463	35 680
Grade 6	9 365	7 694	10 748	7 216	35 023
Grade 7	7 825	5 596	9 190	5 068	27 679
Form 1	8 739	5 759	7 592	5 574	27 664
Form 2	7 794	5 317	6 919	5 184	25 214
Form 3	4 908	3 304	5 579	3 082	16 873
Form 4	5 783	3 912	5 458	4 683	19 836
Form 5	3 792	2 254	4 115	2 592	12 753
Total	94 021	72 849	102 902	70 123	339 895

Source: Calculated from EMIS 2016

Figure 7: *Enrolment by grade and region, 2016*



Source: Calculated from EMIS 2016

Table 6 shows the five-year progression through the schooling system of a cohort of learners who were aged 13 in 2011. A large drop in enrolment of this cohort is clearly discernible, with only 63% of 13-year-olds who were enrolled in 2011 still being enrolled in 2016. This constitutes a drop in enrolment of 59% among this cohort of learners.

Table 6: *Enrolment of 2011 cohort of 13-year-olds, 2011-2016*

COHORT	TOTAL
Age 13 in 2011	27 605
Age 14 in 2012	26 002
Age 15 in 2013	24 595
Age 16 in 2014	23 147
Age 17 in 2015	21 748
Age 18 in 2016	17 357

Source: Derived from EMIS 2011-16

Diagonal lines across Table 7 represent the flow of learners through the system. For example, the yellow diagonal represents the progression of a pseudo cohort of Grade 5 learners to Form 5. From this diagonal, it is apparent that of the pseudo cohort of 32 971 learners in Grade 5 in 2009, only 12 753 (39%) are in the correct grade (Form 5) seven years later. This can also be seen in Figure 8. Similarly, of the 22 059 of the pseudo cohort of Form 1 pupils in 2009, 11 144 (51%) are in the correct grade (Form 5) five years later. In other words, only about half of those who start secondary school will make it to Form 5. This constitutes a very low survival rate. Figure 8 illustrates that there are large drops in enrolment in three places in particular, namely the transitions from Grade 6 to 7, Form 2 to 3 and Form 4 to 5.

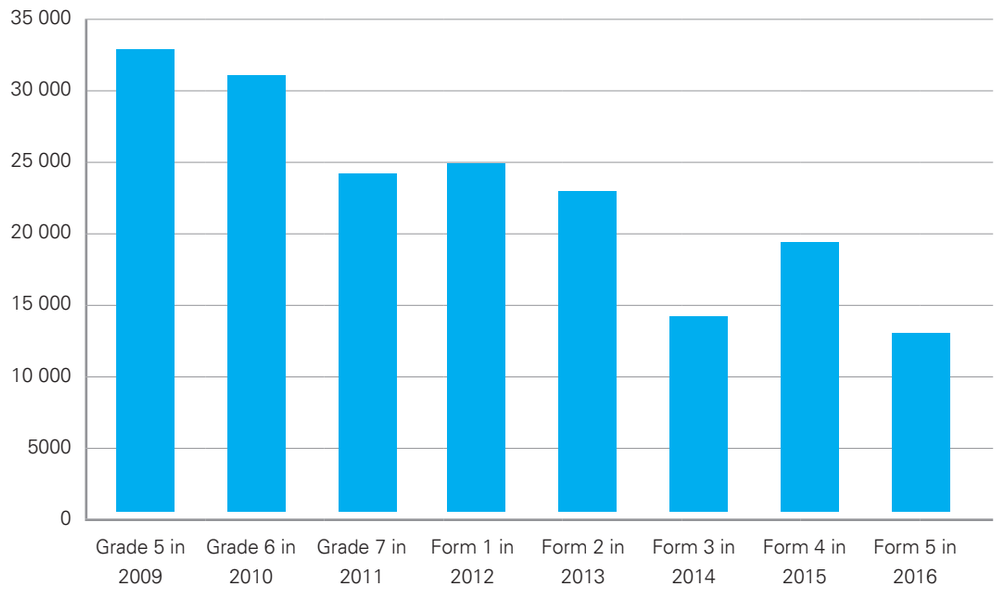
Table 7: *Illustrating continuous flow of learners from Grade 5 in 2009 to Form 5 in 2016*

	2009	2010	2011	2012	2013	2014	2015	2016
Grade 1	37 091	41 184 3	37 034	36 348	36 211	36 305	34 791	32 491
Grade 2	35 805	36 622	37 631	35 610	34 696	35 097	35 412	33 812
Grade 3	37 158	37 457	38 478	38 889	37 181	36 833	36 968	36 873
Grade 4	34 822	35 180	34 831	36 670	36 896	36 248	36 003	35 997
Grade 5	32 971	34 078	34 389	34 074	35 846	36 888	35 978	35 680
Grade 6	30 081	31 206	32 085	32 574	32 419	34 337	35 886	35 023
Grade 7	23 183	24 260	24 246	24 254	25 055	24 324	25 909	27 679
Form 1	22 059	23 800	24 784	24 940	25 448	26 975	27 080	27 664
Form 2	20 811	22 303	22 648	22 451	22 954	24 182	25 185	25 214
Form 3	14 343	14 952	14 179	13 994	15 077	14 185	15 549	16 873
Form 4	15 553	17 293	18 177	17 398	17 273	18 901	19 261	19 836
Form 5	10 307	10 626	10 556	11 093	11 144	11 134	12 007	12 753
Total	314 184	328 961	329 038	328 295	330 200	335 409	340 029	339 895

Source: Derived from EMIS data

Similar patterns of the flow of learners through the system are observable when one considers promotion rates across grades in the system.

Figure 8: *Continuous flow of learners from Grade 5 in 2009 to Form 5 in 2016*



Source: Own calculations from EMIS data

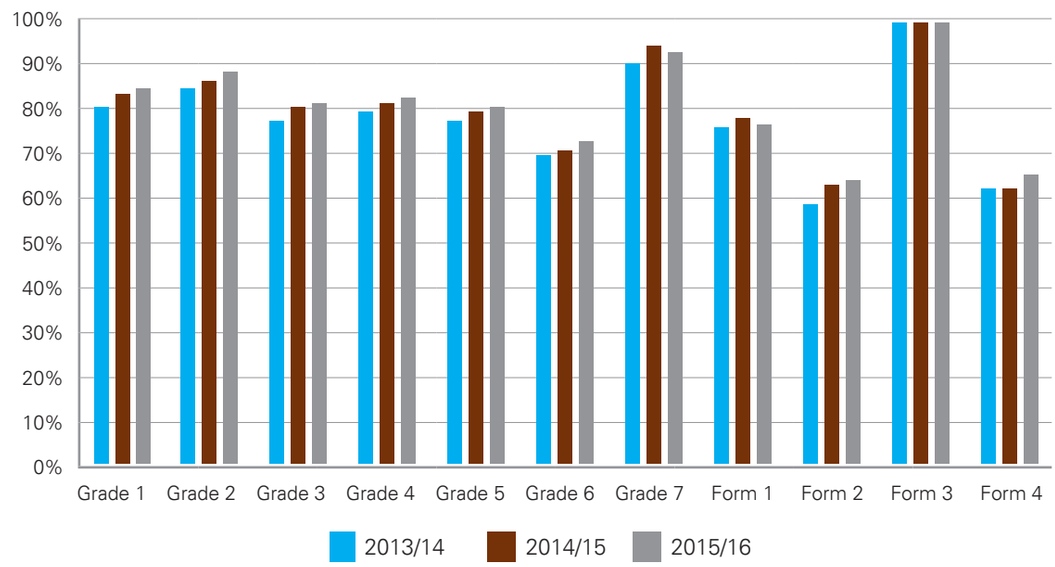
PROGRESSION, REPETITION AND DROPOUT

While these numbers give a good indication of how many children of a cohort stay in the school system over this period, they provide no information about how these learners progress through the system over time. For this, it is necessary to consider the flow of learners between grades. To reconstruct the flow of learners through an education cycle, transition rates such as repetitions, promotions and dropouts per grade are needed.

Calculating such flow rates requires minimum raw enrolment data per grade of at least two consecutive years and repeaters per grade of the latter year. The reliability of the model is dependent on the accuracy of the data collected for repeaters. Although data on dropout is collected in Eswatini, the UNESCO model was used for this report to calculate dropout rates in each grade. Dropout rate by grade is calculated by subtracting the sum of the promotion rate (also calculated) and repetition rate from 100 in the given school year. The data required to compute dropout is enrolment by grade of two consecutive years and repeaters by grade of the second year. In this research, dropouts refer to the learners dropping out of the Eswatini public school system.

Figure 9 shows the promotion rate by grade for three years, from 2014 to 2016. Once again, Grade 6, Form 2 and Form 4 stand out as having particularly low promotion rates in all three years. All three of these grades have promotion rates between 60% and 70%, on average. This contrasts sharply with the very high promotion rates in the grades immediately succeeding Grade 6 and Form 2: more than 90% of Grade 7 learners were promoted to Form 1 in all three years; similarly, all Form 3 learners were promoted to Form 4 in all three years. This pattern of low promotion rates in one year followed by very high promotion rates the next year coincides with the grades in which external examinations are conducted (Grade 7 and Form 3). It is very evident that in the grades where external examinations occur (Grade 7, Form 3 and Form 5) there is exceptionally low repetition, and to some extent there is a peak in repetition in the grade before the examination grade. According to MoET officials, this may be indicative of how schools respond to accountability pressures. Schools are under pressure to perform well in the external examinations, but they are not under similar pressure to achieve internal efficiency, and so pupils that do not perform well are kept from reaching the examination grade (weeding). This examination system was introduced in 1999, with the aim of continuously assessing learners such that repetition and dropout rates may be reduced (Ministry of Education, 1999).

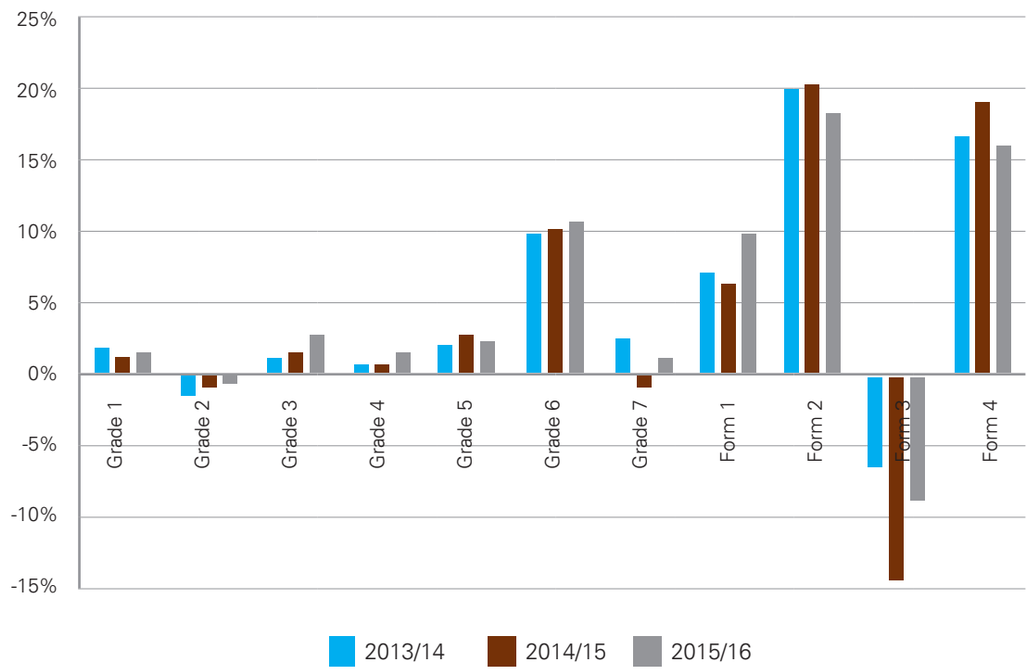
Figure 9: *Promotion rate by grade, 2014-2016*



Source: Calculated from EMIS data as explained in the text

The low promotion rates in Grade 6, Form 2 and Form 4 would perhaps be less cause for concern if most learners who were held back in these grades still eventually progressed to higher grades. Unfortunately, this does not appear to be the case. Figure 10 shows the dropout rates for each grade for the same period, 2014-2016. Clearly, the grades with low promotion rates, i.e. high repetition rates, are the same grades with high dropout rates (Grade 6, Form 2 and Form 4). The grades in which learners are held back are the same grades from which they drop out of school entirely. In other words, it seems likely that the three grades immediately preceding external examinations constitute insurmountable hurdles for some learners, whereby they never get promoted to the next grade and eventually drop out of school altogether. The high promotion rate seen in Grade 7, for example, is thus not a true reflection of the proportion of learners who manage to transition from primary to secondary school, since many learners drop out before reaching Grade 7. One gets a more accurate reflection of the true transition rate from primary to secondary school by considering the promotion rate in Grade 6 in addition to that in Grade 7. Since only about 70% of Grade 6 learners are promoted to Grade 7, and 90% of those are promoted to Form 1, the real transition rate from Grade 6 in primary school to Form 1 in secondary school is closer to 63%.

Figure 10: *Dropout rate by grade, 2014-2016*

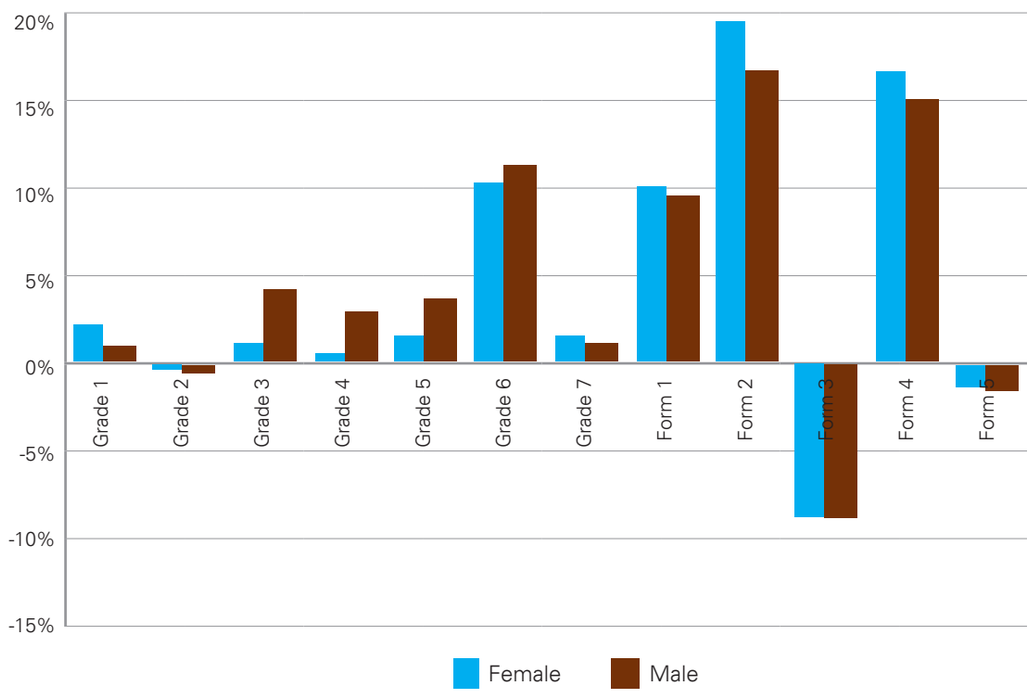


Source: Calculated from EMIS data as explained in the text

Reasons for the negative dropout rates in Form 3 (i.e. "drop-ins") observed in Figure 10 are unclear. While drop-in in a particular grade is sometimes indicative of many learners repeating that grade, this is unlikely to be the case here, since Form 3 has exceptionally low repetition rates. It is therefore more likely that the observed drop-in is due to interrupted schooling, where learners who had previously dropped out of Form 2 but subsequently returned to Form 3 after a year or more's absence. It is unlikely, however, that interrupted schooling would account for such large proportions of drop-in, especially since it is only observed in one grade (Form 3). The high drop-in observed in Form 3 therefore constitutes somewhat of a puzzle and requires further investigation.

Figure 11 also shows dropout rates per grade, this time by gender. It is clear from the figure that the dropout rate is much higher among boys than girls in the primary school phase (Grade 3, 4, 5 and 6). In secondary school, dropout is more common among girls than boys. The reasons for this gendered pattern of dropout are explored in the "Barriers and Bottlenecks" section of this report (Section 5).

Figure 11: *Dropout rates by grade and gender, 2016*



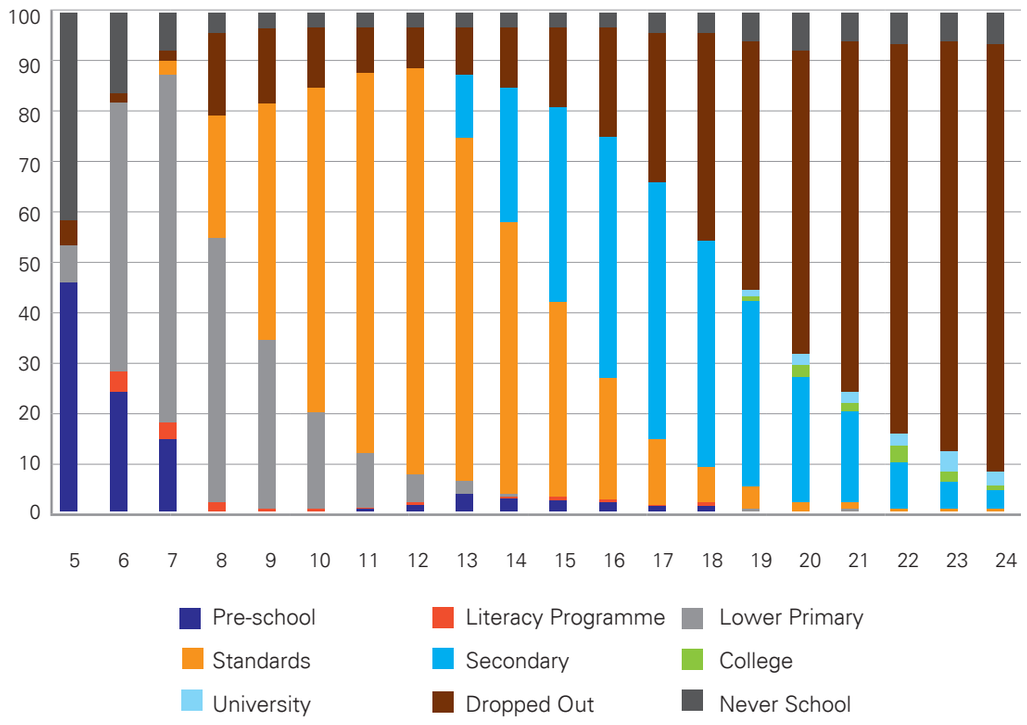
Source: Own calculations from EMIS data

4. SEVEN DIMENSIONS OF EXCLUSION AND PROFILES OF CHILDREN IN DIFFERENT DIMENSIONS

ESTIMATES OF THE SIZE OF THE DIMENSIONS OF EXCLUSION

The census data for the age groups of interest is presented in Figure 12:

Figure 12: *School status by age, 2007*



Source: Derived from Census 2007

The census is the only possible source of information on **Dimension 1,** i.e. that part of the population aged 5 who are not in early childhood care, development and education (termed ECCDE or ECCE in Eswatini). This amounted to almost 10 000 children in 2007, which was 44.8% of that age group.

The largest out-of-school category in 2007 was primary school-aged children (6 to 12) not in school, almost 25 000 **(Dimension 2)**. This was before the full introduction of FPE, so it is not surprising that 14% of the population of this age group was found to be in this category. Another approximately 11 300 lower secondary-aged children (13-15) were out of school **(Dimension 3)**, as well as another approximately 13 800 senior secondary-aged children (16-17) **(Dimension 6)**. These numbers amount to 15% of the former category and a high 29% of the latter category. The high proportion out of school in the higher age group is no surprise, as it is known that children of this age group are often prone to drop out, particularly if they have already repeated often.

The risk of dropout at all school phases was still quite high according to an analysis of Census 2007. It must be kept in mind though that these risks could only be assessed by extrapolating from the experience of age groups who should have already completed these phases of school. Given that circumstances have changed considerably since 2007, e.g. the introduction of FPE and perhaps also changes in the demand for education (discussed later in this report), these estimates may be on the high side. According to them, the at-risk population (those at risk of not completing the phase) was 22.7% for children in the primary phase **(Dimension 4)**, 33.8% for those in lower secondary **(Dimension 5)**, and 25.2% for those in senior secondary **(Dimension 7)**.

The 5th and 6th columns of Table 8 show the picture with regard to the seven dimensions if the estimates of CSO are used to determine dropout, given EMIS enrolment numbers. As EMIS does not contain data on pre-school children, Dimension 1 could not be calculated. If the EMIS enrolment numbers are subtracted from the CSO estimates, it transpires that out-of-school numbers would be quite small compared to the situation that the 2007 Census data sketched: about 11 300 primary-aged children **(Dimension 2)**, 6 500 lower secondary-aged children **(Dimension 3)** and 6 400 senior secondary-aged children **(Dimension 6**) would then be out of school. These are quite low numbers and, if accurate, would imply that Eswatini does not have so much an out-of-school problem due to late enrolment or dropout at an early age, but rather a problem that far too many children get stuck in the early phases of the school system and then do drop out before reaching higher grades.

The numbers of at-risk children are based on applying the proportions obtained from the 2007 Census to the enrolment numbers in 2016. As mentioned, this is likely to give high estimates: the at-risk population (those at risk of not completing the phase) was 22.7% for children in the primary phase **(Dimension 4)**, 33.8% for those in lower secondary **(Dimension 5)** and 25.2% for those in senior secondary **(Dimension 7)**. This meant that almost 55 000 were at risk of dropping out of primary school, about 23 600 out of lower secondary and 8 275 out of senior secondary school.

The population size in each school-age cohort is just over 5 000 higher in the UNPD population estimates than in the CSO estimates. That seems unrealistically high, as it would have meant that the estimates for Dimension 2 (ages 6 to 12, i.e. 7 cohorts) would be more than 30 000 higher if these estimates were used, for Dimension 3 more than 15 000 (3 cohorts), and for Dimension 6 more than 10 000 higher (2 cohorts). These are large numbers and particularly for Dimensions 2 and 3 much larger than found in Census 2007. Such a rise in numbers of out-of-school children amongst primary-aged children during the period that FPE was introduced seems particularly unlikely, casting doubt on the large population estimates of UNPD.

Nevertheless, it is likely that there was some undercount in 2007, and projections are always subject to some uncertainty. It is unlikely, though, that the undercount could have been large enough to imply no reduction in the out-of-school proportion in primary school, given the effect of FPE.[4]

[4] This would be the case for any undercount of 8.5% or more, but data on typical census undercounts shown in Appendix B suggest such a high undercount may be suspect. Such an unlikely high undercount that could have left the proportion of primary-aged children out of school (Dimension 2) unchanged at 14% would have implied the out of school proportions in lower secondary (Dimension 3) at 16% and in senior secondary (Dimension 6) at 19%.

Table 8 presents estimates of the seven dimensions of exclusion, as defined in Section 1.

Table 8: *Estimates of dimensions of exclusion based on Census 2007 only and on EMIS and CSO population projections*

DIMENSION		CENSUS ONLY (2007)		EMIS + CSO PROJECTIONS (2016)	
		NUMBER	% OF REFERENCE GROUP	NUMBER	% OF REFERENCE GROUP
1	Pre-primary-aged not in school (age 5)	9 824	45%	n/a	n/a
2	Primary-aged not in school (age 6–12)	24 981	14%	11 347	6%
3	Lower secondary-aged not in school (age 13–15)	11 286	15%	6 542	8%
4	In primary school and at risk of dropping out before completing this phase	n/a	23%	54 530	23%
5	In lower secondary school and at risk of dropping out before completing this phase	n/a	34%	23 601	34%
6	Senior secondary-aged not in school (age 16–17)	13 837	29%	6 352	12%
7	In senior secondary school and at risk of dropping out before completing this phase	n/a	25%	8 275	25%

Notes: The first two sets of data are based on census data only for 2007. Except for the at-risk categories (Dimensions 4, 5 and 7), the 2016 estimates were obtained by subtracting EMIS numbers from the projected population. For the at-risk categories, the proportions in 2007 were maintained and applied to 2016 enrolment numbers.

Source: Own calculations using Census 2007, population projections and EMIS 2016

Further analysis of dimensions of exclusion

Some dropout is reported by teachers over the course of primary school, but EMIS cannot capture whether, and to what extent, some of these pupils again drop back into school later, implying total enrolment may not reflect patterns of dropout. Table 9 shows high levels of repetition in the primary school phase, particularly in Grade 1 and again in Grade 6, the year preceding the end of primary education examination. This leads to children becoming overaged and later being more prone to drop out. Columns 2 and 3 of the table show 171 177 children of primary school age at school, divided into those in primary school classes and the few who have already reached secondary school. According to the CSO population projections for 2016, there were 182 524 children of this age group in that year. If this projection were correct, it would imply 11 347 children of this age group are out of school, i.e. 6.2% of the age group.[5]

[5] However, as most Swazi children are not aged 6 but aged 7 in Grade 1, contrary to official policy, the same calculations were repeated assuming that the primary age group is ages 7 to 13. If this is done, it transpires that there are more children of this age group at school than the population projections for that age group. If the EMIS data are correct, it appears that the CSO population projections may be under-estimating population for 2016, at least in these age groups. This also has implications for other estimates of out-of-school children, as will be discussed later.

Table 9: *Enrolment of primary-aged and estimated number out of school, 2016*

	OFFICIAL ESTIMATE: USING CSO POPULATION PROJECTIONS	
In primary classes (Grade 1 to 7)	171 000	94%
In senior secondary classes (Form 1 to 5)	177	0%
Total in school	171 177	94%
Out-of-school	11 347	6%
Total	182 524	100%

Note: "Out-of-school" as estimated here is the difference between those children of this age group present in school according to EMIS and the projected population for this age group in 2016.

Source: Own calculations based on EMIS data and population projections for 2016

Most children of lower secondary age (13, 14 or 15) are not found in lower secondary schools but are in fact still in primary schools, due to the high rates of repetition, or have already dropped out. If the formal correct age for lower secondary children of 13 to 15 is used, Table 10 shows that a small number (115) have already reached senior secondary, but that fewer than 22 000 were in lower secondary grades (Form 1 to 3). In contrast to that, more than 49 000 (64%) were still in primary school. This is clearly a problem of inadequate progression rather than dropout and subsequent dropout before reaching higher grades, so dropout amounted to only around 6 500 (8%) of this age group.

Table 10: *Enrolment of lower secondary-aged and estimates of out-of-school, 2016*

	OFFICIAL ESTIMATE: USING CSO POPULATION PROJECTIONS	
In lower secondary classes (Form 1 to 3)	21 643	28%
In primary classes (Grade 1 to 7)	49 463	64%
In senior secondary classes (Form 4 & 5)	115	0%
Total in school	71 221	92%
Out-of-school	6 542	8%
Total	77 763	100%

Note: "Out of school" as estimated here is the difference between those children of this age group present in school according to EMIS and the projected population for this age group in 2016.

Source: Own calculations based on EMIS data and population projections for 2016

Dropout is more common as children grow older (Table 11). But even then, the fact that low proportions of the age group are in senior secondary classes is once again more because many children of this age group lag far behind than it is because children drop out before or at this age group. More than three-quarters of children of the senior secondary age group are at earlier school phases, most in lower secondary (51%) and even 25% in primary school, while 12% are not at school. This last figure rises somewhat to 19% if the high population estimate is applied.

Table 11: *Enrolment of senior secondary-aged and out-of-school using two population estimates, 2016*

	OFFICIAL ESTIMATE: USING CSO POPULATION PROJECTIONS	
In senior secondary classes (Form 4 & 5)	6 174	12%
In lower secondary classes (Form 1 to 3)	25 860	51%
In primary classes (Grade 1 to 7)	12 638	25%
Total in school	44 672	88%
Out-of-school	6 352	12%
Total	51 024	100%

Note: "Out-of-school" as estimated here is the difference between those children of this age group present in school according to EMIS and the projected population for this age group in 2016. It is possible that a small group of children classified as "out-of-school" have completed school while young.

Source: Own calculations based on EMIS data and population projections for 2016

Profiles of children in Dimension 1

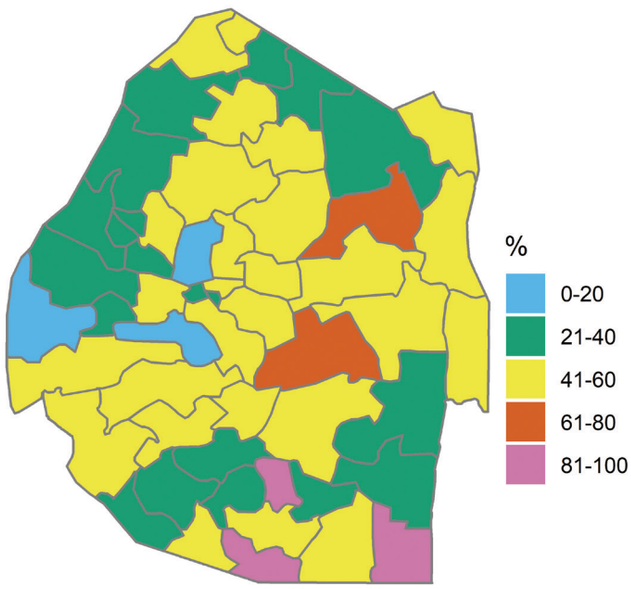
ECCDE is still largely provided by private providers and is costly. The 2015 Annual Education Census report (MoET, 2015b: 9) shows that only around 67% of Grade 1 children indicated that they had attended early childhood education. In Shiselweni this figure was 38%, in Lubombo 40%, but far higher participation was recorded in Hhohho (82%) and Manzini (94%). The Ministry has responded to these low ECCDE enrolment rates by proposing that Grade 0 be introduced in all schools:

> *"... the Ministry is contemplating introducing Grade 0, to all schools in the country. This is intended to increase access to ECCDE... With the introduction of Grade 0, it is expected that the percentage of learners who have gone through ECCDE will increase and further since it will be regulated, it will be possible to measure the quality of such education. The Ministry has developed Education and Developmental Standards which will be used to assess the Grade 0 classes country wide. Once this Grade 0 has become universal the Ministry can then review its policy and consider having attendance and completion of ECCDE (pre-school/Grade 0) as a requirement for entry into Grade 1. ... Studies have shown the importance of ECCDE to development and further attainment in education. ECCDE could also be contributing to learners from these regions doing slightly better in external examinations than those from Lubombo and Shiselweni" (MoET, 2015b: 9).*

Presently, the provision of ECCDE remains the responsibility of communities, churches and individuals in Eswatini. The Ministry is not responsible for the training, recruitment or engagement of ECCDE teachers, nor their remuneration (MoET, 2015: 2). Only selected ECCDE centres receive support from government in the form of training of ECCDE teachers and teaching and learning materials. Spending on ECCDE makes up less than 1% of the share of the Ministry's total budget.

Figure 13 shows the proportions of five-year-olds in Eswatini who were not in ECCDE in 2007. Overall, the figure shows that a large proportion of five-year-olds are not enrolled in ECCDE. The map also suggests out-of-school five-year-olds is a more serious problem in the south of the country, i.e. in the Shiselweni region, which accords with the information on ECCDE coverage discussed earlier, though the low coverage discussed earlier in Lubombo is not fully confirmed by the census data. Manzini in the west has the smallest proportion of learners not enrolled in ECCDE.

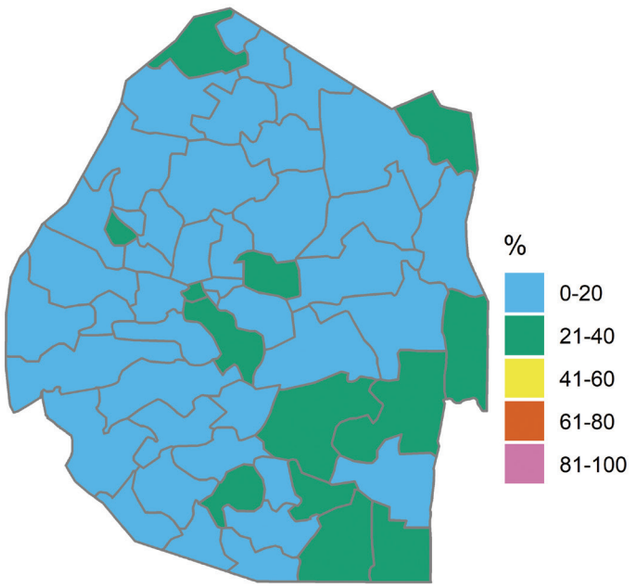
Figure 13: *Percentage 5-year-olds out of school by Inkhundla (Dimension 1), 2007*



Profiles of children in Dimensions 2 and 3

Figure 14 shows the proportions of primary school-aged children (6 to 12 years) who were not enrolled in school in Eswatini in 2007. Out-of-school children do not appear to be a serious problem in this age group, with less than 20% of primary-aged children being out of school in most Tinkhundla in the country, though high repetition rates along with the possibility of dropping out at older ages means that the risk of dropping out before completing this phase is quite high. It is further encouraging to note the homogeneity in Dimension 2 across the different Tinkhundla: no notable regional differences in proportions of out-of-school children are discernible, signalling approximately equal access across geographic locations to primary education throughout the country. The current proportions of out-of-school children in this age group are likely to be even smaller than the map suggests, since the map shows proportions from before FPE was rolled out.

Figure 14: *Percentage 6- to 12-year-olds out of school by Inkhundla (Dimension 2), 2007*



The high repetition rates suggest that even among children in this age group who are still in school, many are likely to be overage. Table 12 shows the proportion of learners in each primary school grade who are of the appropriate age for their grade. Indeed, the table reveals that a large proportion of learners aged 6 to 12 are overaged, with only 38% of 12-year-olds being in the appropriate grade (Grade 6) for their age in 2016. It is thus clear that even though most 6- to 12-year-olds are in school in Eswatini, very few progress through primary school at the required pace, leading to years spent in the education system not necessarily translating into higher educational attainment for the majority of learners in the system.

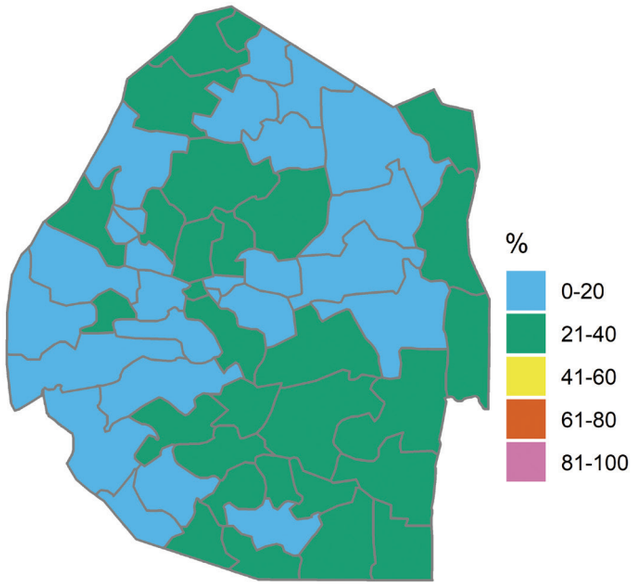
Table 12: *Number of children not overaged, Grade 1 in 2011 to Grade 7 in 2016*

GRADE	APPROPRIATE AGE CRITERION	NUMBER APPROPRIATE AGE OR BELOW	RELATIVE TO 2011 GR1 APPROPRIATE AGED NUMBER
Grade 1	Age 7 & below in 2011	29 870	100%
Grade 2	Age 8 & below in 2012	24 821	83%
Grade 3	Age 9 & below in 2013	19 899	67%
Grade 4	Age 10 & below in 2014	15 379	51%
Grade 5	Age 11 & below in 2015	13 349	45%
Grade 6	Age 12 & below in 2016	11 354	38%
Grade 7	Age 13 & below in 2017	9 975	33%

Source: Own Calculations from EMIS 2011-16

Figure 15 also shows the proportions of out-of-school children in 2007, this time for children in Dimension 3 (aged 13 to 15). There are clearly larger proportions of children out of school in this age group than in Dimension 2, as evidenced by the larger proportion of dark green Tinkhundla in this figure. The spread of children in Dimension 3 is also not as homogenous across the country as Dimension 2, with the southern part of the country now standing out as having particularly many Tinkhundla where 21-40% of 13- to 15-year-olds are not in school.

Figure 15: *Percentage of 13- to 15-year-olds out of school by Inkhundla (Dimension 3), 2007*



Profiles of children in Dimensions 4 and 5

Dimension 4 refers to those children in primary school but at risk of dropping out of primary school before completion of Grade 7; Dimension 5 refers to those in lower secondary school but at risk of dropping out before completion of Form 3.

To determine the risk that children will drop out before completing primary school, the age group 18 to 21 was considered in the 2007 Census, an age group that should already have completed primary school and who were old enough that it was unlikely that many of them will complete primary school in future. Based on the census data, 22.7% dropped out after starting primary school and before completing it. Applying this proportion to current primary school children enrolment of 237 555 implies that about 54 530 children in primary school are at risk of never completing it. Considering the changes that have occurred in primary flow through rates since 2007, this may be a somewhat high estimate.

One way of assessing who is at most risk of dropping out is to run logit regression models on the age group that is used for comparison purposes, here taken to be the age group 18 to 21, to determine

what factors would have predicted their dropping out. The logit model includes gender, age of first marriage (indicating early marriage), region and whether the child resided in an urban or rural area as explanatory variables. The probabilities of dropping out of, and never entering, each phase of school are the respective outcome variables in the two models. The results of these models could be taken as a rough indication of the factors that currently may still be associated with the risk of dropping out. This is done in Appendix C, applied to the Census 2007 data. The difficulty in modelling this is that the household circumstances of those currently in this age bracket may differ from what these were at the time they were in primary school. Considering regional coefficients, for instance, many of these youths may have since migrated so that their region at the time of the census was no longer the same as their original region when they were at school. Nevertheless, what is apparent is that girls have a substantially lower risk of dropping out before completing primary education compared to boys. However, this coefficient is much smaller than that for being located in an urban area. Later marriage also reduces the probability of dropping out before completing primary school.[6] Regarding regions, it is notable that dropping out is more likely in Shiselweni and particularly Lubombo than in the reference region, Hhohho, but less likely in Manzini.

For Dimension 5, the risk of dropping out before the completion of lower secondary school, the age group considered is those aged 20 to 23 in the census. Here the question is what the risk is that those children in lower secondary school will not complete this phase. For the cohort looked at, that was 33.8%. Applying this to the 2016 enrolment in that phase, it would appear that about 23 600 would be at risk of never completing Form 3, if the experience of the comparator cohort is indicative of the risk faced by the 2016 cohort.

Again, Appendix C shows logit models for the risk of dropping out of lower secondary school. It is apparent that the risk for girls now turns positive and significant, although its magnitude is small. This indicates that girls who have survived primary school have a slightly higher probability than boys of dropping out before completing Form 3. This could be affected by the fact that fewer girls dropped out in primary school, thus those who continued may include more academically weak candidates, thus accelerating dropout. In addition, teenage pregnancies start playing a major role in these grades, increasing the risks for girls in this age group more than for boys. Urban children have a lower probability of dropping out in this phase, whilst the regional patterns look different from those for primary school: Lubombo and then Manzini have the highest risks of dropping out, whilst the difference between Hhohho and Shiselweni are not statistically significant. Once again, where there is early marriage it is likely to be associated with increased dropout, as the regression results show.

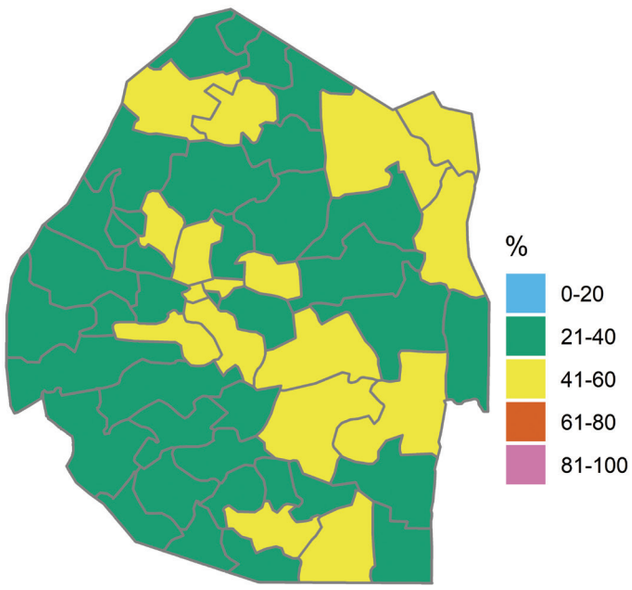
Rural children remaining in school to this phase still seem to have a higher risk of dropping out in this age group, despite the fact that higher proportions of them have already dropped out in primary school. The coefficients on the other variables have similar signs as in the models for primary schools.

[6] This may be endogenous: it could be that those who marry drop out or that those who have dropped out are more likely to marry early. Also, there might be some non-observed attribute found in those that marry early that is also more common amongst those who drop out early. The regression should thus not be regarded as causal.

Profiles of children in Dimensions 6 and 7

Dimension 6 refers to children of senior secondary age who are not enrolled in school. Figure 16 maps the proportion of these learners per Inkhundla in 2007. This figure contrasts sharply with the three preceding maps of children in Dimensions 1, 2 and 3 respectively: there are now many more Tinkhundla with 41-60% of children out of school, while there are no Tinkhundla with such high out-of-school rates in the preceding three dimensions. It is therefore evident that out-of-school children is a much more serious problem for the age group 16- to 17-year-olds than for younger age groups. The sharp increase in the proportion of children who fall under Dimension 6 as compared to Dimensions 2 and 3 is consistent with the large-scale dropout observed in Section 3 of this report, which only really seems to be a problem in the senior secondary phase. Interestingly, the regional dimension to out-of-school children observed in the figure above is not discernible in Figure 16. In other words, it does not appear to be the case that there are significantly more children in Dimension 6 in some regions than in others.

Figure 16: *Percentage of 16- to 17-year-olds out of school by Inkhundla (Dimension 6), 2007*



Dimension 7 refers to those in senior secondary school at risk of dropping out before completing Form 5. This proportion, again taken for the age cohort 21 to 23, was 25.2%. Applying that to those currently enrolled in senior secondary schools, about 8 275 can be regarded at risk of not completing Form 5.

The models in Appendix C show that the risk of dropping out before achieving Form 5 after having completed Form 3 are now much larger for girls, reflecting that more girls have reached this stage, but also perhaps that teenage pregnancy may play a role. Similarly, for those born in rural areas, the probability of dropping out, which was high in the previous school phases, is now actually less than for those born in urban areas. This may simply reflect the fact that more dropout has occurred earlier amongst those from rural areas, thus those still in schools are a smaller and more select group.

Out-of-school children and involvement in child labour

In his study of the role of Swazi schools in overcoming the negative effects of HIV/AIDS on Swazi orphans, Nordtveit (2010: 234) notes that orphans are especially vulnerable to being exploited as child labour, often by the caregivers who take responsibility for them. Since child labour is not used in the formal economy, little is known about the actual number of children working. As Nordtveit (2010: 234) explains: *"The children working in the informal economy, such as herding sheep and goats, weeding fields or cutting sugar cane, and doing hard household work, remain to a large extent invisible to the broader society, and, thus, are perhaps not perceived as a problem."* Nevertheless, child labour is likely to be a major reason for school dropout. In her interviews with Swazi teachers, Poulsen (2006: 53) finds that teachers are concerned about boys leaving school to work part-time for wages, for example transporting sand or herding cattle. Earnshaw et al. (2009: 98) find further evidence of this: of the 41 Swazi adolescents they interviewed, 15 had been employed the previous year. Of these 15, none were regularly employed, meaning they usually worked through school holidays or whenever someone requested their assistance (Earnshaw et al., 2009: 98).

5. BARRIERS AND BOTTLENECKS

SOCIO-CULTURAL/POLITICAL DEMAND SIDE

A number of socio-cultural problems prevent children from attending school in Eswatini. These include a low demand for education in certain households, norms surrounding child labour and teenage pregnancy, high HIV infection rates and violence against children. Although all of these problems often co-exist with poverty, they are not economic barriers to school attendance, thus making it more appropriate to discuss them separately.

Table 13 shows the proportions of learners who dropped out for various reasons over the period 2009 to 2016, as recorded by their teachers. Note that transfers between schools are not listed here.

Table 13: *Reasons for dropout by grade and gender, 2016 (excluding transfers)*

GRADE	GENDER	ABSCONDED OR OTHER	DEATH	DISCIPLINARY OR EXPELLED	FAMILY REASONS	PREGNANCY	SCHOOL FEES	SICKNESS	TOTAL
Grade 1	Male	18	9		104	1	1	23	129
Grade 1	Female	10	4		80	1		10	91
Grade 2	Male	19	7		69		2	17	88
Grade 2	Female	11	6		46	1	2	6	55
Grade 3	Male	30	11		59			19	78
Grade 3	Female	14	9		57	1		9	67
Grade 4	Male	42	5	4	73		2	13	88
Grade 4	Female	17	5	2	48	6	1	16	71
Grade 5	Male	53	9	2	71	3	2	13	89
Grade 5	Female	31	7		51	23		9	83
Grade 6	Male	59	6	4	76	6	2	13	97
Grade 6	Female	41	6	1	67	55	3	17	142
Grade 7	Male	47	5	2	28	5	2	4	39
Grade 7	Female	31	5		30	66		8	104
Primary Total		423	94	15	859	168	17	177	1221
	Male	268	52	12	480	15	11	102	608
	Female	155	42	3	379	153	6	75	613
Form 1	Male	70	6	12	45	18	24	9	96
Form 1	Female	59	4	4	36	98	17	14	165
Form 2	Male	58	4	9	52	15	20	15	102
Form 2	Female	54	4	4	51	104	12	11	178
Form 3	Male	24	3	6	15	13	5	1	34
Form 3	Female	24	1	3	14	68	5	5	92
Form 4	Male	40	3	10	27	13	16	5	61
Form 4	Female	40	5	9	30	102	4	9	145
Form 5	Male	9	1	6	7	7	4	6	24
Form 5	Female	10	3	4	10	51	2	5	68
Secondary Total		388	34	67	287	489	109	80	965
	Male	201	17	43	146	66	69	36	317
	Female	187	17	24	141	423	40	44	648

Source: Own calculations based on EMIS data

Teenage pregnancy

Teenage pregnancy is a serious issue affecting school participation in Eswatini, constituting the most common reason for dropout among girls from Grade 7, and one of the top reasons among girls from as early as Grade 5. MoET (2015b: 84) notes the high dropout as a result of pregnancy and regards that as indicative of a need for more attention to this in the life skills curriculum.

Braithwaite et al.'s (2013: 11) findings suggest part of the reason for teenage pregnancy may be the vulnerability girl orphans are subject to: in their sample of Swazi adolescents, girls aged 15 to 17 who were orphans were more likely to have been pregnant than not. Another reason for the high observed rates of teenage pregnancy could be the tradition of arranged marriages to older men in Eswatini: Efevbera et al. (2017: 94) report that 17% of all married women in Eswatini had been married before the age of 18.

Adolescent pregnancy is often precipitated by a number of socio-economic factors such as low levels of education, little information about sex, or sexual abuse as a consequence of physical and financial vulnerability. Extremely young mothers and their children are not only at risk physically (during pregnancy and after) but are also limited in their ability to pursue educational opportunities.

HIV/AIDS and orphanhood

AIDS can affect school attendance in a number of ways. In addition to the economic hardship forced on families when medical expenditures increase as a result of HIV-infection and reduced labour market participation, children could also be called on to look after ill family members. In the event that a parent dies from AIDS-related complications, children become more vulnerable to missing school and are more susceptible to exploitation and food insecurity. Braithwaite et al (2013: 25) report that an estimated 25% of Swazi children have lost one or both parents to AIDS. Braithwaite et al (2013: 25) further argue that in addition to the economic hardship often faced by AIDS orphans, being orphaned is likely to impact on the mental health of adolescents in a number of ways, with symptoms such as mood swings, phobias, withdrawal, aggressiveness, or other social difficulties. These symptoms, in addition to unmet physical needs, are likely to impact negatively on the educational performance of adolescent orphans and may contribute to the high repetition and dropout rates reported throughout this study.

Attitudes toward schooling

Poulsen (2006: 53) reports that attitudes and behaviour of boys were repeatedly raised as problematic by education officials and teachers. According to teachers interviewed by Poulsen, perpetual absenteeism was one of the major causes of dropout among boys. This coincides with evidence from EMIS that, after 'family reasons', 'absconding or other' is cited as the most common reason for dropout among boys. Teachers in Poulsen's (2006: 53) interviews also cited 'revolt against reprimand', 'hatred of school', and a general dissatisfaction with, and revolt against, school authority as contributing to school dropout.

Violence against children

Children who feel unsafe in their learning environments are unlikely to perform well and could possibly avoid going to school altogether to avoid violence or harassment. In her interviews with education officials in Eswatini, Poulsen (2006: 52) found that school can sometimes be a dangerous place for girls, citing instances where girls were sexually abused by teachers. In addition to abuse that occurs at school, another factor affecting demand for schooling may be the threat of violence children (especially girls) face on their way to and from school (MoET, 2015: 31). Safety is thus an important factor which influences the demand for education.

Physical abuse, however, is not confined to the school environment and violence experienced at home may be another factor influencing the demand for education. In Poulsen's (2006: 51) interviews, sexual abuse of children – especially girls – was often raised as an issue by education officials and teachers. Particular concern was expressed over abuse at the hands of foster or step parents. Children who are the victims of abuse experience psychological symptoms that make them more likely to be disinterested in school, leading to poor performance and eventual dropout.

ECONOMIC DEMAND SIDE

One of the important changes that have taken place in Eswatini's education policy was the phasing in of FPE. This has increased the demand for education, to such an extent that there was also a sharp increase in demand for education by some children who were already older than the official entry age of six years. The effect was that enrolment grew rapidly. However, when children are somewhat older than the age at which they are expected to enrol in a given grade, the opportunity cost of their being at school rather than being active in the household to assist with agricultural activities or household chores becomes a greater issue for some parents. This is even more the case in many households involved in subsistence activities where parents may not necessarily perceive the benefits of education beyond basic literacy and numeracy.

In light of the fact that some parents may not attach great value to education, it is interesting to note that virtually no primary school learners cite school fees as their reason for dropping out, which may reflect the successes of FPE. The number dropping out because of increases in school fees when learners move to lower secondary school, though these numbers still are small. It therefore does not appear as though school fees and other costs associated with education are an important contributing factor to dropout in secondary school, though for some children from very poor households this may be a factor. The fact that school fees are not listed as a major factor contributing to dropout in secondary school could simply reflect the fact that learners from poor households are unlikely to make it to secondary school. It is thus possible that school fees would constitute a significant barrier to accessing secondary education for these learners, had they reached secondary school.

Thus even though FPE has been successful in increasing enrolment at the primary level, high repetition rates throughout the primary school grades (which result in many learners being overage and then dropping out before reaching secondary school) has meant that enrolment in secondary school has not grown as rapidly as primary enrolment. The demand for secondary education has therefore not increased as dramatically as the demand for primary education in recent years.

SUPPLY SIDE

In Eswatini, access to education is relatively high for a country at this level of development and it also appears as if most children who complete primary school do not have great difficulty in physically accessing secondary school. Thus it does not appear that the supply side (providing adequate numbers of schools across the country for those who wish to attend school) is a major problem. MoET's *Education For All Report 2000-2015* concludes that the total number of teachers in Eswatini is adequate at both the primary and secondary level. According to the report, *"The average pupil-teacher ratio at primary and secondary was 31:1 and 13:1 respectively. This was low compared to most of the Sub-Saharan African countries"* (MoET, 2015: 4). However, while the number of teachers may be adequate, the Ministry in the same report raises the concern that the distribution of teachers is quite uneven, "*since it was possible to find a school with pupil-teacher ratio of 20:1, while in other schools (urban) it is 60/70:1"* (MoET, 2015: 4).

A related and perhaps more acute problem in Eswatini is inadequate availability of well-trained teachers or teachers with adequate knowledge about teaching. This is not necessarily primarily about the level of qualifications of the teachers, but about how good their subject knowledge and, very importantly, their pedagogical knowledge is. This is particularly important for teaching reading and early mathematics and requires consistent attention to teacher training and teacher skills. The Ministry has argued that a shortage of appropriately qualified teachers is a major cause for concern. Specifically, they have raised concern over a shortage of mathematics and science teachers at secondary schools, citing that, on average, there is only 1 mathematics teacher for every 84 learners enrolled in secondary school (MoET, 2015: 4).

MANAGEMENT AND GOVERNANCE

School-level management

In its 2015 Annual Education Census report (MoET, 2015a: 52), the Ministry asserts that general school management requires attention. In another report, they use the large numbers of children who enrol in Grade 1 late as an example of laxity in the monitoring of prescribed guidelines (MoET, 2015: 13), a problem that plagues the system throughout. Marope (2010: xxv) claims that schools in Eswatini are reputed for their mismanagement of school fees and that the Ministry offers little to no control. She argues that part of the reason for this is poor management capabilities on the part of head teachers, which is confounded by the fact that head teachers receive "*little or no support*" from regional education offices (Marope, 2010: 43).

Management of the education system

In the *Education For All Report 2000-2015*, the Ministry concludes that it is incapacitated to handle the monitoring and evaluation that is necessary throughout the education system (MoET, 2015: 13). As a consequence, developments in the sector are proceeding without adequate data, information and analysis that should inform planning, monitoring and evaluation, and impact assessment (Marope, 2010: xxviii).

Marope (2010: 41) further holds that "*the provision, distribution and management of books and instructional materials lack policy guidance and management procedures, leaving the system inequitable and vulnerable to mismanagement.*" She explains that although provision and management of learning materials are guided by occasional circulars, most head teachers are reportedly not aware of them (Marope, 2010: 41). Clearly, this is an example of mismanagement of valuable resources which speaks to some of the inefficiencies observed throughout the system.

BUDGETING AND FINANCE

Eswatini is currently facing very testing fiscal challenges, which make expansion of expenditure on education difficult. In fact, spending on education was reduced significantly during the global meltdown in 2010/11 (MoET, 2015: 2). The constrained budget environment that the Ministry has had to operate in since then makes pertinent the need to increase the efficiency of existing resources in the system. The literature suggests there are large gains to be made from such efficiency improvements, as for example Marope (2010: xxv) argues that the Eswatini education system is inefficient at resource mobilisation and utilisation. She identifies *"low utilisation of existing physical capacity, broad curricula, and the consequent low pupil-teacher ratios, mismanagement of funds… and high repetition rates"* as the major sources of this inefficiency (Marope, 2010: xxv).

6. EDUCATIONAL POLICIES AND STRATEGIES

Nearly twenty years ago, in its National Policy Statement on Education, MoET set out the intentions of government in improving education in Eswatini:

> *"Having achieved increased accessibility at primary level, Government's efforts have now shifted to not only consolidating the achievements, but also to addressing important issues such as quality, relevance and affordability of education. The ultimate goal is that graduates of the education system must meaningfully contribute to the development of both the cultural and economic development of the country" (Ministry of Education, 1999: 2).*

The findings discussed in Section 3 of this report, particularly those relating to the high repetition and dropout rates throughout the education system, suggest that the goal outlined above has not yet been achieved. This section discusses the existing education policies and strategies of the Government of Eswatini and analyses whether these policies are appropriate and sufficient for addressing the weaknesses of the education system, as outlined in Sections 3 and 4.

SOCIO-CULTURAL DEMAND SIDE

Pregnancy policy

Regarding re-entry of teenage mothers into education, the Education and Training Sector Policy (2011) states that *"every child, irrespective of their life circumstances (teenage mothers, children in conflict with the law) has the right to be re-integrated into the same institution that the child was previously attending"* (Simelani et al., 2013: 116). Despite the national adoption of this policy, Simelani et al. (2013: 123) report that not all schools embrace the re-entry policy to the same extent, with some schools adopting exclusionary stances toward the re-admission of teenage mothers. These authors explain that much of the opposition to the official policy comes from teachers, and that in many cases, teachers were not even aware of the existence of the policy on re-entry of teenage mothers.

Policy on HIV/AIDS

According to the Education and Training Sector Policy (2011):

> *"over a quarter of 15 to 49-year-olds are infected [with HIV], a rate which directly and indirectly impacts teaching, learning and the wider education community. Given this impact on the supply of education and demand for it, HIV and AIDS present a major problem for education and requires a sustained and systemic response... The Policy therefore requires that these issues are mainstreamed in the routine business of the MoET and every aspect of response, by sub-sector, be detailed both in this Policy and in the time-bound Education Sector Strategic Plan (ESSP)" (MoET, 2011: 14).*

In this regard, the Ministry's policy objectives regarding HIV and AIDS are as follows:

> *"* To facilitate a safe and enabling environment in which a comprehensive response to HIV and AIDS is facilitated by consistent endorsement and leadership support at every level.*
>
> ** To ensure provision of age-appropriate, evidence-based and comprehensive knowledge and information on HIV and AIDS and life skills to help prevent further HIV infection.*
>
> ** To ensure access to treatment, care and support for all infected and affected individuals in EDSEC.*
>
> ** To ensure a workplace characterized by non-discriminatory labour practices, sensitivity and responsiveness to HIV and AIDS, free of risk and stigma for all education sector employees and learners." (MoET, 2011: 14).*

One specific project launched in this regard is the Inqaba initiative. The theory of change that underpins this project is that:

> *"to reduce the impact of poverty, violence and the HIV/AIDS pandemic, one must act at the local level, through the school and within its environment. The specific objective of the Inqaba initiative is to create school environments that are friendly, safe, healthy and conducive for learning. Within this objective lie two main objectives: i) creating safe and caring environments for children and ii) providing quality education" (MoET, 2015: 23).*

This objective is to be achieved primarily through life skills education.

POLICY ON ABUSE, VIOLENCE AND EXPLOITATION

In the Education and Training Sector Policy (2011), the Ministry commits to protecting every learner from all forms of sexual abuse (MoET, 2011: 15). In addition, according to the Policy:

> *"Any form of violence and/or abuse in schools, regardless of whether this is committed and/or perpetuated by learners, teachers, MoET officers or any other person, is considered a criminal offence and is subject to disciplinary measures under the Laws of Eswatini. In particular, teacher/learner relationships are considered a serious abuse of power over minors and, in addition to action in terms of criminal law; will be subject to disciplinary measures according to the TSC Act" (MoET, 2011: 26).*

ECONOMIC DEMAND SIDE

With the adoption of the new Swazi constitution in 2005, government committed itself to providing FPE to all children of school-going age (Khumalo, 2013b). This goal was already outlined in the Ministry's Policy Statement on Education of 1999, whereby the Ministry committed itself to prioritising the provision of universal access to basic education *"within available financial and other resource capacities"* (Ministry of Education, 1999: 3). According to the Eswatini Education and Training Sector Policy, the Ministry's objective is to expand participation in education:

> *"ensuring that all pupils, irrespective of their social and economic circumstances, have access to quality education. To this end, the Ministry continues to subsidize education through the provision of 'free' textbooks to all pupils at primary school level, physical infrastructure, facilities, furniture and equipment, educational grants and subventions, and the rolling out of the Free Primary Education programme." (MoET, 2011: 2-3)*

In light of this commitment, and the fact that stagnant economic growth is likely to reduce educational resources in real terms, the Ministry emphasises the importance of focussing on policy choices that promote efficiency gains within the system (MoET, 2011: 58). The Ministry further argues that Swazi parents presently contribute far more to their children's education than is the case in other SACU countries, and that:

> *"reliance on private education fees and alternative external resources must be considered unsustainable in real terms and points to the need for a comprehensive re-evaluation of budgeting and expenditure" (MoET, 2011: 58).*

To this end, the Ministry has developed a resource allocation and budgeting framework consistent with these policy goals.

SUPPLY SIDE

Availability of schools and places in schools

One of the most important conditions for providing equitable and quality access to education for all, is that there should be sufficient places available in schools for all learners. It appears at first sight as if this is not a major issue in Eswatini, yet adequate infrastructure seems to be lacking, especially in the secondary phase. Accordingly, the Ministry has made efforts towards construction of additional secondary schools (MoET, 2011: 3). It seems, however, that the problem is not so much that there are insufficient spaces, but rather that the infrastructure in especially secondary schools is inappropriate for completion of the IGCSE curriculum (Marope, 2010: 42). According to Marope (2010: 42):

> *"unavailable facilities include special teaching rooms such as required for design and technology, agriculture, home economics, computer studies, libraries, and multi-media centres. Consequently, most secondary schools do not offer IGCSE practical subjects or do so inadequately."*

Instead of committing to building more (inadequate) secondary schools, it therefore seems that education stands to gain more from improving facilities at existing secondary schools, especially considering that space in schools does not appear to be a problem.

Providing quality education

High levels of dropout and repetition throughout the Eswatini education system reflect a system that is struggling to provide good quality education. As mentioned, Eswatini's superior performance on SACMEQ compared to other SACU countries is more likely the result of a more stringent selection system than in some other countries whereby weaker students are 'weeded out' of the system early than superior quality of education in Eswatini.

The enhancement of educational quality is one of six goals which form part of the Education For All programme (MoET, 2011: 3). According to the Education and Training Sector Policy (2011):

> *"the pursuit of improvement in education quality is one of the critical issues facing the Education and Training Sector. The sector is aware that expanding access without due consideration of quality is futile. Economic and social gains with expanding access will only be realized if quality of education and training is given priority attention" (MoET, 2011: 4).*

The Ministry identifies four primary determinants of education and training quality, namely teacher qualifications, teaching strategies, school infrastructure, and learning materials and facilities. Accordingly, the policy outlines providing schools with qualified teachers as well as mounting quality in-service training for teachers as two crucial strategies for improving the quality of education (MoET, 2011: 4).

MANAGEMENT AND GOVERNANCE

School management

In response to the weak management capabilities of many head teachers, the Ministry launched the Head Teacher Management Training Programme (HMTP) in 2009 (Marope, 2010: 43). Inspectors have been positive about the impact of the programme, remarking on improvements in school, financial and teacher management (Marope, 2010: 43). However, Marope (2010: 43) considers that the impact of such interventions will be limited in the absence of a systematic approach to monitoring head teachers' performance. There presently exists no official policy articulating the specific competencies head teachers should possess.

Repetition policy

Current repetition policy in Eswatini consists of two prongs. Firstly, each pupil may only repeat a grade once. Secondly, each head teacher should ensure that the percentage of pupils who are repeating a particular year should not exceed 10% (Gustafsson & Van der Berg, 2008: 79). The policy applies to primary and secondary schools. As Gustafsson & Van der Berg (2008: 80) explain:

> *"This two-pronged approach is rather exemplary. Many countries (such as South Africa) simply declare policy limiting the repetition of individual pupils, without having the additional and necessary policy on limits to the proportion of repeaters in the school at any point in time. However, in the case of Eswatini, the policy on the individual learner is arguably too lenient. Instead of permitting a pupil to repeat each grade once ..., the policy should rather permit, say, two repeated years at the primary level, and two at the secondary level. With regard to the more systemic 10% limit*

in Eswatini, this is clearly not being implemented as between 13 and 15 per cent of pupils in the schooling system as a whole are repeating their grade."

Thus, although the official policy on repetition is exemplary, it is seldom adhered to in practice as evidenced by the severe extent of grade repetition throughout the school system.

Policy on analysis and research

The Ministry's policy on education analysis and research is outlined in the Education and Training Sector Policy (2011):

"It is common cause that EDSEC relies on Education Management Information System (EMIS) for data, management information and analysis on demand, supply, performance and outcome. It follows that EMIS is central to the MoET's capacity to monitor, evaluate and report. In the event that EMIS fails to operate effectively, most day-to-day management functions will be severely compromised, with knock-on implications for system reporting, planning and budgeting. Without this kind of management information, the system will be reduced to guesswork and repetitive budgeting – with serious implications for the achievement of Policy goals and objectives. It is therefore of the utmost strategic importance that EMIS be fully, appropriately and professionally staffed and resourced. To do otherwise is to limit the capacity of the MoET to manage the system effectively and limit its ability to implement any Policy change" (MoET, 2011: 51).

The Ministry has thus set its policy goal in terms of analysis and research as follows:

"To restructure and capacitate EMIS to provide regular, accurate and timeous data collection, processing, prioritised management information, analysis, reporting and monitoring of research in order to inform and guide EDSEC management at every level" (MoET, 2011: 51).

BUDGETING AND FINANCE

The Ministry sees the preparation and coordination of annual and medium-term budgets as crucial for the ultimate attainment of all education and training sector policy goals. Specifically, the positioning of, and collaboration with, the Planning Unit on matters of planning, policy and budget implementation is considered of paramount importance "*and needs to be given highest priority"* (MoET, 2011: 53).

The existence of severe inefficiencies throughout the Eswatini education system, as discussed in Section 4, implies specifically that efficiency measures need to be targeted to bring about notable improvements throughout the system. The Ministry echoes this sentiment in their Education For All Report, stating that "*there is a need to focus on policy choices that promote efficiency gains*" (MoET, 2015: 10). In their Planning and Budget Implementation Strategic Framework, the Ministry sets out to, as a long-term policy goal, decentralise education planning activities to the regions "*in order to strengthen the grassroots approach to planning and budgeting for schools"* (MoET, 2011: 54). Collaboration with EMIS to create a database that will better inform budgeting decisions is also identified as a long-term policy goal (MoET, 2011: 54).

7. CONCLUSION AND RECOMMENDATIONS

MAIN FINDINGS

It is difficult to draw a definitive conclusion about the true extent of the problem of out-of-school children in Eswatini, given the data limitations discussed in Section 2 of this report. The biggest limitation in this regard is that one obtains very different magnitudes of out-of-school children, depending on whether CSO's or UNPD's population projections are used. The large number of children in Dimensions 2 and 3 implied by the UNPD data seem particularly unlikely, considering that FPE was introduced during the period under consideration. On the other hand, the lack of provision for census undercount in the CSO projections also leads to some uncertainty about their accuracy; they may slightly exaggerate progress in drawing more children into schools. Much of this uncertainty can be cleared up by the results of the new census, particularly if care is taken to estimate the undercount as accurately as is possible through methodologies such as post-enumeration surveys. This is of great importance to provide greater certainty for education planning.

What is clear from the available data is that far too many children in Eswatini fall under Dimension 1. Access to ECCDE is still very low, and very uneven, and the quality of the care in these facilities is generally weak. Moreover, it is important that children attending such community-based facilities should have access to nutritious food, clean water and sanitation. In general, ECCDE is very underdeveloped, receives little state support, is expensive and is poorly attended, especially in Sishelweni & Lubombo.

A further finding that emerges is that repetition and dropout are serious problems throughout the system and even more so as children become older. Moreover, high repetition rates add considerably to the likelihood of dropout. Grades preceding external examinations have particularly high repetition and dropout rates, leading to slow overall progression of learners through the system. These grades constitute insurmountable hurdles for many learners, who may repeat a grade repeatedly, until eventually dropping out of school completely. As a result, survival rates from Grade 1 to Form 5 are very low. Although enrolments in the senior secondary phase have grown in recent years, much more needs to be done to ensure the smooth progression of learners through the system. MoET (2015b: 57) notes that:

> *"... only a fraction of learners who enter grade 1 reach grade 7, most are trapped within primary because of the high repetition rates, some eventually drop out of school even before they reach grade 7. This is why the Ministry has to focus on lowering the Repetition Rate to ensure that learners reach and complete grade 7. If the system continues being as it is, with high Repetition Rates only a few learners will enrol at lower secondary levels, giving rise to low enrolment rates."*

Many children also start school late in Eswatini, which, combined with high repetition rates, leads to the majority of learners in the system being overage. The proportion of overaged learners in each grade increases in higher grades.

A number of barriers and bottlenecks to school attendance have been identified and discussed in the report. Socio-cultural factors that prevent children from attending school in Eswatini include a low demand for education in certain households, norms surrounding child labour and teenage pregnancy, high HIV infection rates and violence against children. Especially worrying is the gendered dimension to some of these barriers, for example teenage pregnancy, which causes girls of secondary school age to drop out in larger numbers than boys. Economic barriers include high direct costs of education at the secondary level, as well as indirect costs in terms of productive labour foregone when children are sent to school, which becomes especially costly as children become older. Such indirect costs are particularly high in a country where three-quarters of households survive on subsistence agriculture. Not only is the opportunity cost of sending children to school high in households involved in subsistence activities; in addition, such households may not necessarily perceive the benefits of education beyond basic literacy and numeracy. There are some supply-side barriers which compound some of the challenges faced by households. Although Eswatini does not seem to have a problem regarding adequate space in schools, a related problem that is more evident in Eswatini is that of not having adequately trained teachers or teachers with adequate knowledge about teaching.

RECOMMENDATIONS AND WAY FORWARD

Based on these findings, there are still some important issues that need to be addressed.

Early childhood development

The first issue is that of access to and the quality of ECCDE. Currently only a miniscule part of the education budget goes to this activity, yet throughout the world it has become accepted that the years before children enter Grade 1 are of vital importance for their later development. This does not only require that government should actively play a role in this area in terms of providing more resources, but also that it should ensure that a high quality of ECCDE is offered in community-based or private facilities. This requires much attention to the training of teachers/providers in ECCDE. It is also important that government proceeds with its plans of introducing Grade 0, which is something that will strain its fiscal resources but is essential for the education of Swazi children.

- **RECOMMENDATION 1:** *MoET should devote more attention to monitoring ECCDE in community-based facilities to ensure that the health and education needs of young children receive adequate attention and that they enter school better prepared than is currently the case.*
- **RECOMMENDATION 2:** *The low coverage of ECCDE in Shiselweni, and to some extent also Lubombo, should be investigated with a view to implementing remedial measures, which may include subsidies to these regions.*
- **RECOMMENDATION 3:** *MoET should implement its plans for Grade 0 without delay and government should allocate the fiscal resources to make this possible.*

Primary school

The demand for education is affected by a number of factors, as discussed earlier in this report. One of those factors also relates to the school offering an attractive environment. Schools can deliver more than simply the curriculum.

- **RECOMMENDATION 4:** *Make primary schools more attractive by providing health support (e.g. vaccinations, deworming, eye tests, hearing tests, dental tests) while continuing to provide a nutritious meal as part of the school day.*

Two features of primary schools relating to the out-of-school issue is how common late entry to schools is, and the fact that repetition is so high.

- **RECOMMENDATION 5:** *Ensure there is capacity for all children to enrol in Grade 1 at the appropriate age (six years) and encourage parents to do so.*

It is essential to reduce repetition in primary schools to levels far lower than the current average repetition rate of 15%. This requires attention to the quality of education provided in primary school, an issue discussed further below, as well as a coherent and consistent repetition policy. As discussed earlier, the current policy entails that pupils may only repeat a grade once and that principals should assure that no more than 5% (this was until recently 10%) of the children in any grade should repeat in any given year. This would require that teachers and principals give more serious attention to which children should be promoted or held back but would also ideally lead to greater attention to the causes of weak learning in the first place.

- **RECOMMENDATION 6:** *The restriction on repetition in each grade in a school should be seriously implemented. Considering current high rates of repetition, it appears better to initially set a limit for repetition at not more than 10% (rather than the current 5%) of children in a single grade in a school, and then to implement this fully. Once this is fully achieved, a further restriction should be introduced that children should not repeat more than one grade in a school phase.*

This would initially have the effect that more children get promoted to higher grades without having adequately mastered the material of the previous grade. Thus there would be a strong need for additional attention to remedial teaching where this is required.

Examinations in Grade 7 have a strong influence on repetition in Grade 6, as schools appear to wish to hold back weaker candidates so as to perform better in the examinations. To counter this, it is necessary that schools should be measured not only by their examination results, but also by their promotion policies. Brazil has put in place a sophisticated measurement system whereby both these factors can be judged. In Eswatini something similar should be contemplated. For instance, it could take the form of expressing the pass rate in Grade 7 (or whatever replaces it) as a percentage of the children who were in Grade 5 two years earlier.

- **RECOMMENDATION 7:** *The performance of schools in the system-wide examination in Grade 7 should be assessed, taking into account not only how children perform in the examination but also how successful each school has been in promoting children to higher grades.*

The quality of primary education in Eswatini requires much greater emphasis. In order to provide quality education at primary levels of education, it is essential that teachers know their subject matter and that they know how to teach well. A host of regional and international reports point to

the importance of learning to read for meaning as the bedrock of the schooling system. The first three years of school are typically the "learning to read" phase where children learn the relationship between text on the page and the spoken words or language. Once they have "learnt to read" they can "read to learn". International research points to a structured and systematic approach to teaching reading as best practice, particularly for children from poor backgrounds. In order to teach reading properly, teachers should be trained in teaching structured phonics and how to use resources like graded-readers and big books. Graded readers are levelled books that increase in difficulty as a child masters more text and more complex text. There are already some graded readers available in siSwati (see e.g. https://www.takealot.com/kagiso-readers-likhaya-lami-libanga-1-incwadzi-4-siswati/PLID35205549). For a teacher to teach children to read, she/he needs a set of graded readers at each of the different levels. She/he also needs support or coaching on how to use the materials.

- **RECOMMENDATION 8:** *To minimise the possible negative impacts of more lenient promotion policies, serious attention must be given to steps to improve the quality of teaching and to provide remedial support to children who have difficulties.*
- **RECOMMENDATION 9:** *The Ministry should set in place a strong programme of pre-service and in-service training and coaching for teachers on how to teach reading.*
- **RECOMMENDATION 10:** *Graded readers should be made available in all junior primary classrooms.*

Secondary education

In terms of out-of-school children, a number of issues arise in secondary school. Firstly, many children never reach this level even if they stay at school for a large number of years, because of excessive repetition. Further, many older children who reach secondary school drop out easily when they have to repeat again, so repetition should be carefully assessed so as not to discourage continuation in school of children who have the ability to successfully complete these phases. This is particularly the case in the years preceding the Form 3 and Form 5 system-wide examinations. Two further factors that appear to have an influence on the children dropping out of secondary school are the financial and opportunity costs, and pregnancy amongst girls.

- **RECOMMENDATION 11:** *The Ministry should act against principals of schools who do not implement the policy of not allowing excessive repetition.*
- **RECOMMENDATION 12:** *Information should be made available to schools and to the community at the same time as the SGCSE (Form 5) examinations as to the number and proportion of children in a school who entered in Form 1 and successfully completed Form 5 five calendar years later.*
- **RECOMMENDATION 13:** *Free secondary education should be phased in as budgetary constraints allow.*

Given budgetary constraints, this would have to be phased in in much the same way as FPE was, for example by first making Forms 1 and 2 free and then applying the same policy to the senior secondary grades. This will help address the financial constraints to completing secondary education in Eswatini.

- **RECOMMENDATION 14:** *School principals, teachers and communities should be informed that allowing pregnant girls to return to school is government policy and would be strictly enforced.*
- **RECOMMENDATION 15:** *The sexual information and education campaigns that form part of the life skills curriculum should be strengthened to assist in further reducing teenage pregnancies.*

General education

Throughout the education system, there is a quality imperative. This should receive the full attention of the authorities. To ensure that it is known how Eswatini children perform against international peers, it is essential that Eswatini continue to participate in SACMEQ as well as in appropriate other international assessments of education. In addition to that, it is necessary that there should also be early testing of reading in schools, so as to ensure that children can read well in their home language by the time they leave Grade 3, and to put in place corrective action where it is found that this is not the case. Such a test should test both reading fluency and reading for meaning.

- **RECOMMENDATION 16:** *Eswatini should continue to take part in the Southern Africa Consortium for Monitoring Education Quality (SACMEQ).*
- **RECOMMENDATION 17:** *Eswatini should also participate on a regular basis in other appropriate international assessments, including the Progress in International Reading Literacy Study (PIRLS) literacy (aimed at Grade 4 children in developing countries) and the Grade 4 Trends in International Mathematics and Science Study (TIMSS), the version of TIMSS aimed at developing countries.*
- **RECOMMENDATION 18:** *Eswatini should apply to the Organisation for Economic Cooperation and Development (OECD) to become part of the Programme for International Student Assessment (PISA) for Development (also called PISA-D), an international assessment programme for 16-year-olds that expands the well-known PISA assessment but is designed for a developing country context.*
- **RECOMMENDATION 19:** *In addition to participating in international assessments in order to measure Eswatini's progress amongst its peers, it is also necessary to undertake on an annual basis a large scale systemic test of reading fluency and reading for meaning at the end of Grade 3. Financial support for this can be sought from Eswatini's development partners.*

Other general issues

EMIS is doing excellent and important work to measure aspects of the education system in Eswatini. This should be strengthened and expanded insofar as that is possible. In 2013, the EMIS report pointed to the difficulties of obtaining data on ECCDE:

> *At pre-primary data is collected from centres throughout the country. Currently almost all of these centres are privately owned, and collection entails collecting the data through regional workshops where owners of such centres are invited and trained in completing the instruments or visiting the centres in their locations. The latter process is most efficient but very expensive and time consuming. The situation is further compounded by the fact that most of the centres are not registered with the Ministry and as such identifying them is a challenge. In 2013 data was not collected due to budgetary limitations. (MoET, 2013: 2)*

Regarding the strengthening of EMIS, this should entail at least extending its information gathering on ECCDE to become an annual event and linking data over time so as to be better able to analyse time trends.

- **RECOMMENDATION 20:** *EMIS should be enabled to obtain quality data on an annual basis on ECCDE, given the inadequate information that is currently available of this important matter. This would require additional resources.*
- **RECOMMENDATION 21:** *EMIS personnel should receive training to enable them to link data over time and across different fields, so that time trends and data for further analysis can more readily be extracted. The development partners should be requested to provide financial support for such training.*
- **RECOMMENDATION 22:** *EMIS identifiers should be linked to the examination data for ease of analysis.*

As has been shown in this report, uncertainty about the numbers of children that are not at school can create difficulties for the MOET in analysis and implementation of policies. It is essential that there should be data, and also data projections, that can be used with confidence. This requires that CSO should take steps to ensure that there is a good post-enumeration survey after the 2017 Census to allow for undercount in the census data and also for adjustment for all future population projections. All censuses have undercounts, and it is important to have good procedures to deal with that. In addition, it would be good if CSO can be in regular contact with UNPD to ensure close cooperation in obtaining the best possible population projections for planning purposes.

- **RECOMMENDATION 23:** *CSO should be requested to consider all necessary steps to account for possible undercounting in the census and to ensure the best possible population projections for purposes of planning. Projections should be regularly adjusted as new information becomes available.*

8. APPENDICES

APPENDIX A: PROMOTION, REPETITION AND TRANSITION RATES

To determine the flow of learners through an education cycle, transition rates (repeaters, promotions and dropouts) per grade are needed. Calculation of these rates requires at a minimum, raw data of enrolment per grade for at least two consecutive years and of repeaters per grade of the latter year, according to UNESCO.

At the end of a school year, learners assume one of the following states:

- progressing through the system (promoting)
- not progressing through the system (repeating)
- leaving the system (dropping out)

For computation of dropout rates:

Dropout by grade = Enrolment – (Promotion + Repeaters)

The formula for promotion is

P(Gr)(y) = E (Gr + 1) (y +1) – Repeaters (Gr + 1) (y +1)

APPENDIX B: EXAMPLES OF CENSUS UNDERCOUNTS AROUND THE WORLD

COUNTRY	CENSUS YEAR	SOURCE	NET UNDERCOUNT
Australia	2001	Maluleke & Van Eeden 2013	2.2%
Australia	2006	UN, World Population and Housing Programme 2010	3.7%
Australia: Australian Capital Territory (lowest)	2006	UN, World Population and Housing Programme 2010	1.3%
Australia: Northern Territories (highest)	2006	UN, World Population and Housing Programme 2010	8.3%
Cambodia	1998	Whitford & Banda 2001	1.8%
Canada	1996	Gumbo 2016	2.6%
Canada	2001	Maluleke & Van Eeden 2013	3.0%
China	2000	Gumbo 2016	1.8%
India	2011	Registrar General & Census Commissioner 2014	2.4%
India: Central zone (highest zone)	2011	Registrar General & Census Commissioner 2014	4.3%
India: Eastern zone (lowest zone)	2011	Registrar General & Census Commissioner 2014	0.8%
Indonesia	2010	Falentina 2011	3.6%
Indonesia: Highest (province)	2010	Falentina 2011	9.8%
Indonesia: Lowest (province)	2010	Falentina 2011	0.4%
Mauritius	2000	Maluleke & Van Eeden 2013	2.5%
Mozambique	1996	Gumbo & Odimegwu 2016	6.0%
Namibia: Children 0 to 19	2011	Van der Berg & Ferreira 2015	11.0%
Namibia: Females aged 0-4	2011	Namibia Statistics Agency 2014F	0.8%
Namibia: Females aged 5-9	2011	Namibia Statistics Agency 2014f	0.0%
Namibia: Males aged 0-4	2011	Namibia Statistics Agency 2014	3.5%
Namibia: Males aged 5-9	2011	Namibia Statistics Agency 2014F	2.4%
Nepal	2001	Maluleke & Van Eeden 2013	5.3%
New Zealand	2001	Maluleke & Van Eeden 2013	2.2%
Nigeria	1952	Gumbo 2016	10.0%
Palestine	1997	Whitford & Banda 2001	1.8%
Rwanda	2012	Rwanda Ministry of Finance and Economic Planning 2014	0.8%
Seychelles	2002	Maluleke & Van Eeden 2013	2.4%
South Africa	1996	Maluleke & Van Eeden 2013	10.0%
South African: Free State (lowest)	1996	Maluleke & Van Eeden 2013	8.8%

South African: Northern Cape (highest)	1996	Maluleke & Van Eeden 2013	14.6%
South Africa	2001	Maluleke & Van Eeden 2013	17.6%
South African: Eastern Cape (lowest)	2001	Maluleke & Van Eeden 2013	14.0%
South African: Kwazulu-Natal (highest)	2001	Maluleke & Van Eeden 2013	21.4%
South Africa	2011	Statistics South Africa 2012	14.6%
South African: Limpopo (lowest)	2011	Statistics South Africa 2012	10.0%
South African: Mpumalanga (highest)	2011	Statistics South Africa 2012	15.5%
Suriname	2006	UN, World Population and Housing Programme 2010	3.2%
Tanzania	2002	Maluleke & Van Eeden 2013	7.9%
Uganda	2002	Uganda, Bureau of the Census 2005	5.9%
Uganda: Rural	2002	UN, World Population and Housing Programme 2010	5.0%
Uganda: Urban	2002	Uganda, Bureau of the Census 2005	11.8%
USA	1990	Gumbo 2016	1.6%
USA	2000	Maluleke & Van Eeden 2013	1.2%
USA	2001	Gumbo 2016	1.2%
Zambia	1990	Whitford & Banda 2001	2.0%

The data in the table above appears to show that undercounts, even in developing countries, are usually not particularly high, with some exceptions, such as South Africa (for more on this, see Gumbo (2016)). Almost all these estimates of undercount are based on comparing census data to a post-enumeration survey, which the UN defines as "*the complete re-enumeration of a representative sample of the census population and matching each individual who is enumerated in the post-enumeration survey with information from the main enumeration"* (UN, 2008: 87). Such post-enumeration surveys can give low estimates of the undercount for two reasons:

- Few developing countries can afford post-enumeration surveys after a census, and these developing countries would tend to be those with more resources to conduct the census well in the first place (Onsembe & Ntozi, 2006). Thus the estimates of the undercount shown in the table would tend to be biased downwards for many of these countries.
- (ii) There is also evidence, supported by a substantial literature, that post-enumeration surveys are often not conducted well, with the result that persons not counted in the census would again not be counted in the post-enumeration survey, which again would mean that the undercount would be under-estimated.

Apart from using the post-enumeration survey as a method to estimate census undercount, the alternative method is based on demographic analysis, using surveys and censuses to estimate fertility, mortality and migration, and then adjusting the census estimates accordingly (see Moultrie et al., 2013). This is highly intensive in demographic expertise and something few developing countries can undertake alone. The UN (2010: 70, par.88) in fact remarks that:

"For most developing countries, lack of comprehensive vital statistics registration data, detailed demographic data on fertility, mortality and migration, makes it difficult or impossible to evaluate a census by explicitly applying the demographic analysis approach to census evaluation. The most plausible method of evaluation for many developing countries is to resort to conducting post-enumeration surveys."

In the absence of post-enumeration surveys, the most common application of demographic analysis method is found in the UNPD's population estimates. These often deviate a lot from census data, largely due to census undercounts and other census errors (e.g. age heaping). But demographic analysis-based estimates can contain other sources of error.[7] This appears to be the case for the UNPD estimates of Eswatini's population for 2016, which are so large that, in combination with actual school enrolment figures obtained from EMIS, they would imply that primary school attendance has been declining between the 2007 Census and 2016, despite undoubted progress with FPE.

[7] Though in the case of South Africa, Gumbo (2016: xxiii) illustrates that undercount estimates from post-enumeration survey relative to respective estimates from demographic analysis closely matched each other.

APPENDIX C: LOGIT REGRESSIONS MODELS OF CHILDREN BEING AT RISK OF DROPPING OUT OF SCHOOL OR NEVER ENTERING SCHOOLS

	DROPPED OUT			NEVER ENTERED		
	PRIMARY	LOWER SECONDARY	SENIOR SECONDARY	PRIMARY	LOWER SECONDARY	SENIOR SECONDARY
Female	-0.35***	0.04**	0	-0.21***	-0.18***	0.01
Age at First Marriage	-0.13***	-0.18***	0	-0.08***	-0.13***	-0.24***
Urban	-0.85***	-0.29***	-0.51***	-0.18***	-0.58***	-0.45***
Hhohho	ref.	ref.	ref.	ref.	ref.	ref.
Manzini	-0.08***	0.09***	-0.07*	-0.11***	0.04**	0.10***
Shiselweni	0.06***	0.03	0.01	0.15***	0.05**	0.10***
Lubombo	0.29***	0.12***	-0.07	0.60***	0.32***	0.28***
Observations	99412	53960	26920	107390	85140	85140
Psuedo_R2	0.04	0.02	0.01	0.02	0.03	0.04

Notes: *** denotes p>0.99, ** p>0.95, * p>.90.

For primary education, the risk was modelled for the age group 16-21, for lower and senior secondary for the age group 20–23.

Source: Logit regressions on Census 2007 data

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