

DFID's Education Programmes in Three East African Countries



Independent
Commission
for Aid Impact

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The Independent Commission for Aid Impact (ICAI) is the independent body responsible for scrutinising UK aid. We focus on maximising the effectiveness of the UK aid budget for intended beneficiaries and on delivering value for money for UK taxpayers. We carry out independent reviews of aid programmes and of issues affecting the delivery of UK aid. We publish transparent, impartial and objective reports to provide evidence and clear recommendations to support UK Government decision-making and to strengthen the accountability of the aid programme. Our reports are written to be accessible to a general readership and we use a simple 'traffic light' system to report our judgement on each programme or topic we review.

	Green: The programme meets all or almost all of the criteria for effectiveness and value for money and is performing strongly. Very few or no improvements are needed.
	Green-Amber: The programme meets most of the criteria for effectiveness and value for money and is performing well. Some improvements should be made.
	Amber-Red: The programme meets some of the criteria for effectiveness and value for money but is not performing well. Significant improvements should be made.
	Red: The programme meets few of the criteria for effectiveness and value for money. It is performing poorly. Immediate and major changes need to be made.

Executive Summary

During the decade 2005-15, DFID will spend over £1 billion of bilateral aid on education in three East African countries: Ethiopia, Rwanda and Tanzania. Looking back over what has been achieved since 2005 and looking forward at plans up to 2015, this review assesses how well that money is being spent.

Overall Findings Assessment: Amber-Red

DFID has focussed on expanding access to basic education and has succeeded in boosting enrolment substantially. There has, however, been a lack of attention to learning outcomes and to the trade-off between increasing access and ensuring quality. As a result, the quality of education being provided to most children is so low that a large majority is failing to achieve basic literacy and numeracy. We are pleased to note DFID's new commitment to improving education outcomes but its recent strategies and approaches will need considerable improvement to rise to this challenge.

Objectives Assessment: Amber-Red

Guided largely by the Millennium Development Goals, DFID's programmes in East Africa aim to boost primary and secondary school enrolment and achieve gender parity in enrolment. Targets are defined in terms of national averages, however, which can fail to capture local differences and therefore miss opportunities to raise performance. Countries' strategic goals are based on aspirations and do not take into account budget constraints, leading to poor prioritisation and inefficient resource use. DFID's programmes have, until recently, given inadequate attention to the quality of education, including basic factors affecting pupils' opportunity to learn. These include pupil attendance and teacher effectiveness: both are key determinants of learning outcomes and value for money.

Delivery Assessment: Green-Amber

DFID has relied heavily on budget support to deliver its education programmes. This has been key to promoting sound education policies and funding expanded education systems. It has not proved as effective, however, in addressing deeper institutional challenges. We welcome the diversification of aid types and see a need for further capacity-building support, including at the district level. Results-based aid has potential but the current design of the pilots could be significantly

improved. We acknowledge DFID's early work to assess and improve cost-effectiveness but this has to be taken forward with partner governments as a part of deeper performance improvement.

Impact Assessment: Green-Amber

We have assessed DFID against the objectives it and its partners set for their education programmes during 2005-10. DFID has largely achieved these, leading to significant progress towards universal access to and gender parity in primary education. There has also been steady improvement in secondary level enrolment, although gender parity at this level remains a challenge. Real impact, however, is about learning, where outcomes to date have been poor with wide regional variations. Assessing DFID on this basis would have led to an Amber-Red rating.

Learning Assessment: Amber-Red

Education management information systems are in place in all three countries. While strengthening them is a clear DFID objective, there is scope to do more, combining DFID's own value-for-money work with better use of the information that already exists in-country. We note DFID's measures to enhance the capacity of its permanent education advisory staff but see scope for more central support around new design and evaluation.

Recommendations

Recommendation 1: DFID should revise its 2010 strategy for education to ensure that learning outcomes are at the heart of its support through all levels of the education delivery chain.

Recommendation 2: DFID should revise its pilots on results-based aid by working with ministries of education to introduce a results focus into national funding for districts and schools.

Recommendation 3: DFID should continue to expand its support for communities to enable them to monitor and promote education, so as to encourage accountability, the widest possible participation and public debate.

Recommendation 4: DFID should strengthen its capacity-building in ministries of education to improve the value for money of their education systems. This should involve enhanced analysis (including tracking funds and comparing in-country unit costs and learning outcomes), evaluation, forecasting and application of international good practice.

1 Introduction

DFID's commitment to education

- 1.1 In a recent strategy document,¹ the Department for International Development (DFID) stated: 'Education is fundamental to everything we do. It is the key to beating poverty and the greatest investment we can make for global prosperity and the future of our world.' One of the seven high-level objectives for the UK's aid programme is to 'harness the transformative power of quality education'.
- 1.2 Education has long been a priority area for DFID. While education's share of the total bilateral programme has ranged between 10% and 14% during the period 2005-06 to 2010-11, the absolute amount has risen from £322 million to £561 million – an increase of 75%. In 2010-11, education was the fastest-growing segment of DFID's bilateral aid programme, having expanded by 42% over the previous year.² Available information on DFID's country-level plans to 2015 suggests this will continue, with education rising to be the largest single sector for DFID bilateral support by 2015.³ In 2011, DFID committed to support 9 million children in primary school and 2 million in secondary school, of whom 700,000 will be girls, by 2014.⁴
- 1.3 In addition to the DFID bilateral programme, UK aid to education includes other official sources (e.g. the British Council) and contributions to multilateral agencies. In 2010-11, for example, the bilateral total of £561 million was supplemented by £79 million from other official UK sources and a further estimated £180 million from UK multilateral aid,⁵ giving a total expenditure on education of around £820 million.

- 1.4 The UK's aid spending on education has been part of a major mobilisation of international support over the past decade to achieve the United Nations Millennium Development Goal (MDG) of primary education for all by 2015.⁶ Total aid for education from the Organisation for Economic Co-operation and Development (OECD) donors and multilateral agencies increased from £4.1 billion in 2005 to £8.1 billion in 2010.⁷ This has led to a significant expansion in access to basic education (i.e. primary and lower secondary levels).⁸ Between 1998 and 2008, an additional 52 million children were able to enrol in primary school. In Africa as a whole, enrolment rates rose by a third. There has also been significant progress in closing the gender gap in education.
- 1.5 These large increases in enrolment are very significant but tell only part of the story. As developing countries have grappled with the challenges of rapidly expanding their education systems, the quality of education they are able to offer has declined. Drop-out rates are high and literacy and numeracy levels remain low. A recent global report on the MDGs concluded that, while international assistance for education has risen to unprecedented levels, it 'has not generated the expected improvements in outcomes'.⁹ A recent National Audit Office report found that DFID's programmes have emphasised enrolment over completion or attainment and that the amount of education actually delivered and received remains low.¹⁰

Objectives of the evaluation

- 1.6 Our review assesses the effectiveness and value for money of DFID's bilateral education programmes in three East African countries – Ethiopia, Rwanda and Tanzania – over the period

¹ *UK Aid: Changing Lives, Delivering Results*, DFID, 2011, page 12, www.dfid.gov.uk/Documents/publications1/mar/BAR-MAR-summary-document-web.pdf.

² *Statistics on International Development 2006/07 – 2010/11*, DFID, October 2011, <http://www.dfid.gov.uk/Documents/publications1/sid2011/SID-2011.pdf>.

³ *The Future of UK Aid 2010-15 – Get the Data*, The Guardian, www.guardian.co.uk/global-development/datablog/2011/oct/05/datablog-future-plans-uk-aid.

⁴ *UK Aid: Changing Lives, Delivering Results*, DFID, 2011, page 12, www.dfid.gov.uk/Documents/publications1/mar/BAR-MAR-summary-document-web.pdf.

⁵ DFID's latest official aid statistics do not include the usual amount attributed to education through its multilateral aid contributions, so we have made an estimate based on the average share attributed over the previous four years.

⁶ See paragraph 2.2 below.

⁷ Data from the Organisation for Economic Co-operation and Development, International Development Statistics online database: <http://www.oecd.org/dataoecd/50/17/5037721.htm>.

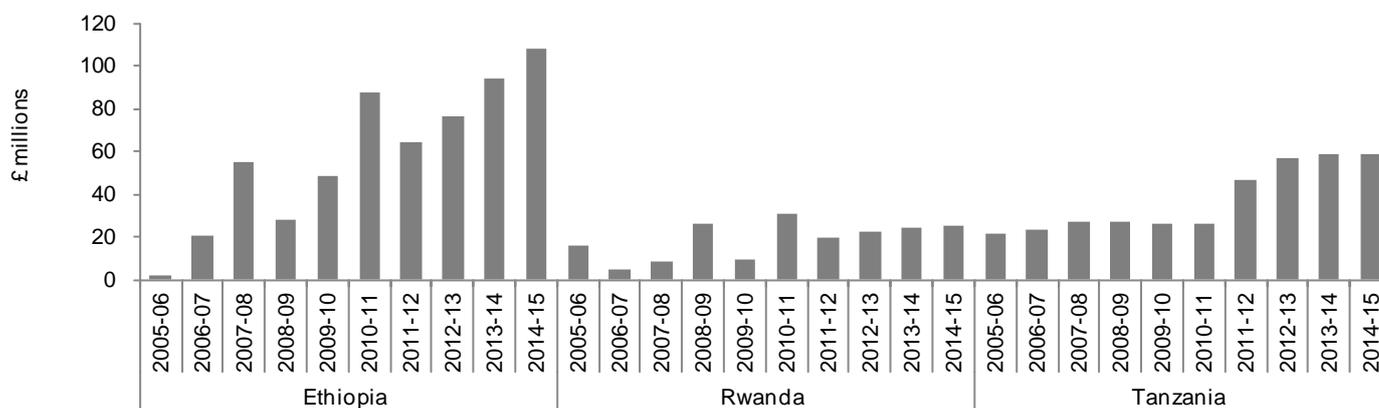
⁸ A basic education is that which prepares the learner for further education, an active life and citizenship. It is generally defined as primary and lower secondary education, i.e. up to age 14.

⁹ *Global Monitoring Report 2011: Improving the Odds of Achieving the MDGs*, World Bank, 2011, page 7, <http://siteresources.worldbank.org/INTGLOMONREP2011/Resources/7856131-1302708588094/GMR2011-CompleteReport.pdf>.

¹⁰ *Department for International Development: Bilateral Support to Primary Education*, National Audit Office, June 2010, pages 6-7, www.nao.org.uk/publications/1011/dfid_support_to_education.aspx.

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Figure 1: DFID's actual and planned expenditure on education in Ethiopia, Rwanda and Tanzania from 2005-06 to 2014-15



Source: Statistics on International Development, 2011

2005-15. It concentrates on the provision of basic education. It considers not only whether DFID's programmes have succeeded in what they set out to achieve but also whether this has delivered quality education, whether investments in education have been cost-effective and whether they are sustainable in the future.

1.7 The three countries all have substantial DFID education programmes. DFID will spend almost £1 billion in total on education in these three countries during the period under review: Figure 1 shows the distribution of that spending over the decade.

1.8 UK aid is provided in various forms, with budget support (that is, funds provided to the recipient government via the national treasury) playing a central role. Figure 2 on page 4 shows the composition of the education programmes in the three countries in 2011-12.¹¹ In Tanzania, almost all UK education funding has taken the form of general budget support, although in 2011 DFID decided to earmark a portion specifically for education. In Rwanda, about half of the education programme is delivered through budget support,¹² while in Ethiopia half is provided via earmarked

budget support for the delivery of a specified subset of basic services.¹³ The balance of funding includes various free-standing projects addressing specific areas such as capacity-building or innovation in various aspects of education delivery and promoting girls' education.

1.9 In all three countries, DFID is also developing pilots for a new form of assistance known as results-based aid. This is a departure from the traditional approach of providing aid to fund the upfront costs of development programmes. Instead, aid is released once certain specified results have been attained, leaving the recipient free to determine how best to achieve them. This hands-off approach is intended to give developing countries greater ownership of their own programmes. DFID Rwanda has set aside up to 10% of its education support to be provided in the form of results-based aid. DFID Ethiopia has allocated additional resources equivalent to 10% of its education spending to its results-based aid pilot.

1.10 Detailed results-based aid programmes are currently under design. One of the aims of our review is to assess the potential of this form of assistance.

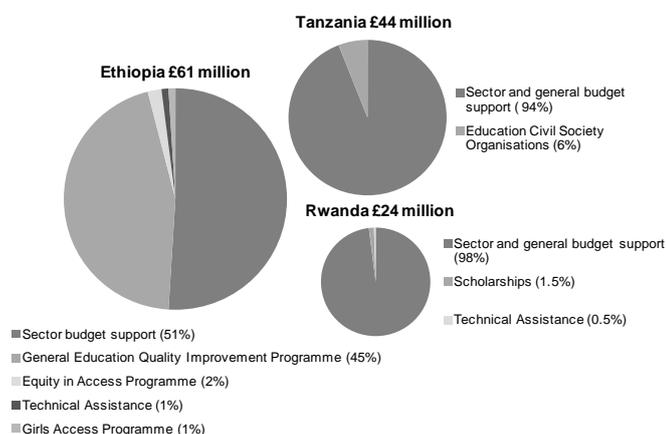
¹¹ Figure 2 is a snapshot of spending which is approved or near approval in 2011-12. It excludes projects which are planned but not yet designed.

¹² When aid is provided through general budget support, the amount attributed to education is based on the share of education expenditure in the overall government budget – usually around 20%. When aid is provided as sector budget support, the amount allocated to education is that which is specifically earmarked by DFID to education.

¹³ These are: health, education, water and sanitation and rural roads sectors through the Protection of Basic Services Programme. It is a halfway house between a general and a single sector budget support programme.

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Figure 2: DFID-approved education programmes in Ethiopia, Rwanda and Tanzania, 2011-12



Source: DFID programme business cases and submissions

The education challenge in East Africa

1.11 The three countries we reviewed are among the poorest in Africa, with average annual income below US\$500 per person and very low levels of human development.¹⁴ Rwanda is a small, land-locked country with a population of 10 million recovering from a recent history of conflict. Ethiopia and Tanzania are very large countries with dispersed, predominantly rural, populations of 83 million and 44 million respectively.¹⁵ All three countries face major organisational challenges in providing education. Figure 3 sets out some of their key education statistics.

1.12 In 1999, just before the adoption of the MDGs, barely 20% of children in these countries entered primary school at the correct age.¹⁶ All three have now made education central to their national development strategies. They have abolished fees for primary school (and for lower and upper secondary school in Rwanda), resulting in dramatic improvements in access. They have increased expenditure on education rapidly, at above the rate

of economic growth. All three countries now spend between 18% and 20% of their national budgets on education, equivalent to between 5% and 7% of Gross Domestic Product (GDP).¹⁷ This compares favourably with the UK figure of 5% but translates into only £20-£30 per primary school pupil, compared with £4,500 in the UK.

Figure 3: Comparison of key education statistics in Ethiopia, Rwanda and Tanzania¹⁸

	Ethiopia	Rwanda	Tanzania
School age population (million)	20.5	2.4	9
Children not enrolled in primary school	2.2 million	60,000	268,000
Primary enrolment rate (% net)	85	96	94
Primary completion rate (%)	49	54	63
Youth literacy rate (%)	50	77	78
Gender parity at primary school (number of girls enrolled per 100 boys)	94	102	102
Retention ¹⁹ to last grade of primary, girls (%)	41	n/a	77
Retention to last grade of primary, boys (%)	35	n/a	71
Gender parity at secondary school (number of girls enrolled per 100 boys)	83	102	78
Gross graduation rate ²⁰ for lower secondary, girls (%)	22	n/a	n/a
Gross graduation rate for lower secondary, boys (%)	31	n/a	n/a
Estimated government expenditure per primary school child ²¹ per year	£20	£30	£27

¹⁷ *The Hidden Crisis: Armed Conflict and Education*, Education for All Global Monitoring Report, UNESCO, 2011, <http://unesdoc.unesco.org/images/0019/001907/190743e.pdf>.

¹⁸ World Bank EdStats: latest available data (2007-10), with updates for 2010-11 provided by DFID offices where available, <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTEDUCATION/EXTDA/TASTATISTICS/EXTEDSTATS/0..menuPK:3232818~pagePK:64168427~piPK:64168435~theSitePK:3232764,00.html>. For school age population: UN Population Division, www.un.org/esa/population/. For youth literacy rate: *The Hidden Crisis: Armed Conflict and Education*, Education for All Global Monitoring Report, UNESCO, 2011, www.unesco.org/new/en/education/themes/leading-the-international-agenda/efareport/. For expenditure per child see footnote 21.

¹⁹ Retention (or 'persistence') to last grade of primary is the percentage of children enrolled in the first grade of primary school who eventually reach the last grade of primary education. The estimate is based on the reconstructed cohort method.

²⁰ Defined as the total number of lower secondary education graduates expressed as a percentage of the population at the theoretical graduation age for this level of education. Data for 2009. Taken from Global Education Digest 2011, UNESCO, www.uis.unesco.org/Library/Documents/global_education_digest_2011_en.pdf.

²¹ Estimates quoted in various DFID project documentation based on recent (2009-10) budget estimates and exchange rates, except for Rwanda which is a corrected estimate by the ICAI review team.

¹⁴ Out of 187 countries on the United Nations Human Development Index, their rankings are 152 (Tanzania), 166 (Rwanda) and 174 (Ethiopia): *Human Development Report 2011*, UNDP, 2011, http://hdr.undp.org/en/media/HDR_2011_EN_Complete.pdf.

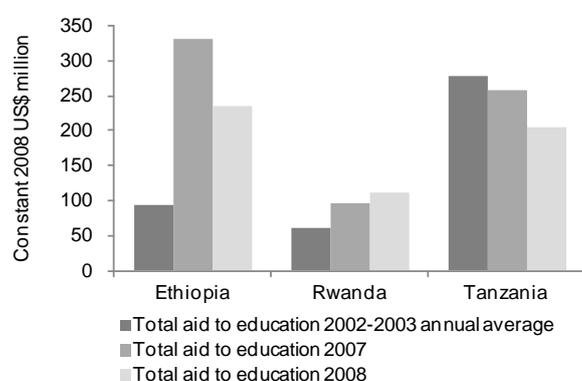
¹⁵ UN Population Projections 2010, www.un.org/esa/population/publications/wpp2009/WPP2009%20web/Countries/WPP2009%20Frame.htm.

¹⁶ *The Hidden Crisis: Armed Conflict and Education*, Education for All Global Monitoring Report, UNESCO, 2011, <http://unesdoc.unesco.org/images/0019/001907/190743e.pdf>.

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1.13 Figure 4 shows how national education budgets have been backed by extensive international support. Donors are currently funding 37% of the government education budget in Ethiopia, an estimated 50% in Rwanda and 12% in Tanzania.²² Along with the World Bank, the United States and the European Union, DFID is among the top four donors in each country.²³

Figure 4: Total aid to education in Ethiopia, Rwanda and Tanzania 2002-03, 2007, 2008 in constant 2008 US dollars



Source: *The Hidden Crisis: Armed Conflict and Education*, Education for All Global Monitoring Report, UNESCO, 2011²⁴

Methodology

1.14 Our evaluation methodology consisted of a number of elements:

- we conducted a review of the evidence available internationally on what makes education programmes effective;
- at the central level, we reviewed DFID policy documents and guidance material, analysed spending patterns and interviewed DFID staff in London;
- for each of the case study countries, we reviewed DFID programme design documents, performance frameworks, national education strategic plans and related reviews and evaluations; and

- we conducted country visits during the period November 2011 – January 2012 which included interviews with DFID staff, other development partners, ministry of education officials, district education officers, head teachers, teaching staff, parents and civil society experts. We conducted a range of school visits, both announced and unannounced.

1.15 It is in our view self-evident that the basic building blocks of effective learning in school include early grade learning, pupil and teacher attendance, pupil-teacher ratios, the availability of teaching materials and the number of hours of instruction provided to pupils. These are set out clearly in the *Opportunity to Learn* framework developed by the EQUIP2 programme with funding from the United States Agency for International Development (USAID) reproduced as Figure 5 on page 6.²⁵ These building blocks are consistent across countries, although there are different local challenges to achieving them.

²² Estimates from Donors' Protection of Basic Services Secretariat (Ethiopia) and Education Joint Sector Review Aide Memoire 2011 (Tanzania), www.ed-dpg.or.tz. Estimate for Rwanda quoted to us by DFID Rwanda staff.

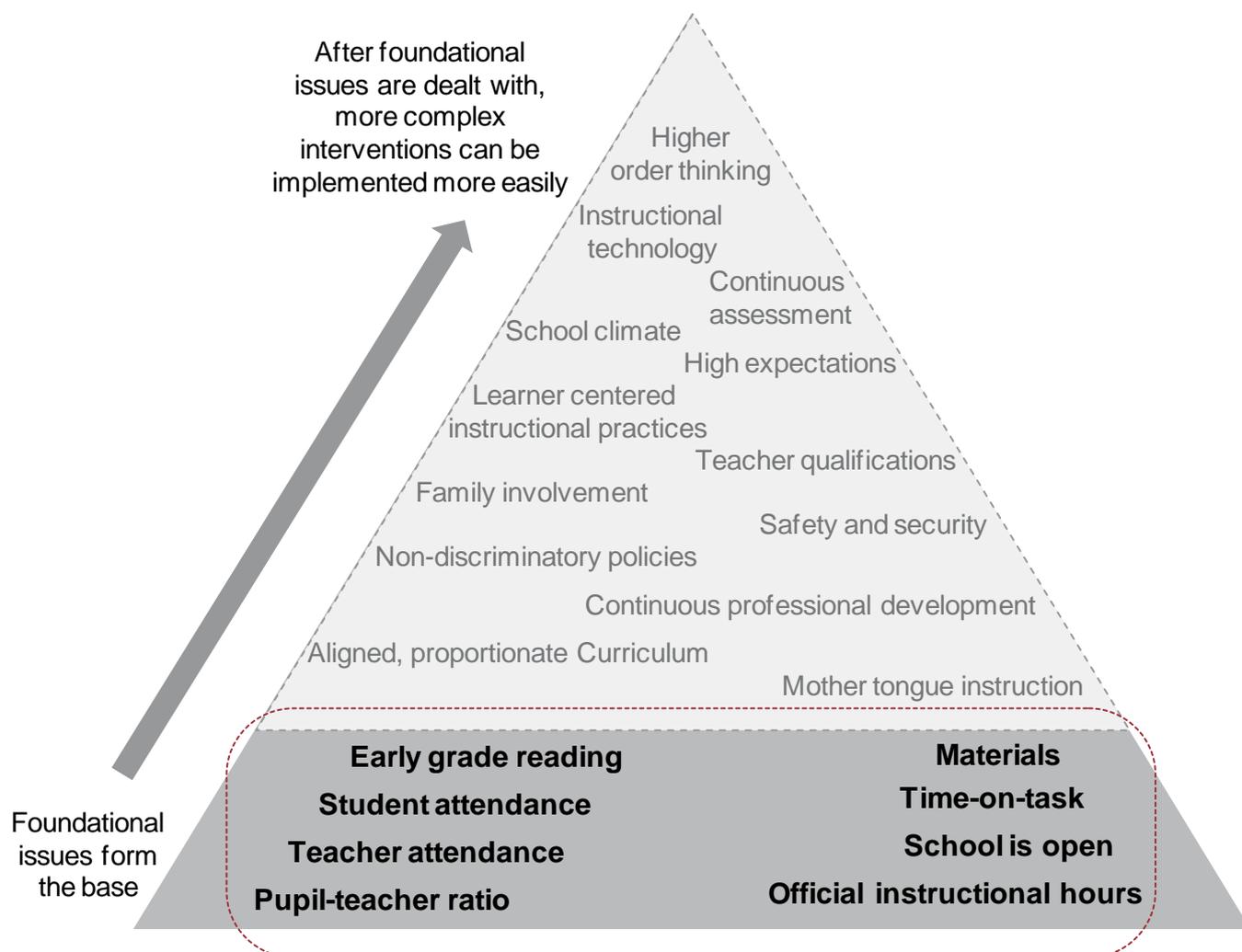
²³ OECD DAC/World Bank/Asian Development Bank, www.aidflows.org/.

²⁴ This is the most recent data available that covers all three review countries.

²⁵ *Opportunity to Learn: A High Impact Strategy for Improving Education Outcomes in Developing Countries*, EQUIP2 Working Paper, USAID, 2008, <http://www.eric.ed.gov/PDFS/ED505686.pdf>. A McKinsey paper (M. Mourshed and others, *How The World's Most Improved Schools Systems Keep Getting Better*, McKinsey & Company, 2010, <http://mckinseysociety.com/how-the-worlds-most-improved-school-systems-keep-getting-better/>) also sets out the need to bring 'all the schools in the system up to a minimum quality threshold'.

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Figure 5: Opportunity to Learn framework



Source: *Opportunity to Learn: A High Impact Strategy for Improving Education Outcomes in Developing Countries*, EQUIP Working Paper, USAID, 2008

1.16 We used this framework to assess whether DFID's support is addressing systematically the linkages between inputs into education systems and better education outcomes.²⁶

1.17 We undertook at the same time a separate review of DFID support to education in Bihar state in India.²⁷ While the focus of that review is rather different from this three-country African study, we compare and contrast our findings where it is useful to do so.

²⁶ DFID's 'loss of learning time' concept, set out in *Learning for All: DFID's Education Strategy 2010-2015*, DFID, 2010, <http://consultation.dfid.gov.uk/education2010/files/2010/04/learning-for-all-strategy.pdf>, is similar but does not provide such a coherent linkage between inputs, outputs and outcomes. The concept of opportunity to learn builds on work in the 1960's (J. Carroll) and 1980's (RAND institutional quality indicators). Opportunity to Learn standards have also been applied in the United States.

²⁷ *Evaluation of DFID's Support for Health and Education in India*, Independent Commission for Aid Impact, 2012.

2 Findings

Objectives

Assessment: Amber-Red 

2.1 In this section, we look at DFID's stated objectives for its education programmes in Ethiopia, Rwanda and Tanzania and assess whether they are clear, relevant, realistic and focussed on the desired impact.

The focus of DFID's objectives

2.2 In 2000, the international development community committed to the MDGs. MDG 2 states: 'by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary education'.²⁸ Progress was to be measured by three indicators:

- net enrolment in primary education;
- the proportion of pupils starting first grade who reach the last grade of primary school; and
- literacy rates among 15-24 year olds.²⁹

In addition, MDG 3 included an education target of achieving gender parity in primary and secondary schools.

2.3 The UK Government has made successive commitments to increase its support for these MDGs. DFID has also played a major role in mobilising assistance internationally – most notably through the Global Partnership for Education³⁰ – and has leveraged funds from other bilateral donors. We were told on several occasions by other donors that DFID's presence gave them confidence to participate in the education sector. In Rwanda, Belgium entrusts the management of its education support to DFID, as do the European Union and France in Tanzania.

2.4 Our case study countries all have national development programmes in which education is a central part, together with comprehensive education sector plans and annual performance assessment frameworks. All have increased

significantly the proportion of the national budget allocated to education during the ten years we reviewed.³¹ Through its budget support and its close engagement with policy-making, planning and budgeting, DFID is well aligned with the education strategies of its partner governments.³²

2.5 DFID's main concerns have been to achieve progress in expanding primary and, latterly, secondary education.³³ This includes building classrooms, recruiting and training teachers and procuring textbooks. DFID's programmes have also helped to put in place some of the basic organisational infrastructure, including supporting district education offices and teacher training institutions and developing national curricula.

2.6 Following the MDGs, DFID has tended to define its objectives in terms of national averages. These mask major differences within and between regions in each of the three case study countries. Except in Ethiopia, where officially designated 'emerging regions' receive special programmes, we found limited evidence that education policy focussed on regional variations. This represents a missed opportunity to use the available data to identify localised interventions for not only reaching the poorest but also, from a technical perspective, understanding why performance varies within the education sector.

Country plans and donor engagement

2.7 DFID is supporting the implementation of a wide-ranging strategic plan in each country. All the plans are highly ambitious, with large numbers of competing objectives and insufficient prioritisation. Senior government officials acknowledged that the plans and targets exceeded the available finance but they felt it necessary to overbid due to competition from other ministries for the limited national resources.

2.8 Performance targets are set within the context of these inflated budgets. Financing gaps of the order

²⁸ Resolution adopted by the General Assembly, 18 September 2000, <http://www.un.org/millennium/declaration/ares552e.pdf>.

²⁹ This indicator is very poorly measured. Only one observation in ten years is available in the leading international database for education (UNESCO EdStats) for each of the three review countries. We have therefore not been able to assess progress on it.

³⁰ Formerly the Education Fast Track Initiative, the Global Partnership for Education has raised £1.3 billion in international funding for education since 2003, <http://www.globalpartnership.org/about-us/the-Partnership-is-a-Good-Investment/>.

³¹ Data from Ministries of Finance. See Impact section.

³² When assessing DFID's education objectives at the country level, we take into account both the objectives set out in DFID's own programming documents and the content of national education strategies, which DFID aims to influence.

³³ Expanding secondary education also quickly became more important as numbers passing through primary grew and as the skills required for formal employment rose.

2 Findings

of 20-30% are the result.³⁴ Once an annual budget ceiling had been approved, it was not clear how priorities were selected by central and local administrations in order to remain within the approved budget. Very little time appeared to be spent, in the annual review process, in assessing the gaps between planned budgets and actual expenditure with the resulting effect on performance. As a result, we found that neither the ministries of education nor DFID were sufficiently focussed on the difficult choices involved in planning the expansion of education within a limited set of resources.

- 2.9 In each of the case study countries some form of division of labour among donors is in operation, with DFID focussing on basic education while other donors cover areas such as vocational or tertiary education. While this is an efficient way of organising donor engagement, we found that it leads to limited awareness of overall financing issues.

Lack of focus on learning outcomes

- 2.10 DFID's focus areas of boosting enrolment and providing educational inputs are necessary steps towards universal primary education. They do not, however, automatically lead to educational attainment. Enrolment, for example, requires only that the child attend on the first day of the school year.

- 2.11 International experience shows that a drive for universal primary enrolment in poor countries risks causing attainment to decline,³⁵ as the number of children entering school leaps ahead of the capacity of the system. A credible strategy for achieving effective universal primary education calls for careful sequencing of reforms and prioritisation of investments so as to manage this tension. If this is not done, there is a risk that large increases in education expenditure will not produce commensurate improvements in outcomes.

- 2.12 In framing its overall objectives narrowly in terms of expanding access to education, DFID has largely neglected to address the basic preconditions for learning. By contrast, our review of education programmes in India showed that DFID had balanced somewhat sooner (around 2008) its objectives between the scope and quality of education services. For example, one of the targets for DFID education programmes in India is to increase by 2% the proportion of children who after two years of primary school have sufficient fluency to 'read to learn'.³⁶ DFID's recently agreed corporate performance framework³⁷ now includes a measure of reading fluency in early grades, in line with emerging international practice, including the Global Partnership for Education.

- 2.13 In Figure 6 on page 9, we use the Opportunity to Learn framework and other issues to assess whether DFID programme objectives are focussed on learning. We found that DFID does not set objectives around teacher or pupil attendance or learning time in any of our three case study countries although we understand that DFID Ethiopia is starting to measure learning time. Other key measures, including learning assessments, are used inconsistently. As a result, we conclude that, in the design of its support, DFID is not linking the expansion of inputs to learning outcomes in a practical, operational sense.

³⁴ Government of Rwanda Ministry of Education, Education Sector Strategic Plan 2010-2015; Government of Ethiopia, Education Strategic Development Plan IV 2010-2015; Government of Tanzania, Ministry of Education and Vocational Training Medium Term Strategic Plan 2010-2013.

³⁵ For example, *The Quality Imperative: Education for All Global Monitoring Report*, UNESCO, 2005, www.unesco.org/images/0013/001373/137333e.pdf.

³⁶ *Evaluation of DFID's Support for Health and Education in India*, ICAI, May 2012, paragraph 2.8.

³⁷ *Managing and Reporting DFID Results*, DFID, www.dfid.gov.uk/Documents/publications1/DFID-external-results.pdf.

2 Findings

Figure 6: Issues addressed in DFID's current education strategic plans and performance frameworks in Ethiopia, Rwanda and Tanzania

	Ethiopia	Rwanda	Tanzania
Access & enrolment	Yes	Yes	Yes
External examinations	Yes	Yes	No
Learning assessment	Yes	No	No
Opportunity to Learn			
■ Pupil–teacher ratio	Yes	Yes	Yes
■ Textbooks	Yes	Yes	Yes
■ Teacher attendance	No	No	No
■ Pupil attendance	No	No	No
■ Learning time	No	No	No
Local participation (parent–teacher associations)	Yes	Yes	No
Regional/district targets	Yes	No	Yes
Readiness to progress through education	No	Yes	No
Budget targets	Yes	No	No

2.14 There has recently been a rebalancing in DFID's approach from a focus on access to a new concern with defining and delivering quality. DFID's 2010 education strategy³⁸ marks the beginning of this transition. The strategy contains a large number of objectives for DFID's education assistance, from achieving basic literacy and numeracy to ensuring access for the poor, prioritising girls and marginalised groups and expanding access to lower secondary school. We support these objectives but we are concerned that there is insufficient recognition in all of this of the tension outlined in paragraph 2.11.³⁹

2.15 Where resources are scarce and institutional capacity weak, there are limits to the extent to which these objectives can be pursued simultaneously. There is, however, no indication of their relative priority and no discussion of sequencing. Too little attention is paid in DFID's education strategy to issues of institutional change, the requirements of decentralised management or

the need to make difficult choices in an environment of scarce resources. This is in contrast to the World Bank⁴⁰ or USAID⁴¹ education strategies, for example, which are more explicit about the need for institutional change and systems development.

2.16 There is, therefore, still considerable scope for DFID to strengthen its education strategy and the design of its programmes to identify credible and affordable plans to achieve improved learning. We encourage DFID to be at the forefront of international thinking on these issues.

Delivery Assessment: Green-Amber

2.17 This section assesses the delivery of DFID's education programmes, looking at the two periods 2005-10 and 2010-15. It covers budget support and other options, DFID staffing, results-based aid, accountability and cost effectiveness. It draws on interviews with government officials, civil society representatives, teachers and parents.

Aid for education 2005-10: budget support predominates

2.18 The majority of DFID's aid to education across the three countries has been delivered as budget support. During the first half of our review period (2005-10), budget support was donors' preferred aid delivery method wherever country conditions permitted and where recipient governments were in favour.⁴² In Tanzania, DFID supported education almost entirely through general budget support, supplemented from 2008 with some small-scale support to local education advocacy groups. In Rwanda, general and sector budget support were accompanied by a joint donor fund for technical assistance. Since 2005 in Ethiopia, education has been supported through earmarked funds for a set

³⁸ *Learning for All: DFID's Education Strategy 2010-2015*, DFID, 2010, <http://consultation.dfid.gov.uk/education2010/files/2010/04/learning-for-all-strategy.pdf>.

³⁹ *Learning for All: DFID's Education Strategy 2010-2015*, DFID, 2010, <http://consultation.dfid.gov.uk/education2010/files/2010/04/learning-for-all-strategy.pdf>.

⁴⁰ *Learning for All: Investing in People's Knowledge and Skills to Promote Development*, World Bank Group, 2011, http://siteresources.worldbank.org/EDUCATION/Resources/ESSU/Education_Strategy_4_12_2011.pdf.

⁴¹ *Education: Opportunity through Learning*, USAID, February 2011, http://www.usaid.gov/our_work/education_and_universities/documents/USAID_ED_Strategy_feb2011.pdf.

⁴² *Joint Evaluation of General Budget Support Synthesis Report*, OECD DAC, 2006, www.oecd.org/dataoecd/25/43/37426676.pdf.

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of poverty-focussed basic social sectors, of which education is one.⁴³

2.19 Budget support has had a number of advantages as well as some risks:

■ Advantages

- it has enabled DFID to support an increase in education spending from around 3% of Gross National Product in 2000 to over 5% today in all three countries;⁴⁴
- it has led to a stronger focus on public financial management issues by governments and donors in each of the three countries; and
- it has enabled multiple donors to align behind national plans and a common results framework thereby creating a shared platform for policy dialogue.

■ Risks

- a focus on the very broad questions of public financial management and aid effectiveness, rather than the sector-specific questions of management systems and organisational change, such as the links between inputs, outputs and learning outcomes in education; and
- the platform for dialogue which the budget support monitoring process provides is only as good as the quality of input that development partners bring to it. Annual sector review processes can easily become routine, without a sufficient level of challenge, especially if they focus on national averages as the key targets.

2.20 A key part of the budget support philosophy is that donors move away from micro-managing the delivery of development programmes, leaving the government with stronger ownership of the process. Instead, donors focus on influencing

government policies and budgets. Inevitably, education advisers have focussed on high-level budget and policy questions, rather than detailed issues of management systems and organisational change. We find, therefore, that DFID and other bilateral donors have been pushing for larger education budget allocations and more ambitious policy goals. This is without, however, being able to engage substantively with the detailed institutional change processes necessary to deliver them. This is in contrast to our findings on DFID education programmes in India, where a wider set of complementary approaches has led to higher quality relationships with the counterpart agencies and a more convincing approach to supporting complex reforms.⁴⁵

2.21 The experience from our case study countries suggests, therefore, that budget support has been very important in funding the expansion of basic education. It has been less useful for addressing institutional bottlenecks⁴⁶ to improved education quality. We are concerned that it has led to DFID taking a hands-off approach to the education system, rather than working more closely with its partner countries to resolve complex reform challenges.

Aid for education 2011-15: diversifying away from budget support

2.22 DFID's 2011-15 country operational plans for our three case study countries recognise that, while budget support remains important for funding expanded education systems, it needs to be complemented by other types of aid. DFID is now engaged in a process of rebalancing its education support from general to sector budget support, accompanying budget support with an expanded suite of projects to address specific institutional issues.⁴⁷ These include:

⁴³ General budget support was suspended following human rights abuses during the 2005 general elections in Ethiopia. It was replaced by a Protection of Basic Services Sector Support Programme, which includes support for the health, education, rural roads, water and sanitation sectors.

⁴⁴ *Education for All Global Monitoring Report 2011 – The Hidden Crisis: Armed Conflict and Education*, UNESCO, 2011, Table 9, <http://unesdoc.unesco.org/images/0019/001907/190743e.pdf>.

⁴⁵ *Evaluation of DFID Support to Health and Education in India*, ICAI, April 2012, paragraphs 2.15-2.19.

⁴⁶ Institutional bottlenecks vary by country and institution. They often require detailed investigation and hands-on experience to identify and address. They can include, for example, the need for teachers to travel miles to collect their salaries, the late provision of funds to schools, corrupt inspection practices and bureaucratic procedures for procuring textbooks.

⁴⁷ DFID Operational Plans 2011/2015 for Ethiopia, Rwanda and Tanzania: <http://www.dfid.gov.uk/Documents/publications1/op/ethiopia-2011.pdf>, <http://www.dfid.gov.uk/Documents/publications1/op/rwanda-2011.pdf>, <http://www.dfid.gov.uk/Documents/publications1/op/tanzania-2011.pdf>.

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- technical assistance funds to provide advice and analysis to meet capacity-building needs of the ministries of education and the decentralised delivery systems;
- innovation funds to pilot new methods and approaches in conjunction with the ministries of education; and
- targeted projects to tackle specific issues (for example, girls' access to secondary education, promoting budget transparency or strengthening parent–teacher associations).

2.23 Budget support now accounts for about half of DFID's education programmes in Rwanda and Ethiopia. This is more balanced than its programme in Tanzania which, at 94% general and sector budget support, remains at an early stage of diversifying its education support.⁴⁸

2.24 The ministries of education and regional and district authorities that we consulted all stressed their need for technical support to deal with underlying management and financing issues. We believe that they would welcome a higher level of technical challenge based on deeper analysis of the problems that they face and concrete evidence of what has worked in other countries.

DFID staffing 2010-15: increasing education adviser numbers

2.25 It has long been DFID practice to post dedicated specialist UK advisers to country offices to manage the different sector programmes: a health specialist would advise on and help manage the health programme; an education specialist would advise on and help manage the education programme; and so on. Beginning in around 2003, however, DFID introduced the use of 'hybrid' advisers by which health, education and social development specialists could all be asked to cover the whole range of social sector programmes. This will have contributed to the less focussed approach to policy dialogue in education identified above. We contrast this with our findings in India, where DFID has been able to recruit local staff (including secondees from Indian government agencies) with

high capacity to engage with and challenge their Indian government counterparts.

2.26 DFID is now reversing this policy. Since 2010, it has increased its complement of education advisers from 34 to 42 worldwide and intends that all of them will work full time on education.⁴⁹ This represents a welcome restoration of advisory capacity to complement DFID's growing education expenditure.⁵⁰ In each country, the current level of advisory support for education funding has increased significantly. This approach offers more opportunity for DFID to conduct a more robust dialogue with the ministries of education.

2.27 We also welcome DFID's measures to develop its pool of education advisers with more support from DFID policy teams in the economics of education and value for money assessment. DFID also supports the development and promotes the use of the World Bank's education analytical toolkit, SABER.⁵¹ This should enhance the capacity of education advisers to provide more informed advice to partner governments.

Aid for education 2010-15: Piloting results-based aid

2.28 Pilots on results-based aid are being designed in each of the three countries. We welcome results being defined in terms of learning outcomes. We nonetheless have several concerns with the proposals currently under consideration. Results-based aid could represent a progression to an even more high-level approach, leaving the recipient country's ministry of education to solve institutional and financing bottlenecks to the delivery of results. Yet it is precisely in these areas that the most assistance is needed.

⁴⁹ DFID written evidence to Public Accounts Committee, 24 November 2011, www.publications.parliament.uk/pa/cm201012/cmselect/cmpublic/1695/1695we02.htm.

⁵⁰ The recent increase in education adviser resources in Ethiopia is from one full-time equivalent (fte) to 1.2 fte. In Rwanda, the position is stable, with a full-time education adviser post in existence for a number of years. In Tanzania, the education adviser role has been enhanced from a former 0.5 fte to a current 1.0 fte, plus an additional 1.0 fte by mid 2012. In all three countries there is more general support staff time available for education to cover results, cost effectiveness, social development and project delivery.

⁵¹ System Assessment and Benchmarking for Education Results (SABER) is a World Bank initiative to develop diagnostic tools that benchmark education policies according to evidence-based global standards and best practice. They are detailed technical guides and manuals while the Opportunity to Learn framework is a simple conceptual framework. They can and should be used together.

⁴⁸ Proposals have been outlined for new projects in the Tanzania education programme which will reduce the share of budget support for education to under 50% during 2010-15 but these are still to be designed and approved.

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2.29 At present, the proposal is that, if agreed education targets⁵² are achieved, DFID will provide additional funds to the ministry of education. We are not convinced that positive incentives will be generated in this way.⁵³ Ministries of education are already struggling to meet challenging targets with limited resources. Increasing the level of ambition is not as important as improving the effectiveness of existing delivery chains.

2.30 We found that the ministries of education were interested in exploring the possibility of introducing results-based elements into the way they transfer funds to encourage improved performance. They were willing to consider results-based elements for districts, schools, teachers, parents and local communities. This is usually known as 'results-based financing'.⁵⁴ As in Ethiopia, it may be more promising and constructive to work jointly with ministries of education to pilot this, rather than to treat the ministries themselves as the subject of the experiment. It would also be an opportunity to introduce the ministries to more rigorous evaluation methods.

2.31 Given the constraints evident in each of these countries, there is a danger that results-based aid could create negative incentives to manipulate results. Within the education sector, there is ample scope to 'game' the system in this way, as was acknowledged in meetings with senior education officials. To reduce this risk, DFID is required to put in place independent means of verifying the results.

Aid for education 2010-15: increasing support to transparency, accountability and parent/community participation

2.32 In all three countries, the ministries of education are responsible for planning, setting standards and

monitoring, while the delivery of education is the responsibility of regions and districts. It is often at the *sub-national* level that commitment and capacity turns policy into real change. Although the regional and district delivery bodies that we met expressed their urgent need for support, this is largely absent from DFID programming, as DFID has chosen to engage primarily with the central ministries.

2.33 There is increasing evidence that countries with greater local decision-making authority and greater accountability have better learning outcomes.⁵⁵ All three case study countries have parent-teacher committees in primary and secondary schools. We met elected school representatives and were struck both by their range of functions (from signing off school accounts to dealing with instances of bullying and dropping out) and their level of commitment. In all three countries, parents and the wider community make significant cash and in-kind contributions, most notably building schools and supplementing low teacher salaries. All the parents we met were proud of their schools, keen to contribute and convinced that their children's attendance was key to their family's future. In practice, however, the role which parents play is not being used as a means of holding government to account. DFID has recognised that this is an area for further support and development.

2.34 The Government of Ethiopia has been conducting a periodic Woreda (District) Benchmarking Survey since 2005. This is a good practice providing citizen feedback on education (and other local services) to support future improved delivery. We welcome plans in Rwanda and Ethiopia for DFID to support the introduction of school report cards (showing the extent to which various standards are met) and to strengthen the role of parent-teacher associations.

2.35 We also welcome DFID support for national non-governmental organisations (NGOs) to engage in research, advocacy and piloting targeted interventions. The example of the education NGOs

⁵² At the time of our review, the proposed results-based aid target in Rwanda was an increase in pass rates in primary and lower secondary leaving examinations; in Ethiopia, the results-based aid target was an increase in pass rates in lower secondary leaving examinations, with additional reward when these are by girls or children in designated emerging regions. Targets had not yet been selected in Tanzania.

⁵³ In Rwanda, for example, the Ministry of Finance told us that the education budget is protected as a priority sector, which means that any unexpected shortfall in assistance from DFID will be made up with transfers from other sectors.

⁵⁴ See Mark Pearson, *Results-Based Aid and Results-Based Financing: What Are They? Have They Achieved Results?*, HLSP Institute, January 2011, <http://www.hlsp.org/LinkClick.aspx?fileticket=tdqKrWX321Q%3d&tabid=2288&mid=4442>.

⁵⁵ Barbara Bruns, Deon Filmer and Harry Anthony Patrinos, *Making Schools Work: New Evidence on Accountability Reforms*, World Bank, 2011, <http://siteresources.worldbank.org/EDUCATION/Resources/278200-1298568319076/makingschoolswork.pdf>.

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in Tanzania – Haki Elimu, Uwezo and Twaweza – is particularly striking. They have not only mobilised the community to support their local schools (Haki Elimu),⁵⁶ but also involved them in nationwide exercises to monitor the declining level of public funding reaching the school level (Twaweza). They have also undertaken their own learning assessment surveys (Uwezo). Together, they have served as a highly effective challenge for both the Tanzanian Government and donors. Uwezo triggered major debates in the national press with its report⁵⁷ on the poor learning by schoolchildren which they recently uncovered. This example of the impact of community participation in education confirms the value of the recent DFID commitment to spend up to 5% of the bilateral programme in countries receiving budget support to promote accountability and transparency and illustrates how effectively it can be spent in the education sector in particular.

- 2.36 Ministries of education could do more to report their progress more clearly. While some aspects of the joint sector review process are public, they tend to be intensely bureaucratic affairs, navigable only by a limited number of organisations. Although both the Tanzanian and Rwandan Governments report annually on progress in the education sector, only in Rwanda do they produce an annual report aimed at the wider public. It would be a positive move if DFID encouraged the publication of an accessible annual report which summarised progress against key targets. This would be a good discipline for ministries and development partners and it would contribute to wider interest and involvement in the major education debates.

Cost-effectiveness

- 2.37 In June 2010, the National Audit Office concluded that DFID should 'take a tougher, clearer stance on the importance of cost and service performance information and in particular indicators of education delivery and attainment if it is to make sure that its contributions achieve the maximum good effect'.⁵⁸

In response, DFID undertook to have 'full data coverage of a set of education measures that provide a framework for driving improvements in the performance of education systems and the value for money of DFID investment in education'.⁵⁹

- 2.38 DFID has begun to generate a multi-country database of input costs and has produced guidance for advisers on cost-effectiveness in education, starting with textbook procurement and classroom construction and other key issues such as corruption risks. More briefings are in the pipeline. This is a useful first step in building up the capacity for quantitative analysis within DFID's pool of education advisers.
- 2.39 We note, however, that cross-country comparisons need to be approached with considerable care, especially across education systems at different stages of development, to make sure that like is being compared with like. We have not, therefore, attempted to rank the cost-effectiveness of the three country programmes we have examined. In the Annex, we set out some of the pitfalls involved in cross-country comparison of unit costs.
- 2.40 In most cases, there is more insight to be gleaned from in-country comparators of unit costs, such as between provinces, districts or schools or across time. Identifying major discrepancies and outlying cases often represents an opportunity for cost savings; the UK Audit Commission has a number of simple tools it uses to identify such variations within the UK. At present, in the reporting we have observed, this kind of variation is hidden by the tendency to use national averages.
- 2.41 We noted the interest that partner governments showed in the notion of cost-effectiveness. As the period of rapid expansion of education budgets draws to a close, they recognise that their

⁵⁶ See www.hakielimu.org/.

⁵⁷ *Are Our Children Learning?* Annual Learning Assessment Report, Uwezo, 2010, www.uwezo.net/uploads/files/Uwezo%20Report%202011.pdf.

⁵⁸ *DFID's Bilateral Support to Primary Education*, NAO, June 2010, <http://www.nao.org.uk/idoc.ashx?docId=134fd82e-fdaf-4a38-8f58-1a0515f67d2f&version=-1>.

⁵⁹ These measures are: i) information on the cost per child supported in primary school; ii) information on the unit costs of key inputs to education systems, e.g. classrooms and textbooks; iii) better data on the status of learning in most DFID focus countries; iv) a comprehensive set of system diagnostics and reports to assess the effectiveness of any country's education system. DFID's bilateral support to primary education. Supplementary written evidence from DFID. Memorandum to Committee of Public Accounts: one year update on DFID's bilateral support to primary education, Session 2010-12, HC 594. www.publications.parliament.uk/pa/cm201012/cmselect/cmpubacc/writev/594/m01.htm.

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challenge is to deliver more with the limited resources available. Ministries are therefore looking for advice and technical support. We encourage DFID to broaden its focus on cost-effectiveness to cover not just its own corporate commitments but also the needs of its partners to increase the value of their education expenditure.

- 2.42 Teacher salaries absorb on average around 70% of primary education budgets.⁶⁰ The effectiveness of teachers is therefore the single most important variable determining the cost-effectiveness of education expenditure, as well as the quality of education provided. We were therefore surprised to find there had been no major study in any of the three countries, by DFID or the ministries of education, on teacher attendance or on teaching time within the school day as part of the core management of the education system. All three countries are struggling to recruit enough teachers to keep pace with pupil numbers. While DFID supports in-service training in each country, we found a relative neglect of other aspects of teacher workforce management, such as recruitment, retention and school leadership. More attention to teacher effectiveness and workforce planning could make a major contribution to improving cost-effectiveness.

Corruption

- 2.43 The purpose of our review was not to undertake an audit so we cannot report definitively whether or not corruption in education exists. Both Rwanda and Ethiopia are judged by donors to be relatively low risks for corruption in general⁶¹ and we heard nothing to the contrary from the large number of people in a wide range of organisations to whom we spoke.
- 2.44 Tanzania is a somewhat different story, being regularly criticised by donors for failing to control public sector corruption. The education sector specifically witnessed a public storm in 2008 over 'phantom' teachers retained on the public payroll

after they had left or died and a 2010 public expenditure tracking survey in education⁶² found that 30% of initial budget allocations to primary schools were not received. The extent to which this is due to corruption or weaknesses in financial management is not yet clear. DFID continues to provide Tanzania with budget support precisely in order to be able to monitor and help strengthen public financial management. When providing budget support, DFID must ensure the value for money of funds channelled through the budget. This means identifying the main constraints and addressing them systematically in reform programmes. This includes both corruption issues and financial management practices, particularly around devolved functions. DFID should undertake detailed investigations into the determinants of value for money in the education sector, drawing on DFID's own guidance notes, fiduciary risk assessments, public expenditure reviews and tracking surveys and have an explicit strategy to address the findings.

Impact

Assessment: Green-Amber 

- 2.45 For most of the period covered by this review, DFID's objectives in education have been to expand budgets, mobilise essential inputs, increase enrolment and improve gender parity. This reflects the international priorities of the time. This section assesses DFID's achievement against these goals, producing an overall assessment of Green-Amber.
- 2.46 We are concerned, however, that actual learning outcomes to date are poor, as indicated by the evidence we set out in this section. Had we assessed the impact of DFID's education programmes in the three countries against what we believe the objectives should have been (that is, children learning rather than just being enrolled into school), the rating would have been Amber-Red.

⁶⁰ This can vary between 50% and 90% in individual countries. See *Financing Education in Sub-Saharan Africa: Meeting the Challenges of Expansion, Equity and Quality*, Institute for Statistics, UNESCO, 2011, www.uis.unesco.org/Library/Documents/Finance_EN_web.pdf.

⁶¹ See Public Expenditure and Financial Accountability (PEFA) reports at <http://web.worldbank.org/WBSITE/EXTERNAL/PEFA/0,,contentMDK:22687572-menuPK:7313202-pagePK:7313176-piPK:7327442-theSitePK:7327438,00.html>.

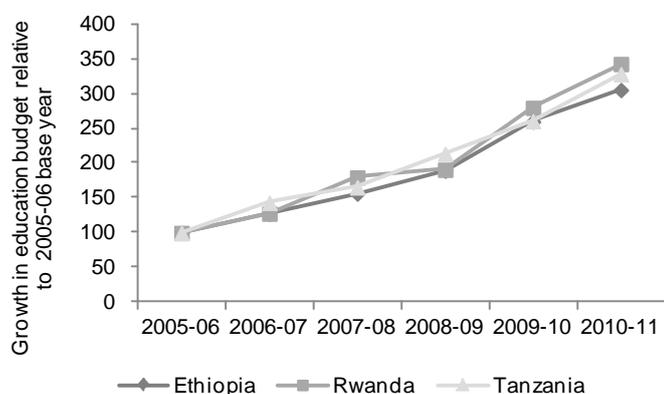
⁶² *Public Expenditure Tracking Survey for Primary and Secondary Education in Mainland Tanzania*, United Republic of Tanzania, February 2010, www.uwazi.org/uploads/files/2010-PETS%20Education%20Tanzania%20Final%20Report.pdf.

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Education budgets

2.47 Figure 7 shows that there has been a significant and sustained rise in government education budgets in all three case study countries. During 2005-06 to 2010-11, DFID has contributed almost £500 million⁶³ to these increases, equivalent to about 8.5% of the total government education spending in Ethiopia, 21% in Rwanda and 3% in Tanzania.⁶⁴

Figure 7: Real growth in government education budgets in Ethiopia, Rwanda and Tanzania, 2005-11



Source: Data from Ministries of Finance, <http://data.worldbank.org/>

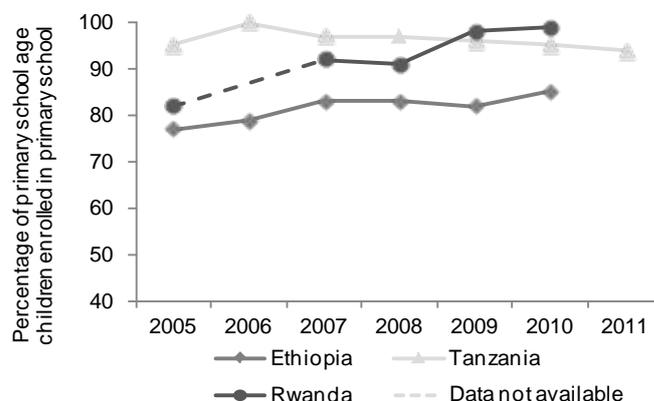
Primary school enrolment

2.48 This increase in funding has been accompanied by steady increases in primary school enrolment⁶⁵ during 2005-11, as shown in Figure 8. In all three countries, enrolment rates rose substantially, with Rwanda now very close to the target of universal primary enrolment. Enrolment in Tanzania has fallen slightly over the past two years, although it is still at 94% (net) for primary. The reasons for this remain unclear, with ongoing internal discussions attempting to discover the critical factors which will reverse this decline. If the Opportunity to Learn factors had been part of the annual data collection

it is probable that some explanations could already have been agreed and responses designed.

2.49 Figure 9 on page 16 shows a more mixed picture when it comes to the primary completion rate. This is still increasing in Rwanda but is yet to exceed 75%. In Ethiopia and Tanzania, after rising for several years, the completion rate has now begun to decline, with over 30% of the appropriate age group failing to enrol for their final year of primary education. There is as yet no agreement as to why this is happening. This may be due to parents' growing realisation of poor attainment in schools coupled with economic growth increasing the short-term opportunity cost to poor households of keeping children in education.

Figure 8: Primary enrolment in Ethiopia, Rwanda and Tanzania, 2005-10⁶⁶



Source: Ethiopia and Tanzania data provided by DFID. Rwanda data from <http://www.worldbank.org/>

⁶³ *Statistics on International Development 2006/07 – 2010/11*, DFID, October 2011, <http://www.dfid.gov.uk/Documents/publications1/sid2011/SID-2011.pdf>.

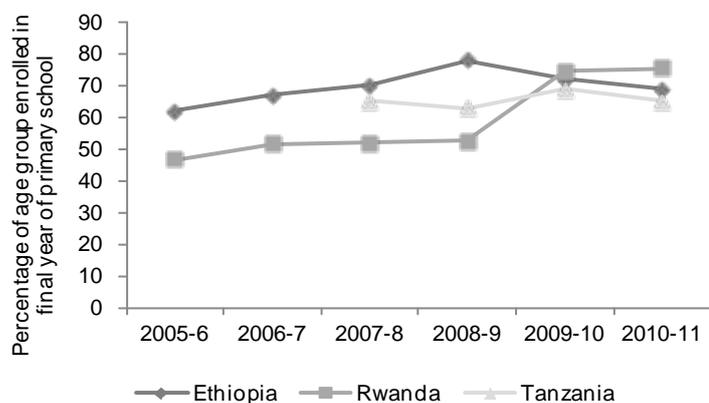
⁶⁴ Estimate based on the latest five-year average of the UK share of total aid in each country (from www.aidflows.org) multiplied by the share of donor contributions in the education budget (see footnote 22).

⁶⁵ Note that primary education in Ethiopia is divided into two periods, Grades 1-4 and Grades 5-8. In Rwanda it is a single period of Grades 1-6 and in Tanzania Grades 1-7.

⁶⁶ Compiled by ICAI review team from Ministry of Education data.

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Figure 9: Primary school completion rates in Ethiopia, Rwanda and Tanzania,⁶⁷ 2005-11

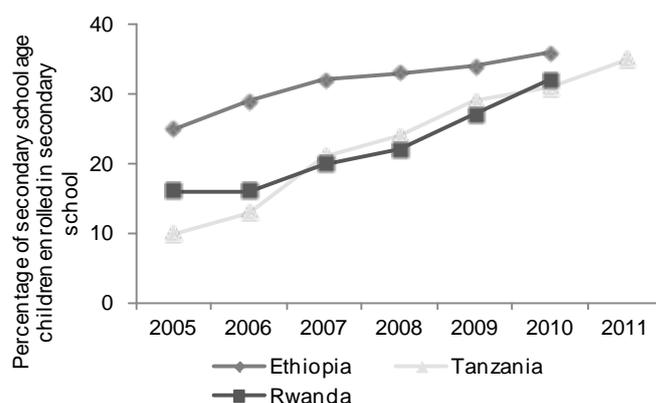


Source: Data provided by Ministries of Education

Secondary school enrolment

2.50 Figure 10 shows there has also been a steady improvement in secondary level enrolment, albeit from a low base. In Tanzania, enrolment has increased almost four-fold to 27% since 2002. All are converging to the sub-Saharan average of around 35%. The more interesting information on how many children actually complete secondary school is not consistently or reliably available, though we know it to be low; in Ethiopia, for example – the one country where data exist – less than one quarter of girls and one third of boys complete lower secondary school.⁶⁸

Figure 10: Secondary enrolments in Ethiopia, Rwanda and Tanzania, 2005-10



Source: Ethiopia and Rwanda data from <http://www.worldbank.org/>, Tanzania data provided by DFID

Pupil–teacher ratios

- 2.51 The pupil–teacher ratio measures whether teacher numbers are keeping pace with increased enrolment. It is also correlated loosely with learning and therefore provides a crude measure of the quality of education provided.⁶⁹
- 2.52 Figure 11 on page 17 shows that primary class sizes have fallen over the past six years. Rwanda has a high pupil–teacher ratio due in large part to the majority of primary schools running double shifts. Actual class sizes are, therefore, lower than the pupil–teacher ratio would suggest, although teacher workloads are demanding. In Ethiopia, over a quarter of primary schools run double shifts. In all three countries, however, the national average pupil–teacher ratio masks wide variations between districts and schools.

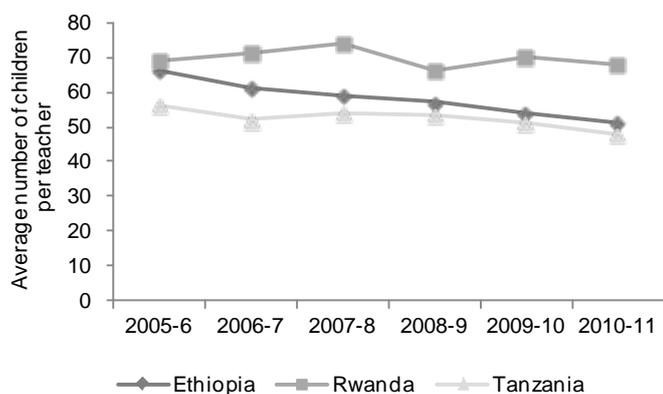
⁶⁷ 2005-07 data for Tanzania not available.

⁶⁸ See Table 7 in *Global Education Digest 2011 Comparing Education Statistics across the World*, UNESCO Institute for Statistics, 2011, www.uis.unesco.org/Library/Documents/global_education_digest_2011_en.pdf. Data reproduced in Figure 3 above.

⁶⁹ *The Criticality of the Pupil Teacher Ratio Empirical Evidence from 766 Lower Primary Schools of North East Karnataka*, A Research Study from the Azim Premji Foundation, 2010, www.azimpremjifoundation.org/pdf/Criticality%20of%20Pupil%20Teacher%20Ratio.pdf.

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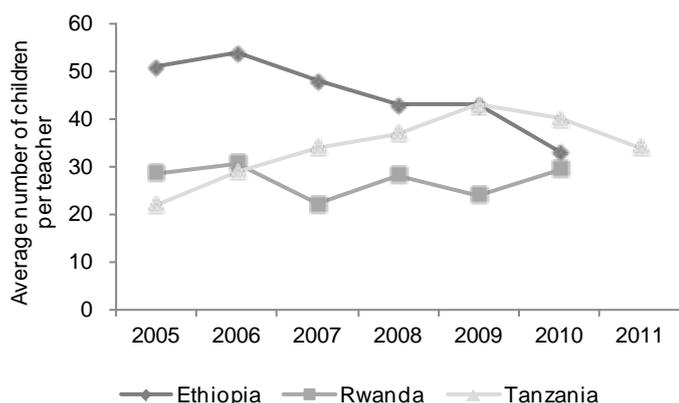
Figure 11: Primary school pupil–teacher ratios in Ethiopia, Rwanda and Tanzania, 2005-11



Source: Ministries of Education data

2.53 Government officials in all three countries reported problems in recruiting specialist teachers for science and mathematics and for staffing schools in more remote areas. As a result, secondary pupil–teacher ratios over the period are mixed, with Ethiopia showing the best results (see Figure 12).

Figure 12: Secondary school pupil–teacher ratios in Ethiopia, Rwanda and Tanzania, 2005-11



Source: Ethiopia and Rwanda data from Ministries of Education, Tanzania data provided by DFID

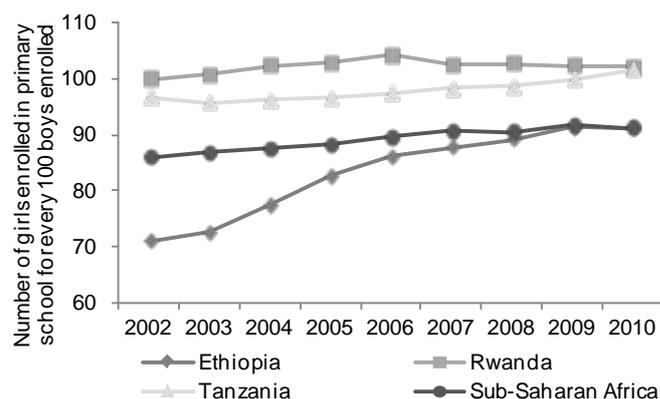
2.54 These results need to be interpreted with care. Many of the teachers recorded in these figures are not fully trained or qualified. The ratio of pupils to fully qualified teachers is therefore significantly higher. In addition, due to high rates of teacher absenteeism, class sizes are often much higher

than these figures would suggest. In one Ethiopian school, we observed class sizes exceeding 65.

Gender parity

2.55 There has been good progress towards gender parity in primary school enrolment in all three countries. Figure 13 shows that Rwanda has achieved parity for the past five years and Tanzania is near to achieving parity. Ethiopia has improved from a very low base to reach the sub-Saharan African average.

Figure 13: Gender parity of primary school enrolment in Ethiopia, Rwanda, Tanzania and sub-Saharan Africa, 2002-10



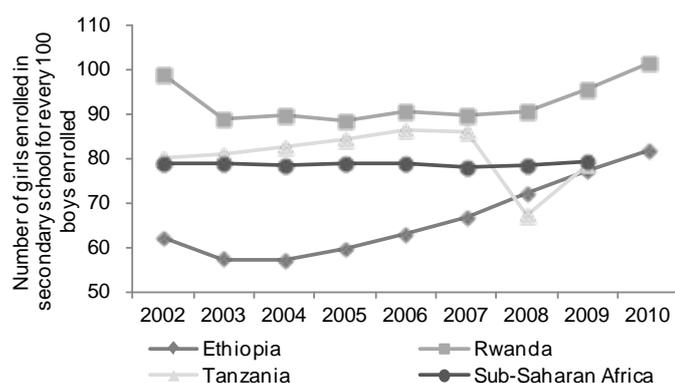
Source: World Bank Development Indicators, <http://www.worldbank.org/>

2.56 Gender parity at the secondary school level is proving more difficult to achieve (see Figure 14 on page 18). This can be explained by the continuing high cost of attending secondary school (owing to many pupils living away from home in order to attend distant secondary schools). Girls' education is particularly sensitive to this.⁷⁰ Cultural constraints such as the prevalence of gender violence and early marriage for girls are also factors.

⁷⁰ *Gender Equality and Development*, World Development Report 2012, World Bank, 2011, http://publications.worldbank.org/index.php?main_page=product_info&products_id=24225.

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Figure 14: Gender parity of secondary school enrolment in Ethiopia, Rwanda, Tanzania and sub-Saharan Africa, 2002-10



Source: World Bank Development Indicators, <http://www.worldbank.org/>⁷¹

2.57 DFID is aware that improving girls' access to secondary education goes beyond the education system to wider cultural and economic constraints and is increasingly supporting programmes to address such issues. In Ethiopia, a successful pilot to discourage early marriage is being scaled up. In Tanzania, a project is under consideration to address gender violence at school. DFID has recently announced a major £355 million global Girls Education Fund. This is aimed exclusively at the non-state sector because the constraints are often not in school. In two out of three of our review countries, however, the non-state sector in education is small, so we question how much of an impact this fund is likely to have in the short term.⁷²

Learning achievement

2.58 Since DFID's objectives have not until very recently included a focus on learning achievement, we did not assess DFID against this in our rating of the impact of its education programmes. It is, however, the case that education programmes can only be considered to have had a true impact if children are actually learning, thereby improving their life chances.

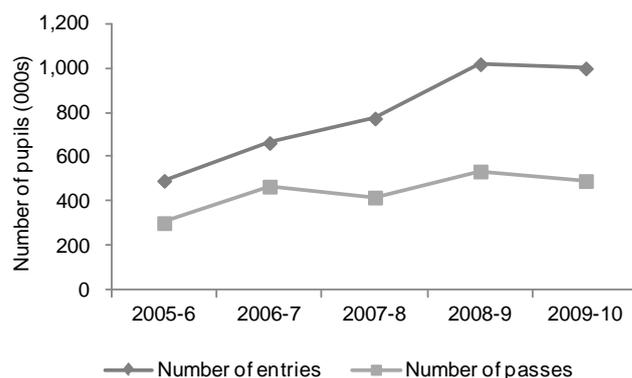
⁷¹ The 2008 data point for Tanzania appears anomalous but is as given, <http://data.worldbank.org/indicator/SE.ENR.SECO.FM.ZS>.

⁷² It was only in Rwanda where private provision of education, including by faith schools, was significant and explicitly acknowledged in education strategies.

2.59 We focus here on learning outcomes at primary level, because the attainment of adequate literacy and numeracy at this stage is key not only to the progression of individual students but also to the cost-effectiveness of the education system as a whole. Learning assessments of primary-age pupils have recently been undertaken in all three countries.⁷³ The results show that pupil literacy and numeracy are generally well below expectations.⁷⁴

2.60 In May 2011, Uwezo Tanzania⁷⁵ conducted learning assessments of over 128,000 children. They found that, after three years of schooling, fewer than one in three pupils could read a basic story in their mother tongue or do simple arithmetic. Again, there was significant variation in results across socio-economic and rural-urban divides. This was originally a one-off study and does not reveal a trend, although DFID is funding a repeat of the survey in 2012. The number of children passing their end-of-primary examination has increased (see Figure 15). The pass rate has fallen away substantially, however, in the face of a doubling in the number of candidates.

Figure 15: Number of end-of-primary examination passes in Tanzania, 2005-10



Source: Basic Education Statistics Tanzania, BEST, 2005-2010

⁷³ *Ethiopia Early Grade Reading Assessment Data Analytic Report: Language and Early Learning*, USAID/Government of Ethiopia, 2010, www.eddataglobal.org/. Rwanda conducted an initial small-scale study in 60 schools in 2011 and the results are currently being validated. In Tanzania, Uwezo conducted a study.

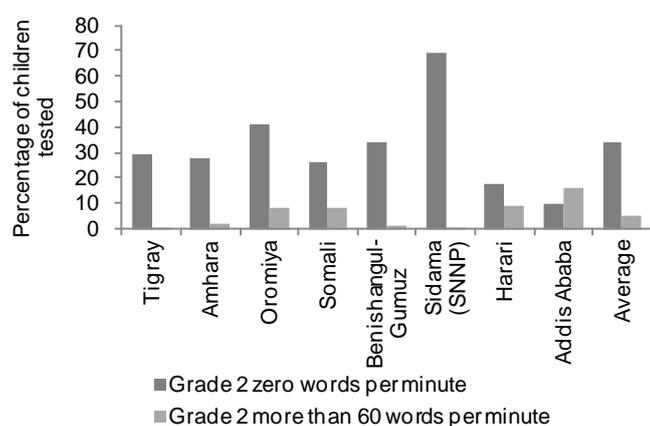
⁷⁴ In general, learning and end of year exam passing targets are not being set as part of the planning process. In Ethiopia, ESDP IV has targets for those years in which it is planned to execute the National Learning Assessment. A general expectation in all education systems is that a successful primary education prepares a child to undertake the secondary curriculum.

⁷⁵ *Are Our Children Learning?*, Annual Learning Assessment Report, Uwezo, 2010, www.uwezo.net/uploads/files/Uwezo%20Report%202011.pdf.

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2.61 There is a similar story in Ethiopia. A 2010 USAID-funded study⁷⁶ assessed the ability of children in the second and third years of primary school. Figure 16 shows the combined results for the reading exercise. The dark grey bars represent the percentage of children in each region who were unable to read a single word, while the light grey bars represent those who read at or above the expected rate for the grade. Across the eight regions, at least 80% of children were unable to read with the expected fluency.⁷⁷

Figure 16: Reading attainment in Ethiopia, 2010



Source: Ethiopia Early Grade Reading Assessment, USAID, 2010

2.62 Rwanda conducted its own learning assessment in 60 primary schools in 2011.⁷⁸ The results are not yet public but we understand that they also indicate disappointing learning outcomes, although somewhat less so than in Tanzania and Ethiopia.

2.63 Using the Opportunity to Learn framework, we looked for data indicating improvements in the basic conditions for learning – for example, teacher and pupil attendance, learning time and laboratory and library facilities. These data do not, however, appear to be routinely collected or analysed in any of the three case study countries. Without them, it is impossible to form an accurate picture of

whether conditions for learning are present in schools.

2.64 Overall, the main impact of DFID's education assistance in these three countries has been a rapid expansion in primary school enrolment. This was the overriding priority for UK support and represents an important achievement in its own right.

2.65 In all three countries, however, the evidence suggests that rapid expansion of enrolment has led to a decline in educational outcomes. Expanding access to more remote rural areas pushes up unit costs, while management systems become progressively weaker. The countries have been forced to recruit less qualified teachers – sometimes with little more than basic education. The expansion of schooling also takes in children from poorer households, many of whom are undernourished, face long walks to school and have to combine their schooling with agricultural labour. These children pose very different educational challenges, which the current systems are struggling to meet. Many children are reaching the end of primary school without achieving basic levels of literacy and numeracy.

2.66 We recognise that these are direct consequences of expanding the provision of education so rapidly. They indicate that a higher level of enrolment is only the first step towards achieving the MDG of enabling all children to complete primary education.

2.67 That large numbers of pupils fail to attain basic literacy or numeracy and many others are not ready for secondary education calls into question the value of the assistance. It may be that this was a necessary sequence, with expansion of access creating a foundation for improvements in quality. That little attention, however, was paid to sequencing and trade-off makes it difficult for us to conclude that DFID has maximised the impact of its support.

Sustainability

2.68 We are also concerned about the sustainability of education budgets in all three countries. The

⁷⁶ *Ethiopia Early Grade Reading Assessment Data Analytic Report: Language and Early Learning*, USAID/Government of Ethiopia, 2010, www.eddataglobal.org/.

⁷⁷ These results are reinforced by preliminary findings, to be confirmed, from Ethiopia's National Learning Assessment, which also reveals that, from 2007 to 2011, pupils' performance in standardised assessments has declined.

⁷⁸ *Learning Achievement in Rwandan Schools Survey (LARS)*, Government of Rwanda Ministry of Education, 2011 (not publicly available).

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combination of ambitious education targets, rising unit costs,⁷⁹ the difficulty of extending access to hard-to-reach communities, continuing rapid growth in the school-age population and increasingly hard budget constraints suggest the quality of education may not be maintained even at its current inadequate level. Donors must give more attention to whole-sector financing issues and prioritisation if education plans are not to become chronically underfunded.

Learning

Assessment: Amber-Red 

- 2.69 This section looks at how DFID and partner governments in the three countries are using information systems and best practice to inform the management of their education programmes.
- 2.70 Institutional learning is fundamental to building a successful education system. Without active monitoring and feedback as a core management process the necessary improvements will not be identified, designed or achieved.
- 2.71 In each of the three countries, ministries of education are clearly learning from experience and responding to emerging challenges. Logical frameworks ('logframes'),⁸⁰ performance targets and an annual joint sector review process are features common to all three countries. DFID is adapting its approach in response to dialogue and the findings of these reviews. It is not yet clear, however, that these processes are adequate for achieving the radical changes in learning outcomes that are required.
- 2.72 Through a range of assessment processes, governments and, increasingly, parents in all three countries are now aware that their children's educational attainment is low. The assumption that has underpinned past donor support to education – that a simple focus on enrolment would translate into learning – stands disproved. There is a clear, common message: a major shift in approach is needed.
- 2.73 The new approach needs to focus on delivery, especially at the decentralised level. This calls for a step-change in monitoring and management information. In each country, there is already a sound sequence of setting targets, monitoring results and revising action plans. The focus remains, however, at the national level. As a result, the flow of information from schools and districts tends to be driven by the need to produce a national annual statistical volume. The value of the information for local district and school management has yet to be fully appreciated and developed, even though we saw⁸¹ in each country that the basics of a system to acquire it already exist. These basics include the national inspectorates, the annual school censuses and the almost universal practice of posting school-level information in head teachers' offices. It is here where capacity and political will now need to be built, as well as in the ministries of education.
- 2.74 To identify the reasons for poor learning outcomes, DFID should make more use of a framework covering the basic building blocks of effective learning, for example the EQUIP2 Opportunity to Learn framework or the McKinsey approach.⁸² Tracking the basic building blocks of effective learning at a disaggregated level would provide the information required to identify the critical factors relating to learning outcomes and to design more effective interventions. These interventions need to be focussed at the school and local levels in order to enable improved learning for many more children.
- 2.75 The impact of MDG 2 in promoting universal enrolment shows the power of targets. We believe that bringing learning outcomes to the top of the agenda could similarly accelerate the upgrading of education systems. DFID can help this transformation by placing learning at the top of its own education agenda.

⁷⁹ For example, teacher salaries are generally very low. Rwanda has adopted a five-year strategy to increase teacher salaries by over 60% in response. This will increase unit costs but hopefully increase retention and recruitment.

⁸⁰ A logframe summarises in matrix form the key features of a project design, specifying measurable indicators of progress in achieving the final project goal.

⁸¹ In each country, we saw annual enrolment data and teacher numbers, both broken down by gender, on the school wall. We also saw inspectors' reports on school infrastructure and, in Ethiopia, we saw the computerised school census survey. In Tanzania, we saw school reports giving teacher attendance, although there was no evidence that this went beyond the district office. In response to our enquiries we were not presented with any pupil attendance registers.

⁸² M. Mourshed and others, *How The World's Most Improved Schools Systems Keep Getting Better*, McKinsey & Company, 2010, <http://mckinseysociety.com/how-the-worlds-most-improved-school-systems-keep-getting-better/>.

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- 2.76 All three countries have education management information systems (EMISs) based on nationwide annual school censuses. While they provide a wealth of data, too little use is made of them by managers at national, regional and district levels. Relatively simple analysis of variations in results and funding by school or district would generate important management and cost-effectiveness information. The recent Public Expenditure Review for Tanzania⁸³ demonstrates that such analysis is possible.
- 2.77 DFID has identified EMIS systems as a key area for support but it needs to make sure that these are fit for the purpose of improving learning outcomes. It should be possible to build on the information which most schools keep and most districts collate in any event to generate information on the eight foundational factors of the Opportunity to Learn framework as part of daily school management. This information could be used at school and district levels to assess the current position and to design improvements.
- 2.78 DFID has taken steps to improve its own corporate learning in education, for example by commissioning a series of reviews of the latest evidence and supporting better networking within the pool of education advisers. Advisers are now required to give more time to working with colleagues in other countries and there is more capacity in DFID headquarters to promote cross-country learning. During our visits, however, we often heard the plea from both ministries of education and DFID: 'We need to know what works'. We note that, although DFID is devolving funds and responsibility for evaluation to the country programmes, there is still limited local capacity in-country to commission rigorous evaluation with actionable recommendations.
- 2.79 In recent years, new quantitative impact evaluations have generated a body of robust evidence on the effects of a range of education interventions. Given the increasing demand to know what works, it is vital that education advisers and ministries have ready access to this kind of information and can apply it to their own country contexts. The internally managed Education Themesite, the DFID-supported resource centre and the contribution to the World Bank's Strategic Impact Evaluation Fund⁸⁴ will all help in this regard. Accessing this expertise should be a critical role for DFID centrally.
- 2.80 Centrally provided guidance should balance DFID's 'case-by-case' approach by identifying where possible the commonalities in education systems to avoid each education adviser having to devise their own unique solutions. This would help them as they move from general education policy questions into the more complex and technical challenges raised by decentralisation, fiscal transfers, delivery chains and performance management. This enhanced support would also assist education advisers in identifying the technical support required to conduct more rigorous analyses to underpin the dialogue with ministries of education.

⁸³ *United Republic of Tanzania Public Expenditure Review 2010*, prepared by the Members of Macro Group of the Tanzania PER Working Group, World Bank, 2011, http://siteresources.worldbank.org/INTTANZANIA/Resources/Tanzania_PER_2010.pdf

⁸⁴ *Strategic Impact Evaluation Fund*, World Bank, <http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/ORGANIZATION/EXTHDNETWORK/EXTHDOFFICE/0..contentMDK:23147035~menuPK:6508083~pagePK:64168445~piPK:64168309~theSitePK:5485727,00.html>.

3 Conclusions and Recommendations

Conclusions

- 3.1 The main outcomes of DFID's education assistance in our three case study countries in East Africa have been rapid improvement in access to primary schooling and in closing the gender gap in education. These were major priorities for the UK government and represent important achievements.
- 3.2 We are nonetheless concerned that the quality of education being provided to most children in these countries is so low that it seriously detracts from the development impact of DFID's educational assistance. To achieve near-universal primary enrolment but with a large majority of pupils failing to attain basic levels of literacy or numeracy is not, in our view, a successful development result. It represents poor value for money both for the UK's assistance and for national budgets.
- 3.3 We acknowledge that falling education attainment is to some extent an inevitable outcome of rapid expansion of access. Given that this tension was foreseeable, however, we would have expected it to be more carefully managed. We saw insufficient evidence that DFID has designed its education programmes so as to minimise the negative impact of rapid expansion on education quality. We are also concerned that too little attention is being paid to putting in place the basic requirements for successful learning. By contrast, despite making a smaller contribution relative to total education expenditure, in India DFID adopted a more balanced set of objectives sooner, encompassing quality as well as access targets. In India, we saw how DFID has contributed to the State of Bihar's improvements in both access and quality.
- 3.4 Improving the quality of education must be the priority for the coming period. DFID has acknowledged this. Our findings suggest that DFID's 2010 education strategy needs to demonstrate a deeper understanding of the processes by which the desired changes will be achieved, if DFID is to rise to this challenge.
- 3.5 The Annex sets out information about cost effectiveness in each of the three countries but we have deliberately refrained from ranking them. As we explain and illustrate in the Annex, a detailed

understanding of cost structures and the context which determines them reveals the hazards and limitations of such an exercise. Instead, our view is that the most useful benchmarks are to be found within countries, comparing across regions, districts and schools; and across time.

- 3.6 The reliance on budget support in DFID's education programmes has helped to provide partner countries with financial resources for the rapid expansion of their education systems. It has also encouraged donors to align behind national education strategies and invest in better public financial management. It has, however, led to DFID education advisers focussing on high-level budget and policy questions, rather than engaging with partner countries on the design and management of complex institutional reforms. It has also led to relative neglect of lower levels of the delivery chain.
- 3.7 Thus, DFID has used its influence to push for larger budget allocations and more ambitious policy goals. It has, however, become somewhat disengaged from the practical or managerial questions of how to overcome institutional bottlenecks to the delivery of effective education. We found that it was in these practical delivery challenges that the ministries of education both needed and wanted the most assistance. We would like to see this imbalance redressed with a more hands-on approach to education support. As the ICAI review of education in India found, working in closer partnership with national counterparts is key to UK aid having impact. We are concerned that, in this respect, the pilots on results-based aid now under development may represent a step in the wrong direction.

Recommendations

Recommendation 1: DFID should revise its 2010 strategy for education to ensure that learning outcomes are at the heart of its support through all levels of the education delivery chain.

- 3.8 The importance of learning outcomes has been recognised in DFID's current education strategy. It needs, however, to be developed into a concerted approach to promote learning, including at the

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decentralised level. To facilitate this, we recommend that DFID adopt a learning-focussed framework such as Opportunity to Learn (set out in Figure 5 on page 6), which links operational improvements at district and school levels to learning outcomes.

Recommendation 2: DFID should revise its pilots on results-based aid by working with ministries of education to introduce a results focus into national funding for districts and schools.

- 3.9 The pilots should be used as an opportunity for working jointly *with* ministries of education to devise ways to improve selected key incentives within their education systems rather than, as currently designed, simply another form of aid conditionality. In DFID terminology, this means shifting from results-based *aid* to results-based *financing*. We saw the scope to do this easily with the current pilot in Ethiopia and we know that the results-based assistance in Rwanda is now being redesigned. Tanzania, which still has to embark on designing its results-based assistance pilot, has the opportunity to learn from both.

Recommendation 3: DFID should continue to expand its support for communities to enable them to monitor and promote education, so as to encourage accountability, the widest possible participation and public debate.

- 3.10 The role of different types of civil society organisations in Tanzania in holding the government to account for its poor performance in education is an excellent example from which Rwanda and Ethiopia may be able to learn. The parent–teacher associations and community score

card projects that already exist in all three countries provide good foundations upon which to build. In addition, supporting research-based civil society organisations like Tanzania’s Uwezo (which generate accessible information for public use) would help develop the challenge function in existing parent–teacher organisations.

Recommendation 4: DFID should strengthen its capacity-building in ministries of education to improve the value for money of their education systems. This should involve enhanced analysis (including tracking funds and comparing in-country unit costs and learning outcomes), evaluation, forecasting and application of international good practice.

- 3.11 DFID should move on from its current emphasis on reporting its own value-for-money results to working with ministries of education on these issues. The hitherto relatively neglected and separate functions of forecasting and evaluation need to be brought together under a new rubric of value for money. The Opportunity to Learn framework could be used to collate information which most schools already keep and to guide an analysis of why there are differences in unit costs, learning outcomes and other relevant factors. DFID could also undertake detailed investigations into the determinants of value for money in education using the wealth of information that is available in fiduciary risk assessments, public expenditure reviews and tracking surveys. The next Education Public Expenditure Review in each country should be used to set a baseline (this has already been done particularly well in Tanzania) and to initiate a dialogue with the government on where the priority actions lie.

Annex

Cost-effectiveness and unit costs

1. This Annex explains some of the challenges in estimating, comparing and interpreting unit costs in education. It also sets out some additional country education statistics for Ethiopia, Rwanda and Tanzania.
2. All developing countries face tough choices in deploying limited resources to meet the demands of expanding their education systems. There is a balance to be struck between quantitative and qualitative developments. Each type of education – pre-school, primary, secondary, technical and vocational, tertiary and adult – has competing rationales and funding needs. Longer-term financial sustainability is a constant concern. A sound understanding of unit costs and a strong cost-effectiveness culture are vital for sound decision-making.
3. Cost-effectiveness methodologies can be used to determine the comparative costs of different operations in order to determine the more efficient and effective amongst them. Good practice is identified and promoted to replace weak and inefficient practices. To accomplish this, comparative unit costs must be measured in like-for-like situations. For our three East African review countries, the most fruitful comparisons are most likely to be found within each country (e.g. comparisons of regions, districts and schools and across time) rather than between countries. Cross-country analysis is subject to many variables that are difficult to control in any comparison.
4. Figure A1 shows the different ways in which the term ‘basic education’ (primary and lower secondary levels) is understood in the three case study countries. These differences in the length of basic education illustrate how even simple inter-country comparisons are hazardous: all other things being equal, because Rwanda’s basic education is 18% shorter than Tanzania’s (9 years compared to 11 years), Rwanda should have an 18% lower cost than Tanzania, even before any other factors come into play.

Figure A1: Primary and lower secondary schooling in Ethiopia, Rwanda and Tanzania

	Primary	Lower secondary	Total
Ethiopia	Years 1-8 ^(a)	Years 9-10	10 years
Rwanda	Years 1-6	Years 7-9	9 years
Tanzania	Years 1-7	Years 8-11	11 years

Note: (a) the Annual Abstract of Education Statistics for Ethiopia presents the data for Years 1-4, 4-8 and 9-10.

Source: *Financing Education in Sub-Saharan Africa*, UNESCO, 2011, www.uis.unesco.org/Library/Documents/Finance_EN_web.pdf

5. In Figure A2 we use the available statistics to produce a rough comparison of the amount of UK aid required to put an additional child in school across our three case study countries. It reveals a wide variation, with the unit cost in Tanzania more than four times higher than in Rwanda. This is a striking result which appears to call into question the cost-effectiveness of DFID’s assistance in Tanzania.

Figure A2: DFID unit costs of extra children in school in Ethiopia, Rwanda, Tanzania, 2005-06 to 2009-10

	Ethiopia	Rwanda	Tanzania
Total DFID bilateral aid to education 2005-06 to 2009-10 ⁸⁵	£153.4 million	£64.8 million	£124.3 million
Increase in children enrolled in primary school 2005-06 to 2009-10 ⁸⁶	2,318,000	406,000	900,000
Increase in children enrolled in secondary school 2005-06 to 2009-10 ⁸⁷	386,000	129,000	915,000
Imputed DFID contribution ⁸⁸	8.5%	21%	2.9%
Number of additional children at primary and secondary notionally funded by DFID 2005-06 to 2009-10	229,840	112,350	52,635
DFID aid cost per extra child in school 2005-06 to 2009-10	£667	£577	£2,361

⁸⁵ *Statistics on International Development 2006/07 – 2010/11*, DFID, October 2011, <http://www.dfid.gov.uk/Documents/publications1/sid2011/SID-2011.pdf>.

⁸⁶ Ministry of Education data.

⁸⁷ Ministry of Education data.

⁸⁸ Based on reported donor share in education spending (various sources) multiplied by DFID share in total aid to each country (<http://www.aidflows.org/>).

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6. There are, however, various reasons why this comparison may be misleading. The numbers do not take into account the relative quality of the education provided or the major differences in geography and demographics between the two countries. Nor is the comparison necessarily done on a like-for-like basis. An exercise like this can therefore only be a starting point for a more detailed investigation.
7. The national average pupil–teacher ratio is also prone to problems of interpretation. Generally, pupil–teacher ratios are assumed to indicate class sizes. In some countries, however, primary education is delivered through double-shift primary schools, with pupils divided between morning and afternoon sessions. In Tanzania, there is generally one group of teachers for the morning school and one group for the afternoon. In Rwanda, due to the shortage of teachers, most double-shift schools are served by a single set of teachers. In Tanzania, the proportion of double-shift schools is much lower (Figure A3).

Figure A3: Pupil–teacher ratio and class sizes, Rwanda and Tanzania

	Average pupil–teacher ratio	Average class size
Rwanda	68	42
Tanzania	51	44

Sources: Data for 2010–11. Rwanda MINEDUC statistics and Basic Education Statistics in Tanzania (BEST)

8. At the school level, the picture is again more complex than the national average. In Rwanda’s Bugasera district (Mayange sub-district) which we visited, the recorded average class sizes are as set out in Figure A4. This school, however, is a double-shift school with the 17 teachers taking classes in both the morning and afternoon. As a result the school’s pupil–teacher ratio is actually 86:1 (1,461 pupils and 17 teachers). It is critical that national decision-makers and DFID are presented with disaggregated data to enable these variations to be understood. At the same time the variations between districts and schools will also provide information on where to focus interventions.

Figure A4: Pupils and class sizes in Rwanda

	Number of registered pupils	Average class size morning	Average class size afternoon
Grade 1	421	48	57
Grade 2	268	42	47
Grade 3	204	39	42
Grade 4	189	45	50
Grade 5	233	39	39
Grade 6	146	34	40
School total	1461	39	47

Source: MINEDUC School Inspection Form

9. Teachers’ salaries make up around 70% of the primary education budget. The salary level is therefore a critical determinant of the unit cost of education. In low-income countries, low unit costs may reflect inadequate salaries rather than greater cost-effectiveness. Rwanda’s unit costs for primary education are low due to the double-shift schools and low teacher salaries.⁸⁹ The government recently agreed to raise primary school teacher salaries by over 60% over the next five years. It has also pledged to reduce the number of double-shift schools and to set a target of 40 pupils per primary class. This will require an increase in the number of teachers of more than 70%, causing unit costs to rise dramatically but delivering what should be better education outcomes for the money spent.
10. For unit costs to be interpreted correctly, it is essential to measure the inputs accurately. Figure A5 on page 26 shows how a pupil’s school year can involve very different hours of teaching depending on the shift system used. This is just one of the details that needs to be known if cross-country comparisons are to be meaningful.
11. A pupil attending School B would receive less than 60% of the hours of instruction than a pupil in School A. Taking into account teacher absence, pupil absence and time spent in the school day on learning, the gap between the two inputs could widen even further.

⁸⁹ *Financing Education in Sub-Saharan Africa*, UNESCO, 2011, reports Rwanda qualified teacher salaries as 2.6 times (for 2008) the ratio of GDP per capita. In most of the other reporting countries the ratio was more than double this figure.

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Figure A5: Hours of schooling

	Hours per day (a)	Days per year (b)	Years in primary education (c)	Total hours = (a)x(b)x(c)
School A (single shift)	6	210	7	8820
School B (double shift)	4	210	6	5040

12. In order to understand the relationships between inputs, outputs and outcomes, some additional variables would need to be added to the annual school censuses. These include the variables from the Opportunity to Learn framework (as well as DFID's own loss of learning time approach) – teacher attendance, pupil attendance, time on learning, school learning environments and regular learning assessments. With these additional data, useful comparative analyses could be conducted. Inter-school and inter-district comparative data would soon reveal efficient practices and weak performance on inputs, outputs and outcomes. Good practice could then be shared and weaknesses tackled.

Abbreviations

DFID	Department for International Development
EMIS	Education Management Information System
FTE	Full-time equivalent
GDP	Gross Domestic Product
MDG	Millennium Development Goal
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development

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Any enquiries regarding this publication should be sent to us at enquiries@icai.independent.gov.uk.