

# Guidance Note

A DFID practice paper

## Learning and teaching materials: policy and practice for provision

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# Learning and teaching materials: policy and practice for provision

A range of complex policy options are embedded in national systems for providing learning and teaching materials (LTM). The objectives of this Guidance Note are:

- To identify and analyse the key issues involved in book sector policy, planning and development.
- To help DFID play a constructive role in supporting the liberalisation and development of the book sector and the public private partnerships (PPP) that can foster a sustainable supply of best-cost, good quality learning and teaching materials.

The Note is organised in four sections:

1. Why learning and teaching materials matter.
2. Current trends, key issues and policy options.
3. Key issues and actions in developing effective national LTM policies.
4. References, glossary and a decision tree.

## SECTION ONE: LEARNING AND TEACHING MATERIALS MATTER

### 1. Background

From the 1970s onwards textbooks and teachers' guides have been a common component in education projects concerned with quality.

The technology needed to produce textbooks and other print materials is long established. Authorship and publishing skills have developed rapidly in many developing countries in recent years, but it is still relatively rare to find countries, particularly in Africa, the Indian sub-continent and the countries of the former Soviet Union, where textbooks are made available regularly, reliably, predictably and in sufficient quantities to meet curriculum requirements.

The availability of textbooks is often a highly political issue. They are one of the most visible components of government educational provision and their absence is noted by parents. However, when financial resources are scarce, textbooks, teachers' guides and supplementary materials for schools are often the first budget line to be axed. The intention is almost always to re-establish spending a year later when the immediate funding crisis has disappeared but all too often the funding crises are continuous and expenditure on learning and teaching materials becomes sporadic rather than reliable and minimal rather than adequate.

For many years DFID has provided support to LTM provision for education. It has been active in the liberalisation of the book sector in its country programs. It has supported decentralised policies of book selection, ordering and procurement in many of its country programs (e.g. in **Uganda, Kenya, Tanzania, Rwanda, Ghana**). DFID has also encouraged the creation of national book policies that address the core issues of reliable national provision and the parallel development of local skills and capacity. Recent DFID reviews have stressed the need to look more closely at the factors that can help or impede access to the range and diversity of learning materials and to focus on value-for-money solutions.



## 2. Learning and teaching materials - changing perceptions

For many years, development partner (DP) interventions on classroom materials have been concerned mainly with the provision of textbooks and teachers' guides. However, textbooks by themselves cannot provide everything required to achieve curriculum objectives. This is particularly true where outcomes-based curricula, student-centred learning, problem solving and the development of thinking skills are specified. See Box 1 for a wider definition of desirable learning and teaching materials.

### Box 1: Desirable learning and teaching materials

**Reading books** – supplied in single copies rather than in class sets and in sufficient quantities to enable every student to have at least one new title to read at least once a week throughout the school year. These are required at every level of education from lower primary up to senior secondary. Initially they form a basic support to the achievement of early literacy but also to the inculcation of the reading habit. They help to develop vocabulary, grammar, comprehension and self-expression and eventually to support student research skills.

**Big books** – particularly useful in lower primary grades. They can be designed and supplied without text (as a cost reduction strategy) so that teachers can write in a variety of local language equivalents. They can be used by teachers to read stories and to show pictures because the illustrations should be big enough to be visible even at the back of large classes. They can also encourage shared reading through pair and small group work.

**Illustrated word books** (for lower primary) and appropriate dictionaries at every level in local and international languages and in monolingual and bilingual editions. In upper grades, dictionaries of specialist terminology are also useful (e.g. dictionaries of science, geography etc).

**Atlases** – generally introduced at upper primary and essential at secondary level.

**Anthologies** – collections of stories for teachers to read to classes, particularly important in lower primary classes.

**Rhymes and poetry** – to encourage imaginative word use, student creativity and appreciation of the possibilities of language and culture.

**Grammar books** in local, regional and international languages – as references for teachers.

**Reference and school library books** – to encourage further reading, the development of individual student interests, the development of student research skills and to provide extension materials for elite students and reinforcement materials for others.

In recent years access to computers and the internet has generated interest in the provision of **e-Materials**. Where the internet is unavailable, unreliable or unaffordable, the development of local school networks and the provision of e-materials to schools on CDs/flash disks can support e-learning via school servers and networks. But e-based learning in many developing countries and transitional economies can be very expensive. A clear understanding of the capital and recurrent costs involved in establishing e-learning strategies is essential (see 5m).

The range of possible materials that can be used to support education objectives is so great, and costs are usually so constrained, that curriculum developers and syllabus writers should be encouraged to develop a [Minimum Profile of Learning and Teaching Materials](#) needed to deliver their own curriculum objectives. This will ensure that the cost implications of curriculum decisions are clearly established at the outset.

Few education systems in developing or transitional economies give priority to any form of LTM beyond textbooks and teachers' guides - and even textbooks are often seriously underfunded. It is not surprising, therefore, that literacy has become a major problem in many countries when students and teachers have so little to read.

### 3. The significance of LTM in students' learning

International research evidence from the mid-1970s to the present confirms the central role of an adequate supply of good quality textbooks in improving student performance. The impact of textbooks is greatest in the poorest countries, where it can counter-balance the problems of poorly trained teachers and the lack of basic facilities in schools.

The research evidence also confirms that the two most consistent characteristics in improving student performance are the availability of (a) textbooks and supplementary LTM, and (b) well trained, prepared, supervised and motivated teachers. Again research evidence also confirms that textbook provision is the most **cost effective** input affecting student performance.

Bearing in mind how much cheaper it is to provide textbooks compared to trained and motivated teachers, the maintenance of an adequate supply of good quality textbooks in the classroom should be one of the most basic priorities for any Ministry of Education and for DPs. In this context **adequate supply** is usually assumed to be a minimum of one textbook per three students, and at primary level enough reading books so that every child has the opportunity to read at least one new book every week.

Research shows that the link between classroom collections of primary reading books and the early achievement of literacy is also strong. There has been little recent research into school library effectiveness in developing countries simply because very few developing education systems, particularly in sub-Saharan Africa, have functioning school library systems any more.

*“Learning and teaching materials are critical ingredients in learning and the intended curriculum cannot be easily implemented without them. Over the past forty years the importance of adequate Learning and Teaching Materials provision (including textbooks, teachers’ guides and supplementary materials) to support educational development and quality upgrading has been recognised by governments throughout the developing world and by most development partners. There is now substantial research evidence which shows that textbooks are one of the most important inputs that have a demonstrable impact on student learning”.*

(The World Bank, *A Chance to Learn*, 2001)

*“The impact of textbooks is greatest in the poorest countries where teacher quality may be low and where facilities and resources are scarce and generally of poor quality.”*

(Lewin and Stuart, *The Multi-Site Teacher Education Research Project*, 2003)



## SECTION TWO: CURRENT TRENDS, KEY ISSUES AND POLICY OPTIONS

### 4. Current trends in national LTM policies

A review of the outcomes of state textbook provision systems in **Africa** (and elsewhere in the world and particularly in the **former Soviet Union**) is not encouraging (see 5a). Despite (or because of) the creation of monopolistic companies strongly supported by state and often donor funding, very few of these companies developed into effective or sustainable operations. However, the advent of state textbook provision had a devastating impact on local commercial publishing, printing and bookselling.

Even in 2010, the primary and secondary school textbook market in many developing countries and transitional economies often represents more than 90% of total national book turnover. If this turnover is reserved only for state companies there is little or nothing left to support all other types of publishing output.

The below policy trends have provided **private sector publishers** with renewed access to the core national textbook markets and have generally resulted in a rapid growth in national textbook publishing companies. There have been few countries where the new competitive textbook markets have been dominated by multinationals. Centralised bulk purchase by government is cheap and easy for successful private sector publishers, whereas school-based selection from a list of multiple approved textbooks requires substantial investment in national marketing and distribution structures and also implies potential risk. Generally, the newly emergent private sector is prepared to take on the extra cost and the risk. There are some who would prefer the security and ease of private sector supply to a centralised government procurement office and continue to lobby for this option. But this passes responsibility for distribution back to the state with the negative results cited above.

There have also been attempts to regenerate **national wholesale and retail bookselling networks** but this has proved to be far harder than the re-establishment of good quality national publishing. Experiments such as **Uganda's Decentralised Instructional Materials Procurement (DIMP)** ended in failure partly because the process was too rapid for fledgling and inexperienced provincial booksellers to learn how to manage their finances in order to make adequate profits and to pay their publisher suppliers. This has been a common problem in many developing countries. In Kenya a strong national book retail sector managed fully to re-establish itself after the collapse of the **Kenya School Equipment Scheme (KSES)** in 1988. Some parts of Nigeria also have managed to maintain national retail supply of textbooks, but in many countries bookselling remains weak and usually confined only to urban areas.

Since the 1990s, the most significant **trends in national LTM policies** have been:

- The development of public private partnerships (PPPs) to replace state textbook provision systems.
- The transition from state to textbook provision systems utilising private sector involvement.
- The introduction of competing alternative textbooks to replace monopoly textbook provision.
- The decentralisation of textbook selection based on choices made at the level of individual schools.
- A significant improvement in the quality of textbooks and teachers' guides, resulting from competitive pressures: publishers study the strong points of their rivals and produce better textbooks for commercial reasons.
- Reduced prices and/or increased value for money, as a result of competitive price pressures and extended book life, through the widespread use of minimum production specifications as a condition of approval for sale to schools.
- The rapid development of national authorship and publishing capacity.

Similarly, **national printing** has largely failed to achieve genuine international (or even regional) competitiveness in price and quality. Equally often, national printing has not managed to develop capacity in key processes for durability, such as thread sewn binding or high quality cover finishing. Printing quality may be adequate but price and process often have been problematic.

Where there are only a few local printers with adequate facilities, textbook printing has to be organised *in sequence* (i.e. printing one book at a time in one – or a limited number of – printers). This requires the early preparation of materials ready for printing, and thus increased investment in early pre-press and in storage, until the books are ready at the beginning of the school year. The great advantage of sourcing printing regionally and/or internationally is the possibility of printing *in parallel* (i.e. in different printers simultaneously), which greatly reduces the printing lead time, and avoids tying up investment capital for long periods.

While many governments have been keen to develop their national printing industries and have put pressure on procurement systems to favour national printing (e.g. in many countries in the **Middle East**) this is only practical if the local printing industry has:

- the processes, raw materials and skills required for textbook manufacture;
- sufficient capacity in the key processes (e.g. for durability); and
- competitive prices or a government/DPs who can afford and are prepared to pay the (usually) higher costs.

Educationists and publishers generally argue that the national printing industry should not be developed where it delivers higher costs and inferior quality for the education system.

In recent years there has been a worrying trend back to **sole source supply** policies and even to the consideration of the **re-establishment of state textbook provision systems**, despite the evidence of failure in the past. For example, **Malawi** continues with monopolistic state primary textbook provision via the Malawi Institute of Education, with the active support of the donor community. **Zimbabwe** has recently adopted a single monopolistic textbook policy, also donor supported. Tanzania may be on the verge of re-introducing sole source textbook supply from the private sector and perhaps re-creating a new state textbook provision system. In **Kenya** the government is considering a proposal from the Kenya Institute of Education to form itself into an educational publishing parastatal. DPs have recently supported sole source textbook supply monopolies from the private sector in **Ethiopia** and at secondary level in **Uganda**.

Sole source supply is often justified on the basis of lower costs, which suggests a lack of understanding of the basic facts of textbook pricing (see 7). Any re-consideration of state textbook provision systems suggests that the almost universal system failures of the past have not been recognised or understood.



## 5. Key issues, options and trade-offs in the development of national book policies

At Independence, a majority of African countries sought to take control of their own education systems. The 1960s were characterised by a wave of national curriculum development and the introduction of new subjects and new content, which reflected African history, culture, environment and aspirations. This period was also characterised by the introduction of state publishing houses, printing plants and distribution systems.

### a) State versus private sector provision

**State textbook publishing** in most countries has had an adverse impact on commercial bookseller networks, the viability of commercial educational publishing houses and the activities of national printing plants. National printers have been forced to change into jobbing commercial printers because the dominant books work was reserved for inefficient state companies.

In **Tanzania** state textbook provision was on the verge of collapse by the late 1980s. The **Kenya** School Equipment Scheme collapsed in 1988. By the late 1980s most state textbook provision systems in **Africa** (and in the **former Soviet Union**) were in serious trouble. Their main failures were:

- **Poor quality textbooks** in terms of writing, page layout, design, illustrations and general readability.
- **Inertia** – having produced a textbook, state publishing companies were rarely motivated or financed to produce a revised or updated version, or even to correct the mistakes that existed in the original textbooks. Poor quality textbooks were perpetuated year after year.
- **Poor physical production quality** – this typically meant low quality paper in terms of chemical composition, caliper (thickness), opacity and brightness, inadequate binding processes, poor quality cover materials, a lack of cover finishing (lamination or UV varnishing) and poor use of processes. Thus cover and text paper grain direction were often incorrect, covers were not thread sewn onto the book blocks, and covers were rarely scored and hinged. The net result was low quality books with low classroom book life expectations, which in turn increased the recurrent costs of textbooks provision.
- **Irregular, inaccurate and ineffective book distribution:** because state book distribution systems were under-funded and were not paid on evidence of completed delivery, there was no motivation to perform efficiently. Books would be stuck in district or sub-district warehouses with no attempt to deliver them to schools, because there was no district transport and no funds to rent transport. Many of the district stores were in such poor condition that books suffered serious damage from rain, damp, dust and vermin. In **Guinea** it was reported that over 60% of textbook stocks were 'lost' during transportation. In **Ghana**, the national audit office reported in 2004 that 50% of districts inspected had no records of textbook supplies to schools.
- **School complaints** about damaged or inaccurate or late supplies were usually ignored because there was no motivation for the state or district distribution systems to do anything about the complaints. **Kenyan** schools were astonished when they discovered in 2003 that commercial suppliers would correct errors and deliver accurately direct to school premises, because they could not be paid until they could prove successful delivery.
- **Poor financial management** meant that available financial resources were poorly used. Fund misappropriation was also a common problem. Unfortunately, state textbook provision was no better served with reliable and adequate funding from government than private sector systems have been since.

Very few of the monopolistic, heavily subsidised state companies have managed to survive into the 21st century. Only the **Kenya** Literature Bureau and the Jomo Kenyatta Foundation have managed to survive as state-owned textbook publishers. They did so because the Kenyan Ministry of Education cut off their subsidies and insisted that they operate as competitive state companies on a level playing field with commercial companies.

**Private sector textbook** publishing in many developing countries has a good track record of support for local children's and general book publishing out of the profits from the textbook sector. As a result, it actively supports the development of local culture and provides support for literacy in local, regional and international languages. The availability of a number of diverse national publishing companies also provides an opportunity for the expression of different political, economic and social viewpoints, which underpins an active democracy. A single state textbook publisher only rarely re-invests in children's book publishing, and cannot provide the same plurality of viewpoints as can the private sector.

## b) Single versus multiple choice textbooks

There are a range of options as follows:

- **State published monopoly textbooks** – these are characterised as being open ended in duration, often for extended periods without review, revision and updating.
- **Private sector monopoly textbooks** – these are usually achieved as a result of invited submissions by government/DPs to private sector publishers. This is sole-source textbook supply. The submissions are subjected to evaluation methodology and criteria and the best evaluated textbooks for each subject and grade level are granted monopoly status. In some cases there is a formal contract that specifies the rights and obligations of approved status on both the publisher and the Ministry and which also specifies the duration of the approved status. In other cases there is no formal letter of contract setting out the mutual obligations and no specified duration for the approved status. Sole-source supply, unless professionally supervised, provides opportunities for corruption because large sums of money are available on the basis of a single national decision.
- **A limited approved list of textbooks** – in this scenario governments/DPs initiate an invitation for submissions which are then “competitively” evaluated and a limited list of textbooks which reach acceptable marks is established. In some countries small populations and small print runs limit the number of approved textbooks to no more than two (e.g. **Armenia**). In other cases the number of approved titles can be three, four or six (**Kenya**). With a limited approved list, schools are free to choose from those titles awarded approved status. It should be noted that many publishers are not keen on limited approved lists because they fear being excluded from the market if they do not make the cut.
- **Unlimited approved lists** – these result from a “threshold” evaluation in which all titles that meet minimum criteria are automatically awarded approved status (e.g. **Tanzania**). The basic problem with unlimited lists is that they frequently have no fixed duration for the approved status and there is often no way of removing books from the approved list once they have been established. Thus the number of approved textbooks tends to grow year by year as new books are submitted by publishers. Eventually, the number of approved books can be so large that it actually becomes confusing for schools. Although approved lists without limitations are often supported by publishers, because everybody gets a chance to participate in the market, they tend to fractionalise print runs, increase unit costs, increase the costs of textbook provision and decrease profitability for participating publishers. Many publishers claim that unlimited lists are the basis of a “pure” free market textbook supply system. Unfortunately unrestricted free market textbook competition and supply is difficult to sustain in poor countries with limited purchasing power.

On balance, there are considerable advantages to a choice of textbooks over a single monopoly textbook simply because it is extremely unlikely that a single textbook can meet the requirements of widely differing schools in the same country. A textbook which suits the needs of a well-funded, well-resourced, well-equipped urban school with relatively small classes, well-qualified teachers and good furniture which can easily be moved to support group work and pair work situations will not easily fulfil the needs of an overcrowded, under-resourced rural classroom with untrained teachers where many students will be sitting on the ground and where desks and benches are at a premium and are not easily manipulated into different learning configurations. Multiple textbook choice can provide something for each of these extreme situations, which is not available in single choice textbook environments.

Also, there is evidence that schools have greater ownership of textbooks that they choose themselves. Finally, in multiple choice situations competitive pressures tend to force publishers to upgrade their textbooks to meet the standards set by rival publications and also to compete actively on price.

### c) Centralised versus decentralised supply

In its simplest form **centralised supply** is associated with monopoly textbook provision systems (either commercial or state) and is based upon a central authority deciding how many titles and copies each school in the country requires. It is impossible for a centralised authority to know the current supply situation in every school in the country and thus centralised supply tends to be characterised by considerable inaccuracy and waste of scarce resources. Many EMIS systems attempt to collect data on school textbook stocks but practical experience suggests that the data are rarely accurate and are open to considerable interpretation. Also, the cost and management stress of maintaining individual school stock records can be high.

Decentralised supply tends to be associated with multiple choice textbooks (although it can equally well apply in a monopoly textbook situation) and requires that a school orders what it needs. There have been occasions when no limit was placed on the number of titles and the quantities that schools could order (e.g. textbook supply in the **former Soviet Union** prior to about 1985). However, in most developing or transitional economies finances are sufficiently constrained that some limitations are imposed either in the allocation of central procurement funds or through annual per capita budgets for individual schools.

As a general rule, decentralised ordering by individual schools tends to be a more accurate reflection of school needs and to be less wasteful of scarce resources than in centralised systems. Decentralised ordering and supply requires accountable distribution systems where the distributors are paid on proven successful delivery. If there is no accountable distribution system, then the benefits of decentralised ordering can be negated by failure to deliver the materials ordered by the schools.

### d) Physical production specifications, readability and durability

When governments and DPs need to take decisions on physical production specifications they should seek the help of a professional printing and production specialist with a deep knowledge of book usage in local conditions. However, the following notes can provide broad guidance.

The main purpose of specifying physical production standards is to ensure that every textbook, teachers' guide or other supplementary material uses raw materials and manufacturing processes which will ensure a minimum book life in the classroom assuming reasonable care and conservation. It is well established that achieving **extended book life** significantly reduces the cost of textbook provision and this is an important issue for all countries where financing is limited. Extended book life also reduces the frequency and costs of distribution, although it simultaneously increases the pressures on school level storage (see 5n). The key components in durable book specifications are:

**Text paper:** Text paper should have a minimum grammage of 70 grams per square meter (gsm), although 80gsm would be better. The paper used should be wood free in composition with a machine finish (mf). It should be white for maximum contrast and readability with a good opacity in order to prevent see-through. Whiteness, brightness and opacity can all be defined in terms understandable to every professional publisher and printer.

**Cover card:** There are different grades of cover card and the highest grade should always be specified because maintaining the cover on the textbook is the basic protection to the book block. When the cover is detached from the textbook the textbook is almost certainly finished in usable terms. The basic specification is a one-sided art card with a minimum grammage of 240-260gsm. Experience has shown that better protection is provided by 280-300gsm, but many African publishers object to the higher specifications on the grounds that these art cards are not easily available in-country and therefore favour international publishers who can more easily access higher grade card. The response to this is that if every publisher specified the higher standard then higher standard cards would become common because the market will always respond to demand. The card itself should be relatively rigid and should have a caliper (thickness) of at least 30 microns. Ideally the cover card should be "finished" with either a laminate or UV (ultra-violet) varnish which provides some waterproofing protection to the book block. The cover finish should normally be 12-15 microns in thickness. The finish also enables covers to be wiped clean with a damp cloth to remove dust and grit, which can damage covers.

**Binding:** Up to 96 pages in extent for saddle stitched binding (i.e. a wire stitch through the spine of the textbook and closed against the centre pages) can provide adequate binding if the cover card is strong enough to 'hold' the stitch. Above 96 pages all textbooks and teachers' guides should have thread sewn bindings, gathered into signatures with "drawn-on" covers with four scores and two hinges so that the cover opens against the hinge and not against the spine. Under no circumstances should unsewn bindings be used for textbooks because the life of an unsewn textbook binding can often be measured in weeks, particularly if the process is not well performed. Standard unsewn binding is called "perfect" binding which is a classic misnomer. Another form of binding which should never be used for school books is "side-stabbing" in which a metal staple is inserted from the front cover through the book block to the back cover. This kind of binding leads to "mouse trapping" in which the textbook will not stay open so that students have to press out the 'gutters' of the textbook, thereby breaking the binding instantly.

Other forms of binding such as “notched” binding – sometimes known as sewing with glue - are sometimes used. These bindings are only effective if well performed and even then they are not to be compared in durability with thread sewn bindings.

There are other considerations such as text and cover grain direction, which should always be parallel to the spine in order to avoid curling of the pages.

The debate over four-colours, two-colours and one-colour printing is now largely academic because in most countries primary school textbooks tend automatically to be printed in four colours. Secondary textbooks can be printed in one or two colours, although some textbooks, such as biology and geography can benefit from four-colour sections. The real policy issue with colour is the level at which the economies of scale are reached. In four-colour textbooks modern printing technology can usually generate acceptable economies of scale and prices at between 30-50,000 copies. One-colour textbooks can achieve cost benefits at only 6-10,000 copies.

### e) Public Private Partnerships (PPP)

The basic PPP operating in the provision of learning and teaching materials is the working relationship between a Ministry of Education and the private publishing, printing and bookselling sectors.

This relationship works best where the Ministry of Education is responsible for establishing the rules of engagement comprising:

- the types of materials required by schools in order to deliver the curriculum,
- supply policies,
- procurement arrangements,
- methods of selection/approval,
- transparent evaluation of LTMs,
- methods of school selection of materials,
- provision of appropriate levels of financing,
- operation of the financing mechanism,
- monitoring and supervision of the whole process.

The private sector is responsible for implementation via:

- developing materials,
- submitting them for evaluation and approval,
- marketing them to schools,
- manufacturing in accordance with minimum specifications,
- arranging delivery through the designated delivery mechanism.

Payment by results i.e. successful delivery of school orders accurately and in good condition, ensures that the PPP system works in favour of the schools.

Within the scenario described above there are a number of common areas where the system can be fatally disrupted:

- Persistent under-funding.
- Late or irregular/unpredictable release of funds.
- Diversion or misappropriation of funds that significantly reduces their value.
- Corruption in the selection, approval and ordering processes.
- Persistent large-scale piracy.
- Sudden changes in curriculum or materials policies without adequate warning or consultation.
- Lack of adequate system supervision and monitoring.
- Inadequate school supervision and auditing, which in turn encourages corruption.
- Frequent changes in textbook provision policy, often as the result of the appointment of a new minister.

All government/private sector PPPs on the provision of LTMs should be designed to be:

- Affordable
- Sustainable
- Predictable
- Well-supervised.

## f) Minimum profile of LTM provision

Modern curricula, which emphasise skills and competencies, usually require considerably more materials than are easily available in a single textbook. This can range from operational laboratories and ICT facilities for practical work, internet connectivity, reading books in local languages, English and other foreign languages, atlases, dictionaries, encyclopaedias, non-fiction topic books and wall maps, science charts, etc. It should be the role of each subject syllabus panel to specify the minimum profile of materials required to successfully deliver the subject and general curriculum objectives and learning outcomes.

This specification should take into account target classroom life, target pupil:textbook supply, assumed average prices, annual loss and damage rates, etc. With this information it is relatively straightforward to create an interactive costing spreadsheet which will enable the Ministry to project forward over five or ten years the **cost implications of their curriculum and syllabuses, to establish whether or not the stated curriculum is genuinely affordable** and thus practicable. It is a sad truth that many curricula in many countries are designed without reference to the basic materials needed to make them work and without reference to the costs involved in doing so. As a result, specified curriculum objectives are often not realistically achievable because they cannot be financially afforded. Countries with 12 subject primary curricula, for example, will also be high cost in comparison with countries with four or six subject primary curricula.

## g) Procurement issues

In recent years the switch from monopolistic competitive sole sourcing from the private sector to approved book lists and decentralised financing and selection has removed the need for traditional bulk procurements of learning and teaching materials organised by Ministries of Education, which were often problematic in the past. De-centralised financing, selection and ordering systems put procurement decisions in the hands of individual schools or districts. This does not mean that corruption is abolished; merely that the opportunity has been spread very thinly over many individual transactions. There will still be schools where the head teacher asks for money from publishers in return for ordering their books, or from booksellers in return for the school order. Over-pricing and even misappropriation of funds through invoicing for materials which are never delivered is still a problem in some systems. There have been well documented cases of district education officers being paid to change school orders in favour of one or two publishers, or of district education officials establishing their own bookshops through relatives and then pressuring schools to order through these favoured outlets.

The solution to these problems lies in regular and thorough inspection and supervision and regular school audits. In **Kenya** in 2003-04 when the Free Primary Textbook Project was launched, DFID funded an international accountancy

company to conduct random school audits for the first two years. Booksellers and publishers have reported since that the random auditing kept the system free of corruption and misappropriation. It was only when the random auditing stopped and schools and districts gradually became accustomed to lax supervision and long intervals between audits that the system gradually became corrupted. However, the use of purchasing power budgets, rather than cash budgets, and annual school ordering on official order forms against purchasing power budgets where the orders are bulked up centrally and passed on to publishers along with detailed distribution schedules, have been effective in getting rid of price mark-ups and fund misappropriation. **Rwanda** is a good current example of such a system.

Centralised bulk procurement can still exist even within decentralised financing systems when bilateral or NGO donors decide to order titles (usually supplementary or reader titles) in bulk for distribution to schools. The World Bank and the Asian Development Bank maintain sample bid documentation to cover this type of transaction. It is worth noting, however, that although considerable thought and effort goes into the design of the bid documentation, the real need is for adequate, independent and detailed supervision of the evaluation and award processes because this is where problems most commonly occur with bulk procurements.

## h) Evaluating and establishing an approved list of textbooks and LTMs

The general rule is that publishers and their authors should be provided with the maximum amount of information to enable them to meet the Ministry requirement for textbooks and other LTMs. This information should always include:

- The national curriculum framework.
- The relevant syllabuses.
- A list of key skills, competencies, values and attitudes required by the curriculum and by individual subjects and grade levels.
- Any subject standards that have to be met.
- Any cross-cutting issues which need to be included (e.g. gender equity, environmental issues, concepts of globalisation, HIV/AIDS, maternal reproductive health, etc).

The specification should state what materials should be submitted for evaluation e.g. a textbook and teachers' guide or a textbook, teachers' guide and ancillary materials or a textbook and teachers' guide and access to additional materials via an internet website, etc. Guidance may also be needed on the requirement for exercises, activities, methodological approaches and for assessment. Alternatively these may be left to the discretion of individual publishers.

It is often helpful if publishers are provided with sample lesson plans produced by members of the curriculum/ syllabus groups so that publishers can see how information is combined with activities and student-oriented working methodologies to develop the skills and competencies specified by the curriculum.

There are two broad approaches to evaluation:

**Threshold evaluation**, in which all titles which meet minimum standards are approved for competitive selection by individual schools.

**Competitive evaluation**, in which a pre-determined number of titles may be approved if they achieve the minimum standards specified. The number of titles approved can vary from just one (monopoly supply) up to three, four or even six (Kenya). The list of approved titles is determined entirely by the competitive evaluation scores with the top scoring qualified titles up to the established limit achieving approved status.

There are normally some minimum requirements. These are usually conformity to curriculum and an overall average mark on all criteria. Thus, it is common to require that any evaluated textbook approved for use in schools should have a minimum 80% conformity with the national curriculum. It is also common that all other criteria should be scored to a minimum level of 60% or higher to ensure that all of the critical components of a textbook and teachers' guide meet good minimum standards.

There are normally three bands of evaluation criteria:

### ***i) Compulsory criteria***

Band 1 covers qualification and eligibility to bid according to the rules of the tender process, plus the achievement of the minimum production specifications set down in the tender documents. The minimum physical production specifications are meant to ensure that every textbook approved will have the same level of durability and readability. All the compulsory factors i.e. eligibility, qualification and conformity to production specifications are scored as a straightforward pass or fail. Any submission which fails on the compulsory characteristics is not considered for further evaluation or approval.

### ***ii) Qualitative criteria***

There can be considerable variation in the qualitative criteria but the commonest categories are:

- Conformity to curriculum.
- Suitability of content to the needs of teachers and students.
- Quality of writing and editing, with particular reference to suitability for age and interest levels.
- The quality of page design and illustrations, and in particular, relevance of the illustrations to the subject matter.
- Methodologies, including the use of exercises, activities and practical work, which encourages the development of skills and competencies.
- Teacher's guide, which evaluates the degree of help that the teachers' guide provides to the teacher.

The qualitative evaluation should be conducted by a team of trained evaluators who are supervised by a non-scoring neutral moderator or chair. There are established methodologies, evaluation instruments and scoring regimes which are available and which can be used to ensure maximum objectivity and transparency. For example, in recent years it is common for submissions to come from publishers with no covers, no authors' or publishers' names or any identifying logo so that evaluators can evaluate without deliberate or unconscious bias.

All titles which pass the qualitative evaluation are then evaluated for price.

### ***iii) Price evaluation***

The art of good textbook publishing is to achieve the right balance between the qualitative components and price. Experience suggests that a price mark representing 25-30% of total evaluation marks usually provides the correct balance. With careful evaluation management and well trained evaluators and moderators this system has been proved in many countries to produce high quality results.

Other types of LTM (e.g. readers, dictionaries, atlases etc) require different types of evaluation schedules.

The design of an LTM evaluation methodology, criteria, instruments and marking/scoring system is a specialist task and needs experienced specialist consultancy inputs.

### i) Classroom and school libraries and the provision of reading materials

The importance of providing good basic supplies of reading books at all levels of the education system cannot be overstated. This is particularly true at lower primary level where the early achievement of literacy is a growing problem. At primary schools reading books need to be held in classrooms if they are to be used regularly but this requirement is often inhibited by the lack of good secure classroom storage.

Book box schemes have been launched (e.g. by DFID in **Malawi** and **Zambia**) with mixed results, often because untrained or semi-trained teachers have no clear idea how to use reading books in the classroom. In the 1970s the Book Flood experiments launched in **New Zealand**, the **South Pacific** and **South-East Asia** achieved significant increases in reading frequency, early literacy, vocabulary acquisition and self expression through the use of two simple techniques that were popular with teachers and easy to implement. At the beginning of every school day students were required to select a reading book for silent reading for 15-20 minutes. At the end of every day the teacher would read a story from one of the reading books to the class, showing the pictures, asking questions and getting the children familiar with the story. These two simple techniques were reported to have doubled reading scores consistently in the first year.

At secondary school level the requirement for classroom libraries is less acute and a well-developed school library with a good balanced stock of both fiction and non-fiction should be a priority. The development of secondary school libraries in **Malawi** through a Danida-funded project (1997-2002), which included the provision of a minimum stock of 200 fiction titles on African themes, created an immediate increase in reading frequency among students who reported that they had rarely ever read a book previously. Schools reported marked increases in reading fluency, vocabulary acquisition and usage, and in the ability to express ideas and concepts more clearly and accurately. See [further reading](#) for more information.



### j) Corruption, diversion and misappropriation of LTM funds and price mark-ups

Textbook procurement has long been a source of potential **corruption**. The greatest risks of corruption tend to occur where large sums of money depend upon a single decision. For this reason sole sourcing of textbooks, where a single title is selected from commercial submissions as the monopoly national textbook for a subject and grade level, has traditionally represented a high risk situation. Good procurement documentation is only as effective as the supervision of the procurement process.

While considerable progress has been made in the quality of procurement systems, detailed and knowledgeable supervision of the evaluation processes is frequently lacking, which allows corruption to take place. As a general rule, decentralised procurement, where there are multiple small financial decisions, has less risk of major corruption but still needs effective and professional supervision. State publishing costs are frequently very difficult to establish accurately and therefore very difficult to control.

The sums of money allocated for learning and teaching materials are only rarely the sums that are actually spent. The actual forms of diversion and misappropriation may vary from centralised to decentralised systems but both systems have problems in achieving financial control.

The first level of fund 'leakage' is common to both centralised and decentralised systems and lies in the almost universal discrepancy between government budget allocations and the funding that is actually released from Ministries of Finance. This discrepancy can vary from 1-2% up to 10% or even more. A percentage of the released funding may then be 'diverted' from LTM usage to other educational usages. In de-centralised systems the diversion can take place at the central, district or at school level or at all three levels. **Diversion** to administrative or management use is common because this category often covers 'sitting allowances' and travelling expenses. Diversion to construction or maintenance is also a common re-routing.

The commonest form of **misappropriation** reported in de-centralised systems is an agreement between an unscrupulous head teacher and a bookseller to invoice learning and teaching materials which are then never supplied. The head teacher and the bookseller split the invoice value between them. Funds are utilised but without educational benefit to either teachers or students. This kind of deal is possible because of low levels of official inspection/audit. Many inspectors have no idea what has been supplied or invoiced and therefore cannot easily spot significant differences between invoiced stock and stock actually in schools.

It is difficult in most systems to quantify the extent of diversion and misappropriation but it has the effect of reducing already diminished funding for textbooks and other learning or teaching materials. It is also often much larger than anyone realises. Public expenditure tracking surveys (PETS) can provide some evidence. A recent study in **Tanzania** (Read, 2010) found evidence from PETS of combined funding leakages amounting to up to 90% of the allocated funds in some cases. Under these circumstances the adequate provision of textbooks and other LTM is extremely unlikely.

Publishers frequently offer discounts to booksellers for textbook supplies to schools of around 25-30% with occasional discounts of up to 37.5% in special circumstances. Publishers expect that booksellers should be able to cover the costs of supply and make a profit out of this level of discount. However, publishers have reported cases where booksellers have marked-up the official retail price by 20-50% in order to increase their profitability. Sometimes the mark-up may be agreed with a head teacher and the agreed mark-up is then shared. Once again, it is only rarely possible to quantify the extent of pricing mark-ups but it can be extensive, particularly in rural and remote areas where there are fewer competitive sources of supply and where inspection and supervision are less likely to be effective. Where there are no official prices for books on an approved list and where many schools do not have easy access to recommended retail price lists (recommended retail price, RRP), the risk of unacceptable price mark-ups is greatly increased.

In decentralised systems where supply is via the local booktrade it is not uncommon to find district education officers and other district officials opening bookshops via a relative and then putting pressure on schools to order through their own bookshops.

Ideally, all DPs should be aware of the likelihood and potential scale of funding erosion and its impact on LTM supplies and thus on student performance.

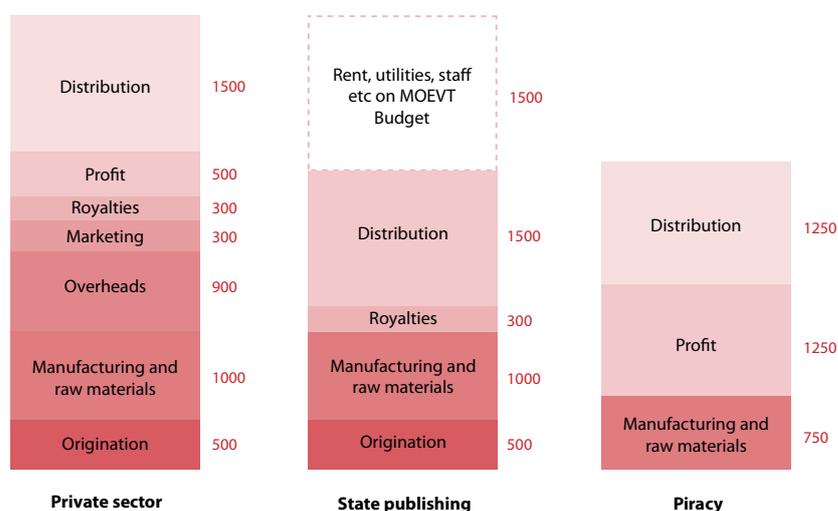
There is a need in all countries to develop and maintain realistic annual indicators of LTM provision at the level of individual schools in order to compare these with agreed national targets.

## k) Piracy

Piracy (theft of intellectual property and/or unlicensed reproduction of copyright material) and photocopying divert available funding away from legitimate textbook purchases and focus school expenditures on texts with poor quality reproduction.

Piracy is also associated with poor durability because pirates do not bother with thread sewn bindings, good quality covers and finishing. The net result is lower pedagogic usefulness through poor quality presentation and reproduction and shorter book life. Pirate editions are always cheaper than legitimate editions. The diagram below demonstrates why this is so.

Figure 1: Comparative costs of book production sectors (Tanzania)



Source: Read A (Feb 2010) *The Future of Our Children's Education - Getting the Best Textbooks for Tanzania's Next Generation.*

Piracy and photocopying can be very serious problems that affect the health of the national book trade and the effectiveness of the learning and teaching materials supplied to schools. DPs should be aware of the problems caused by piracy and should always lend their support to the development of adequate copyright legislation to provide basic protection and to vigorous enforcement of the law. Copyright law is increasingly complex and professional advice needs to be sought on this issue. National publishers will usually be well-informed on copyright and piracy issues and the national Publishers Association should be consulted for background.

## l) Local language policy

It is generally recognised that children will perform better and learn faster if early education is conducted in a familiar language, although the issue is not necessarily as straightforward as this and considerable care is needed in developing an effective and practical policy for the selection, use and development of local languages within the primary curriculum. If reading in the local language is badly taught by teachers with little formal training in either the local language itself or in the teaching of literacy, or if it is not well supported by appropriate learning and teaching materials (e.g. local language readers), it could undermine progress towards basic literacy. This in turn hinders the development of learning in other subjects and the later acquisition of literacy in the national or official language, and, ultimately, effective access to education in upper primary grades and in secondary school.

Many countries have many potential Languages of Instruction (LOIs) and thus the selection of a local language to use as the language of instruction in lower primary grades has a number of implications, which need to be taken into account in the development of a local language policy for education. These include:

**Financial implications** – the use of too many local languages will fractionalise print runs for essential learning materials, thereby increasing the costs of educational provision. Too many languages operating with small enrolments and thus print runs could be a disincentive to potential publishers of educational materials in local languages. There is a risk that smaller language groups would be less well-served than larger language groups. The cost inflation factor is far greater if other primary curriculum subjects such as maths, social studies, science and agriculture also require textbooks in multiple local languages. However, if local language textbooks are developed and printed in one colour, cost benefits can be achieved at relatively low print runs, in order to support local language publishing.

**Staffing and training implications** – instruction in local languages also requires teachers trained to use the local language. Too many LOIs will increase the costs and the complexity of teacher training in local languages and has implications for the posting, selection and promotion of teaching staff between different language areas.

**Political implications** – the selection of a local language as the LOI is not just a pedagogic issue but also has cultural and political implications, particularly in districts where there are a number of different, and sometimes rival, language possibilities.

Local languages operate at different levels of development. Some local languages are widespread and highly developed with an established orthography, a flourishing supportive literature of newspapers, magazines, fiction, children's books, poetry and drama, radio and TV stations and a cadre of trained language speakers, readers and teachers. Other languages may be used by only a few villages, have no established orthography, little or no supportive literature (or even print of any kind) and no trained language teachers.

There is also a difference in the early childhood exposure to written languages between urban and rural areas. Thus, in urban areas all children are constantly exposed to written language in the form of shop and street signs, product packaging, advertisements, newspapers, magazines, TV, cinema, bookshops and libraries etc. In many rural areas none of the above exists and there is little (or even no) cultural conditioning and exposure to written language as the foundation for the basic de-coding of letters and words into sounds and meaning. Many rural children arrive at school for the first time from home environments that are almost entirely oral and thus with little or no print awareness. In this situation the absence of any supporting literature for a language selected as an LOI could have a damaging impact on the acquisition of literacy. In these circumstances, policy makers and managers of scarce resources must decide (preferably through consultation) whether it is preferable to use a regional local language not favoured by a local community but which has trained teachers, a known orthography and reading books, textbooks and a supportive background literature, or is it preferable to use a community-favoured minority local language, but without an accepted orthography, trained teachers, reading materials and a background literature etc.

## m) e-Materials

Many countries are investing in the provision of ICT facilities, mostly in secondary schools, but sometimes in primary schools as well. There are a number of common problems with this development:

- The total costs of ownership (TCO) are not often calculated so that governments and development partners are only rarely aware of the true operational costs of ICT provision. The major capital cost items are hardware investment, replacement costs and security. The main recurrent cost items are software, teacher training and support, maintenance and servicing, internet connectivity, increased electricity costs and consumables.
- A high percentage of work stations are often not operational because of the failure to provide schools with the recurrent costs specified above, thus leading to a significant waste of scarce resources.

- There is typically a high level of viruses caused by the inability and/or unaffordability of accessing adequate anti-virus software.
- Internet connectivity and access to reliable electricity and maintenance services, are usually worse (and far more expensive) in rural areas compared to urban areas, leading to an increase in the Domestic Digital Divide (DDD).
- A high proportion of teachers are not trained to use ICT effectively in class and the costs of providing and maintaining adequate levels of teacher training are often too high to be affordable. One or two-day ICT training courses generally do not provide teachers with either the expertise, the hands-on practice time, the confidence or the willingness to use ICT effectively.
- There is a lack of suitable custom-designed e-materials, particularly where the language of instruction is not an international language.
- Most national examination systems do not test ICT usage so the motivation to develop and use ICT skills, particularly in exam classes, is often lacking.

Despite the problems listed above, there is still a significant and growing investment in ICT facilities in all developing countries and transitional economies. This is often at the expense of traditional learning and teaching materials. If ICT is perceived to be a high priority, funding should be calculated to support both ICT provision and the provision of the minimum profile of LTMs - which should, ideally, also include access to e-materials.

## **n) Distribution and storage**

Distribution and storage remain two of the most fundamental problems in book provision systems in developing and transitional countries. The advent of state publishing in the 1960s throughout most of Africa effectively dismantled the existing distribution networks of wholesale and retail bookshops in many countries. The reform movements which have been supported by DPs from the early 1990s onwards have made good progress on publishing and authorship skills but have made much less progress on the re-establishment of national bookselling networks. Unfortunately, there is no universal solution which can apply because there are so many different national situations. Kenya, for example, managed to emerge from the state textbook provision era with a strong wholesale and retail bookshop network which has been proven to be more than capable of undertaking the supply of learning and teaching materials even into the most remote areas of the country. Rwanda, on the other hand, has no significant bookshop network outside the capital city of Kigali, but because the country is small and compact with a relatively good road network, a high proportion of the schools are easily reachable.

Publishers, who are now required to undertake distribution direct to schools, are confident that they can achieve efficient distribution.

Unfortunately, lack of regular supervision, inspection and auditing has meant that corruption has become an issue in many countries and this has undermined a number of newly established commercial supply systems.

Another issue affecting distribution is the late release of funding to schools where decentralised ordering systems apply. Schools give preference to those local booksellers who will offer credit until fund releases arrive. Unfortunately, many schools are not good managers of money and have often overspent so that when the funds eventually arrive there is nothing left to pay the booksellers. The booksellers, left with accumulated debts to publishers, have no recourse to the schools that owe them money. As a result, the booksellers have often been blacklisted by their publisher suppliers. This means that they cannot fulfil future orders, which in turn drives them into the arms of the suppliers of pirate books.

Closely associated with the issue of distribution is the lack of adequate storage. During the days of state distribution many systems suffered from very inadequate storage facilities at district and sub-district level and high percentages of damage were recorded. Where commercial systems of supply are in place, the storage facilities are generally much better, because commercial operators know that they will not get paid if they supply damaged books.

Lack of storage in schools is a real problem in the majority of countries. The storage issue is particularly acute for primary schools in rural areas. Even when reasonable central storage exists there may be problems for teachers to draw out stock on a short-term basis for use in class. As a result, learning and teaching materials may not be used as often or as effectively as they would be if good classroom storage was available.

Where adequate supplies of learning and teaching materials are available the central school store may be able to issue books on a loan basis to students for a full school year, taking loan copies back at the end of the year. Even in this situation schools report considerable losses, particularly in examination years, when students have no real incentive to return books to the stores. In some countries it is common practice for examination certificates to be withheld from students who have failed to return textbooks given to them on loan. In some schools, particularly in secondary schools, there is a requirement for cash deposits against long-term book loans. Unfortunately, for many poorer students, this militates against receiving any textbooks on loan.

The problems of distribution and storage are often among the most acute and intractable in LTM systems. They lead to failure to achieve on-time delivery of learning and teaching materials, high levels of loss and damage, and to the non-use of materials when they are in school. It is difficult to prescribe a common solution. A professional distribution and storage survey is needed in most countries, to establish the exact nature of the problems to be overcome and to propose country-specific solutions.

## o) Conservation and usage

It is arguable that standards of book care have deteriorated seriously in schools in many developing and transitional economies over the past 30-40 years. For example, in the 1960s and 1970s virtually every primary and secondary school in Africa insisted on textbooks issued to students being properly covered in strong brown paper and maintained in good condition by the students. Now there are many schools where covered textbooks are a rarity and basic standards of book care and book conservation, including book repairs, are almost entirely absent. The key objective of a school book conservation policy is to keep books in good condition so that they achieve their targeted classroom life. In this way, they will contribute to maximum cost amortisation and minimum learning and teaching materials costs to the system.

The single greatest objective is to keep the covers on the textbook in order to protect the page block. Regular monthly inspections of textbooks by subject teachers or class teachers can often identify damage at an early stage so that remedial action can be taken. A simple set of conservation practices are provided below.

Because teachers can become overwhelmed by the scale of conservation activity that may be required, it is often suggested that schools should try to involve parental groups in ensuring good book care and undertaking regular repairs.

Where textbooks are loaned to students, a clear loss and damage policy is required. Some systems believe that any kind of penalty charge for loss and damage will discourage effective textbook use. Other systems and schools can levy quite severe charges in order to guarantee proper care. A national loss and damage policy is recommended.

Even where substantial stocks of teaching and learning materials exist, there is no guarantee that this will result in effective usage. A study undertaken by SIDA as part of the Pilot Project for Publishing in **Tanzania** discovered that there were huge discrepancies between the availability of good class sets of textbooks in schools and their use in the classroom. A national survey undertaken in 1999 revealed that although almost 40% of schools surveyed had class sets of textbooks, only 4% of schools were actually using textbooks in the classroom. It has been argued that poor textbook supplies over many years have conditioned many teachers to operating without textbooks in the classroom. It is often claimed that many teachers prefer that textbooks are not issued to the class in order to avoid situations where the students may know as much as the teacher. There is certainly some evidence to indicate that in many systems teachers have forgotten how to use textbooks and other teaching and learning materials effectively. A short course in usage techniques, or at least a simple guide book for teachers, could have significant benefits.

### Box 2: Simple book care rules for students

#### Simple Book Care Rules for Students

- Always make sure books are well covered.
- Keep books away from water and damp.
- Always carry books to and from school in a waterproof and dustproof bag, which is big enough for the books that you have to carry. Even a plastic carrier bag provides some protection and is better than nothing.
- Take care not to put too many books in a bag at the same time. Paperback textbooks can be strong and durable but they suffer if pushed roughly into over-crowded school bags.
- Keep your books clean. Most of them have varnished and laminated covers and the covers can be wiped clean with a slightly damp (not wet) cloth.
- Always use your books with clean, dry hands. The dust, grime and sweat on your hands will damage the text pages unless your hands are washed before books are used. Paper is easily damaged by water and damp, so never use a book with wet or sweaty hands.
- Always open books carefully using the top outside edge of the page to avoid tearing.
- Never bend books back against the spine.
- Never press out the gutters to make books stay open when flat.
- Never fold books or push them roughly into bags which are too small.
- Never use books as weapons or missiles.
- Never write in books.

## SECTION THREE: Key issues and actions in developing effective national LTM policies

### 6. A diagnostic checklist for DFID advisers

The checklist below will enable DFID Advisers to determine the basic health of national LTM provision. Completing the checklist will indicate corrective measures and policy choices that should be raised with the Ministry of Education, Ministry of Trade, Ministry of Finance and other Development Partners.

Issue	Indicators/Source	Recommended Action
Copyright legislation – is it adequate?	National Publishers' Association should be able to provide briefing and relevant information.	If inadequate, make representations to government for upgrading copyright law to international standards.
Piracy – is it an issue that affects school supply?	National Publishers' and Booksellers' Associations should be able to provide briefing and relevant information.	If piracy is an issue make representations to government re improving enforcement and increasing penalties.
Minimum Profile of LTMs required to deliver curriculum – is there one?	MoE should be able to provide information.	If no clear LTM provision plan then work with DPs and MoE to create this as the basis for future LTM financing projections. <b>Specialist help will be needed to establish this.</b>
LTM supply assumptions – are these specified?	MoE should be able to provide information.	If these are not specified then these should be included in the Minimum Profile of LTMs (see above). <i>NB: Basic supply assumptions are (a) target student/textbook ratios; (b) target classroom life; (c) annual loss and damage rates.</i>
Annual LTM Cost Implications – have these been accurately calculated and projected forward over at least five years?	MoF/MoE should be able to provide information.	A simple interactive costing spreadsheet is available which can quickly and easily provide an accurate costing and projection. <b>Specialist help (one week) is recommended to demonstrate the use of the interactive costing spreadsheet and the options available.</b> More sophisticated database management systems can be developed to support all aspects of decentralised supply systems.
Is there sufficient funding to meet agreed minimum LTM needs?	Compare Minimum Profile cost projections with actual funding releases for LTMs over past five years.	Meet with MoE/Other DPs to discuss creation of minimum funding levels and/or the need to apply standard cost reduction strategies (see 7 below).
What % of available funding is actually utilised for LTM procurement?	Public Expenditure Tracking Surveys (PETS) can review this issue and provide data; or small sample biennial school surveys can provide data for decentralised systems.	Available funding allocations for LTMs may need to be adjusted to take account of funding diversion and/or misappropriation.
Are LTM funding allocations regularly adjusted for inflation and/or enrolment growth?	Data on annual per capita funding allocations in USD need to be established. This kind of data is usually available from MoF/MoE.	Many school systems do not adjust for inflation and enrolment growth as often as they should. Agreements with MoE/MoF are needed to review and revise allocations annually.

Is textbook supply monopolistic or competitive?	This information is normally easily available and well-known and is part of a national book policy.	The answers to these questions might prompt the need for a policy review where experienced professional input is required. However, although competitive, decentralised, private sector systems generally work best – if properly supervised – there is no silver bullet and different solutions are required for different situations.
Is textbook selection centralised or decentralised?		
Is the private sector involved in LTM publishing, bookselling and printing?		
Do LTM procurement costs represent “value for money”?	This is not an easy question for non-specialists to answer. Improving VfM in the provision of textbooks entails much more than simply looking at units costs. There are many variables along the chain of textbook production, supply and use that affect the cost. Thus, for example, textbook costs in large population countries based on one colour printing cannot easily be compared in value-for-money terms with free-market competitive supply costs for 4-colour textbooks in small population countries.	<b>Specialist professional help is always needed to answer this question.</b>  In some countries (e.g. many Middle Eastern countries) higher costs are accepted in order to protect high cost national printing industries.  In value-for-money terms cost should always be annual average recurrent cost and not actual production cost because high production specifications will be more expensive to provide but will usually last longer thus amortising the initial costs over longer periods – usually resulting in significant cost savings.
Does the distribution system work?	Distribution surveys can be designed and implemented every three or four years to determine whether LTMs are reaching schools on time, in good condition and in the required quantities. Check whether the distribution system is equitable - e.g. do all schools get the same allocations or do urban schools do better than rural and remote schools? Are the costs the same for all schools? Has agreement been reached with booksellers for discounts in return for delivery? Are books available at the start of the school year?	If the distribution system is not working then <b>specialist assistance will be required to review, amend existing systems or propose new approaches.</b>
Are there storage and conservation problems at school level?	School mapping surveys, small sample surveys or direct observation provide data to answer this question.	This is potentially an extremely expensive issue which has to take into account adequate security in situations where books are lent to pupils free of charge.  <b>Specialist advice is required to provide practical, workable and affordable solutions.</b>
Are LTMs used in schools?	Sample school surveys and direct observation are required.	Solution is the authoring of LTM usage guides for inspectors, schools and teachers + INSET and module units in PRESET.
LTM availability in schools?	A national LTM availability survey in schools every four-five years is recommended.	Assumptions are frequently made based on what has been supplied. Sometimes, these assumptions fail to take account of loss and damage so that actual availability can be worse (or sometimes better) than expected. Regular availability surveys every four-five years – perhaps supplemented by small-scale sample surveys in the interim will ensure that the exact level of LTM availability will always be known.

Is LTM content and presentational quality acceptable and fit for purpose?	Ensure that LTM procurement, evaluation and approval systems are well-designed and properly implemented by independent, trained evaluators, who are well supervised.	Good LTM evaluation and approval systems, particularly if the evaluation is competitive, will usually ensure that content and presentational quality are of an acceptable standard. If there are doubts about the efficiency of the system in place then <b>specialist assistance is required to ensure that procurement documentation and evaluation/ approval systems are up to international standards.</b>
Do the physical production specifications ensure durability and long classroom life?	Ascertain from MoE whether or not there are minimum physical production specifications covering text paper, cover card, binding style, cover finish etc.	If there are no minimum specifications these should be established. Existing specifications can be checked for suitability by a production specialist with previous experience of textbook supply in locally applicable conditions.
Are there sufficient supplies of appropriate reading books in primary classrooms?	Previous procurement records will reveal whether or not appropriate reading books have been supplied in the past.  Sample classroom surveys will also be useful in establishing current availability of reading books and their usage.	At primary level reading books should be available in classrooms to be used effectively but this implies the development of secure, weatherproof classroom storage. This is possible at reasonable cost <b>but specialist advice would normally be necessary to design an approach.</b>
Are secondary school libraries well-stocked and used?	Sample school surveys are useful in establishing current secondary school library situation.	Secondary school library development is a potentially important but expensive exercise. However, good libraries are important in supporting child-centred learning, the development of student skills and independent student learning.
Is there a national book policy?	MoE will provide details	Needs to be regularly up-dated if it exists. Otherwise the Ministry of Education should be encouraged to develop a National Book policy to identify gaps and challenges to be addressed in developing equitable LTM provision.  <b>This will require specialist support.</b>

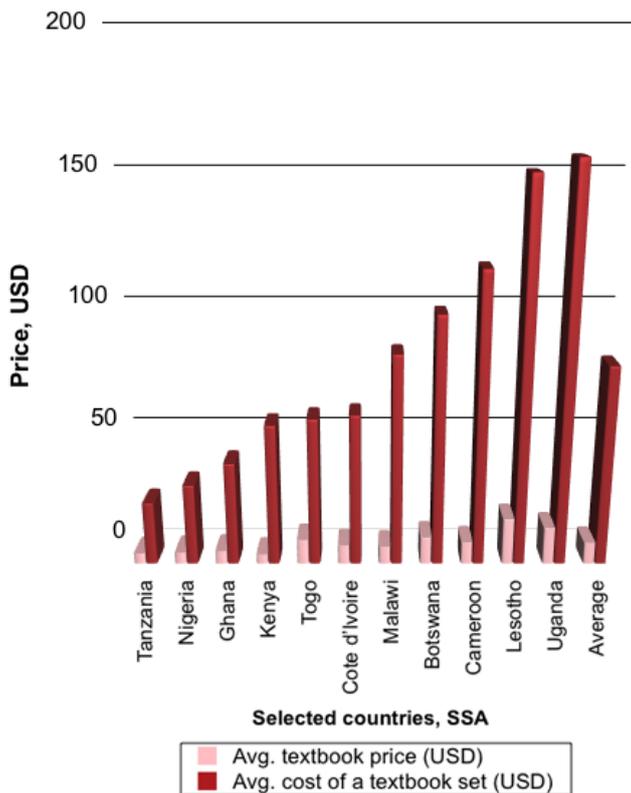
## 7) Financing LTMs and textbook costs

In 2007 a survey of secondary textbook costs in sub-Saharan Africa (Read, Bontoux and Buchan, 2007) revealed the following variations in textbook costs for Grade 9 (Table 1/Figure 2):

**Table 1: Average prices of textbooks/sets**

Country	Avg. textbook price (USD)	Avg. cost of a textbook set (USD)
Botswana	11.07	99.60
Cameroon	8.95	116.30
Cote d'Ivoire	7.64	61.10
Ghana	5.19	41.60
Kenya	3.80	57.00
Lesotho	18.75	150.00
Malawi	7.06	84.70
Nigeria	4.61	32.69
Tanzania	4.25	25.30
Togo	9.92	59.50
Uganda	15.00	155.19
<b>AVERAGE</b>	<b>8.75</b>	<b>80.27</b>

**Figure 2: Costs of textbooks and textbook sets, selected sub-Saharan African countries, 2007**



These data demonstrate the astonishing variation of textbook costs in different countries. The unit costs of an individual textbook in **Lesotho** was almost five times higher than in **Kenya** and the total cost of a set of textbooks was six times higher in **Uganda** than it was in **Tanzania**. Policy initiatives have changed some of the data since 2007 but the notes that follow provide background to the causes of the cost variations. They point the way to strategies that could reduce the costs of textbook provision in the future. Some of the causes of the variations illustrated above are provided in Annex A.

### a) Sources of finance for LTMs

These are:

**Government** – usually via bulk procurements and distribution to schools, or less commonly via subsidies (either producer or consumer subsidies) or via per capita purchase budgets provided to schools.

**Donors** – but donor financing is usually considered to be in support of, and therefore a variant of, government funding rather than a genuine alternative source of funding. However, NGO funding, often targeted on a district basis only, can be a genuine, although temporary, additional funding source.

**Parents** – either through direct purchase or less commonly through rental fees or as a specified component of school fees.

**Sponsorship and fund-raising** – this has been utilised in **Kenya** via the *Harambee* system (a Kenyan tradition of community self-help events, literally ‘all pull together’) but is comparatively rare elsewhere, although there will be some examples in every country of company sponsorship of some students and/or individual schools, usually in towns or villages associated with company activity. It is possible for the four basic sources of financing to be combined into mixed financing systems and there are a number of standard possibilities, which are listed below:

- Government funding for textbooks in rural areas; parental contributions in urban areas (e.g. **Senegal**).
- Government funding for “core” textbooks; parental funding for “non-core” textbooks (some **Nigerian states**).
- Government funding for safety net supplies; parental funding for the rest (e.g. secondary textbooks in **Uganda**).
- Government/DP funding for the provision of initial book stocks; government/parents replenish and maintain (e.g. **Malawi** or wherever textbook rental schemes and revolving funds are in process of development).
- Government provides subsidies to reduce costs to parents (e.g. **Malawi** from 1999 to 2002. If the subsidies are provided as supply-side subsidies aimed at parastatal publishers or printers, this system may distort competition e.g. previous secondary textbook systems in **Kenya** where parastatal publishers benefitted from subsidies that were not available to private sector publishers).
- Harambees from the community to purchase textbooks sets for the library to assist poorer parents (e.g. **Kenya**).

Mixed financing also occurs almost by accident where governments have taken responsibility for financing textbooks but fail to make adequate provision in practice. The gaps in supply are then filled by parental purchase, even though the system specifies free supply.

### b) Producer versus consumer funding

The point at which government funding for LTMs may be applied has significant implications for the local book trade.

**Producer financing** occurs when government/DP funding is provided to textbook suppliers (e.g. publishers, printers, distributors). **Consumer financing** occurs when funding is provided to the users (e.g. schools, parents etc). Producer financing often (but not always) creates supply-side provision systems, reinforces centralised choice, is frequently associated with monopolistic supply and may act against competition and decentralisation.

In contrast, consumer financing tends to support demand-side provision systems, decentralised choice of textbooks at the level of individual schools and competition. Parent purchase of textbooks and parental rental fees maintained in schools for purchasing replacement textbooks are examples of consumer financing. Budgets provided for schools to use in purchasing textbooks is also consumer funding.

Consumer funding for textbooks can be provided by governments/DPs via:

- Financial support direct to school bank accounts, usually on a per capita basis;
- Vouchers (Local Purchase Orders – LPOs);
- Coupons (e.g. UNESCO coupons);
- Order forms and purchasing power budgets;
- Matching funds to schools to support and encourage parental contributions.

### c) Principles of effective LTM financing

Financing systems for teaching and learning materials should be:

- Affordable
- Sustainable
- Predictable.

**Affordability** requires:

- Clear and consistent policies on funding. (Who will pay?)
- A clear understanding (based on market research) of what government and/or parents can realistically and consistently be expected to contribute.
- A realistic curriculum and syllabus design, which has been costed so that year on year funding implications are clearly understood and accepted, and are within the affordability parameters defined by market research<sup>1</sup>.
- A minimum profile of learning and teaching materials needed to deliver the curriculum, which is also within agreed affordability limits;
- The application of cost reduction strategies if so required.

**Sustainability** implies:

- Reliable year on year funding always up to projected budget requirement.
- If parents are expected to contribute (e.g. via annual rental fees) high rates of collection must be achieved.
- The consistent achievement of assumed book life targets (so that textbooks and materials do not wear out before replacements arrive e.g. Somalia).
- The consistent achievement of low levels of loss and damage: good school storage, effective management systems, good school management, care and conservation, which require adequate training and effective management and supervision.

**Predictability** requires:

- Consistent policies which have been carefully researched, well designed and implemented without major changes over time, so that MoE officials, teachers, students and parents all understand how the system works.
- Full and regular consultation with all major players in the system, particularly if significant changes are planned or envisaged.
- Good lead times for any required inputs (e.g. new textbooks for a new curriculum) or significant system changes.
- A distribution system that is accurate, reliable and (preferably) based on school level decision-making and management.

### d) Textbook Costs

There are so many variables that affect textbook costs that it is often difficult to determine value-for-money and equally difficult to prescribe what a good textbook price should be. It is also important to distinguish between the cost of individual textbooks and the cost of the system of textbook provision. Thus, an individual textbook may be produced at a reasonable cost but the curriculum prescribes so many subjects and textbook requirements that the cost of providing everything specified becomes very expensive.

The main factors that have an impact on individual textbook costs are:

- Print runs;
- Piracy (rampant piracy significantly reduces print runs);
- Textbook extents;
- Textbook formats;
- Number of colours;
- Complexity of design and illustrations;
- Origination from scratch or adaptation;
- Physical production specifications;
- Imported or locally developed. (Generally imported textbooks are designed and priced for a developed world market and are very expensive in terms of local affordability. Textbooks designed for local market conditions are usually much cheaper, but the motivation to develop books for local market conditions depends upon market size and reliability of funding.);
- Print locations and print price competitiveness;
- Speed of payment (e.g. in Ghana publishers may have to wait for up to two years for payment for bulk supplies to the MoE and this has to be taken into account in the setting of prices);
- The use of price as a factor in evaluation for textbook approval;
- Distribution costs – are they included in the textbook price?
- Level and nature of corruption – some countries have much higher corruption-related costs than others.

The main factors that have an impact on system costs are:

- The curriculum specifications – specifically, the number of required textbooks and teachers' guides and the density of the syllabuses, which impact on extent;
- The languages of instruction (too many languages of instruction will significantly increase origination costs, and can increase costs by fractionalising print runs);
- Number of approved textbooks (too many approved textbooks also fractionalises print runs);
- Nature and quantity of other specified LTMs;
- The pupil:textbook supply ratios;
- Target classroom life;
- Loss and damage rates;
- Distribution effectiveness.

Good system design can have a major impact on both individual and system costs. Thus, in 2002 when DFID was supporting primary textbook system reforms in **Uganda**, the unit cost of textbooks was reduced by the new evaluation and approval system by 56% while production specifications were upgraded and the amount of colour used in the textbooks was increased (Bontoux, 2002).

Although it is a complex task to compare textbook costs in different countries, there is no reason why primary and secondary textbooks should not be made available at reasonable costs if the system design is well-performed and if print runs are large enough to achieve reasonable cost benefits. On this basis, primary textbook unit costs of USD 2-3 and secondary textbook costs of USD 4-6 should normally be achievable. These figures cannot necessarily be achieved in every case, particularly where government policies inhibit sensible cost reduction measures.

### e) Textbook cost reduction strategies

There are a number of standard textbook cost reduction strategies that can be considered in order to make textbook costs more affordable to either government or parents. These are:

- Fewer curriculum subjects and thus fewer textbooks (this requires a curriculum review but generally provides the greatest cost saving);
- Reduce page extents (review syllabus content requirements; many syllabuses are overloaded and as a result textbooks can provide too much content which often cannot be completed in the time available);
- Turn textbooks into books of core content by shifting material into teachers' guides (supplied at one book per class rather than one book per one, two or three students) or into library books (supplied in small multiples to school libraries rather than in class sets). This strategy will depend for its effectiveness on consistent library funding but it is clear that good school

libraries and core content textbooks are potentially much cheaper and more effective in terms of learning outputs than are no school libraries and overlong textbooks;

- Extend book life (review minimum physical production specifications);
- Book sharing and thus reduced book:pupil ratios (e.g. 1:3 rather than 1:1);
- Reduce use of four colours;
- Reduce wastage in manufacturing, warehousing, distribution, school storage and school usage (this can be very substantial; annual loss rates of up to 50% have been recorded in some countries, and 20% annual loss and damage is not unusual);
- Use of textbook loan/rental systems;
- Reduce page formats (large formats use more paper and are frequently less durable);
- Short-term rather than long-term student loans in order to reduce annual rates of loss and damage (short-term loans provide more control than long-term loans but require more teacher management time);
- Tax exemptions for book manufacturing raw materials (finished books are usually imported duty free under the terms of the Florence Agreement on the Free Flow of Books and Information, but printing equipment and paper often attract duty, making local printers more expensive than external printers).
- Greater control over input costs from publishers and printers (review evaluation/approval mechanisms and conditions, to ensure that price is a significant factor in evaluation and approval; and that pricing is closely monitored in parent purchase situations);
- Increased use of teachers' guides.

Very few countries have explored the full range (or even a limited range) of the cost reduction possibilities available to them.

### f) Textbook rental schemes and textbook revolving funds (TRS and TRF)

Textbook rental schemes (TRS) operate when schools loan textbooks to students at the beginning of the school year for a fee and collect the books back at the end of the year for re-use in subsequent years. A highly successful textbook rental scheme and revolving fund operated in Lesotho for primary school textbooks from the early 1980s through to 2005, when it was closed as a result of government policy decisions to shift to free primary textbooks.

Textbook rental fees are usually preferred to parental purchasing systems by a majority of parents and students because (a) the initial investment is much reduced; (b) there is greater equity in textbook access because parent purchase systems tend to result in textbooks for the rich and no textbooks for the poor, whereas textbook rental/loan schemes provide access to all students; and (c) the problems of poor textbook availability in rural and remote areas may be obviated if schools are responsible for procurement rather than parents.

A textbook revolving fund (TRF) is a funding mechanism in which the annual expenditure on book purchases from a dedicated fund is balanced by the annual income into the fund from rental fees or from government contributions or from a mixture of both. TRFs are generally restricted to expenditure on specified items of teaching and learning materials. TRFs may be:

- National
- Regional/District based
- School based.

TRFs may be:

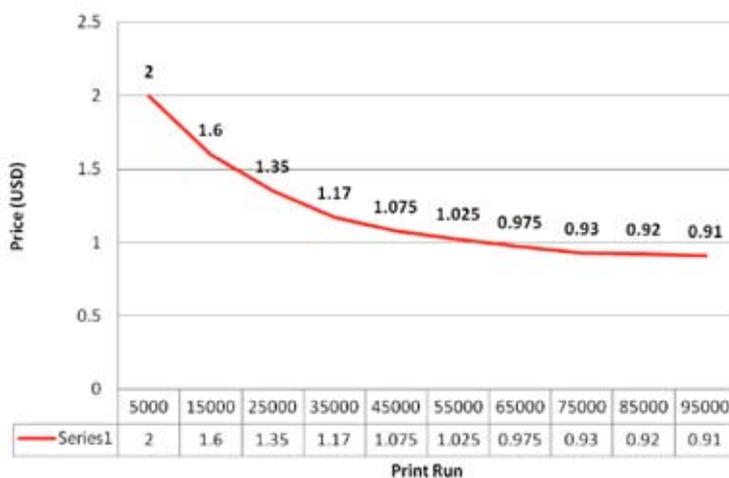
- Self financing via parental contributions, or,
- Government supported via:
  - % subventions
  - matching funds
  - support for the poorest.

Well-established and tested techniques exist to operate and manage even multiple, school-based TRF bank accounts. TRFs require good financial management in the annual review of rental fees, the maintenance of high levels of collection and the balancing of income against expenditure. Even in school-based TRFs there should be central decision taking on fee levels and supervision and checking of collection rates. In recent years there have been suggestions that textbook rental schemes and revolving funds are difficult to manage and operate. Certainly they require experienced and careful design and need plenty of training and supervision in the establishment period and regular financial monitoring thereafter. Common problems include unwillingness on the part of governments to approve annual rental fee increases to maintain purchasing power at an acceptable level, and a general decline in collection rates after the initial novelty has worn off. But **Lesotho** managed to maintain its primary textbook rental scheme and revolving fund for well over 20 years.

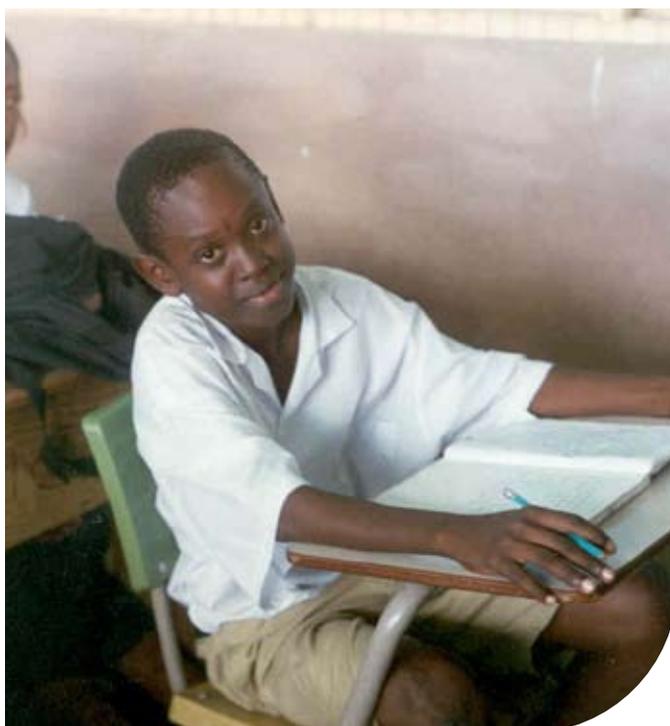
## g) Costs and print-runs

There is a growing assumption among project managers that the longest possible print runs achieve the lowest possible costs. The figure provided below demonstrates that textbook cost savings plateau and that above 35,000-50,000 copies for 4-colour books the cost benefit from long print runs quickly becomes marginal. For 1-colour textbooks the cost plateau is often reached after 7,500 to 10,000 copies. Only small population countries are likely to derive significant cost benefits from single monopoly textbook policies designed to reduce costs. Most countries have sufficient school enrolments to provide a choice of alternative competing textbooks at economic prices.

**Figure 3: Long print run cost-benefit curve**



*Source: Read A (Feb 2010) The Future of Our Children's Education - Getting the Best Textbooks for Tanzania's Next Generation.*



## Annex A: Causes of variations in textbook costs

The notes below refer to the data provided in [Table 1, section 7](#).

In **Uganda** in 2007 there was no national approved textbook list and each individual school made up its own textbook list. These were derived from the stock lists of Kampala booksellers. Very few schools had a clear idea of the full range of available titles and very few were aware of the strengths and weaknesses of any one textbook in relation to the demands of the curriculum or examination. Also, because most secondary schools in Uganda no longer bought books themselves for loan to students but expected parents to purchase the books for each individual student, there was little concern with price in the construction of the book list. Most schools did not expect parents to buy the full book list or even a significant part of it. Thus for most schools, students and parents, the school textbook list has become a symbol rather than an expected reality. For secondary schools in remote areas or the down-market private schools there was little expectation that any pupils would buy their own textbooks. As a result some extremely expensive imported books, often with very little local relevance to the curriculum, were included on the school book lists. In one school in Uganda the recommended biology textbook for S5 and S6 was an undergraduate biology textbook at far too high a level for the UACE at a price of almost USD90. But no student in the school had purchased this title and the school had not purchased a copy for its own library, despite the fact that this was one of the specified textbooks on the school book list.

In **Lesotho** there was a national approved textbook list from which schools were expected to select their titles for their own individual school book lists. But price was not a factor in the approval process for the national list and some of the textbooks on the official approved list had very high prices. Once again, because most schools no longer bought textbooks for loan to students there was little concern for price in the construction of individual school book lists. In both Uganda and Lesotho there was a wide variety of school-originated recommended book lists. Some book lists were very large, often containing radically unsuitable titles and unrealistically expensive textbooks. Other book lists were dominated by very old textbooks, which were used by teachers when they were at school. Other lists concentrated on examination textbooks only and ignored recommendations for textbooks for non-examination years.

In some schools first year students were recommended to buy the examination textbook only. In Uganda, it was not uncommon for a student to be recommended to use the same S4 textbooks throughout the four years of junior secondary as preparation for the UCE examination without access to any other books unless provided by the school. It is equally common for book lists to be given only to S1 and S5 students. One school book list recommended 13 different titles for use in senior secondary Geography alone and five different titles for use in senior secondary Biology. These were not considered to be alternatives. In many countries, in districts away from the capital city or main provincial towns, few schools produce any sort of recommended book lists. The majority of schools in rural and remote areas simply recognised that parent purchasing power was too limited for most parents to be able to consider buying any textbooks and secondary textbooks in any case were usually not available for purchase locally.

**Kenya** probably had the lowest secondary textbook prices of the surveyed countries, largely because there was a national secondary textbook approval process and a national approved textbook list and price was one of the factors that was given great prominence in the evaluation and approval process. This was also true in **Tanzania** and in **Ghana** and **Togo**, although the textbook approval process worked in different ways in each country. In these situations there was a positive incentive for publishers to achieve good prices because low prices achieved higher marks in evaluation schemes and thus contributed to getting on to the approved textbook list. Failure to achieve approved list status can be very serious for both submitted books and for the publishers who fail. As a result, private sector publishers, both indigenous and multinational, tend to oppose approved textbook lists, which are compiled on a competitive basis in which price is just one of the factors in the evaluation process.

The **Malawi** situation was a combination of **Botswana's** and **Kenya's**. There was a textbook approved list, which was established in 1999 and was about to be revised in 2006/2007. The original evaluation and approval criteria combined content, curriculum conformity, presentational quality, durability<sup>2</sup> and price factors in order to achieve good books at good prices. But Malawi still had only a relatively small secondary enrolment in 1999, particularly at senior secondary level, and the requirement for new books to be developed to meet new local syllabus requirements resulted in increased unit costs.

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<sup>2</sup> Because long book life is a critical factor in achieving amortised cost reductions, some approved list criteria require minimum physical production specifications to ensure that all titles on the approved list will have similar book life expectations. This is a strongly recommended approach.

Another factor which had an influence on the cost of secondary school textbook requirements was the physical production specification. Thus, in **Ethiopia**, secondary textbooks were specified on 58gsm newsprint or part mechanical paper with insubstantial covers and saddle stitched or side stitched bindings. These specifications produced cheap initial prices but did not provide good book life, particularly in difficult environments, so that textbooks have to be constantly replaced and repurchased – sometimes more than once in a school year. Where physical specifications are established at very low levels in order to achieve cheap prices a typical pattern tends to emerge in which damaged and destroyed textbooks are not replaced and pupil:textbook ratios deteriorate steadily throughout the school year.

In **Kenya, Lesotho and Malawi** and in most francophone countries physical specifications<sup>3</sup> are very much higher than those of Ethiopia. Higher specifications lead to longer book life which reduces the annual amortised cost of provision. Good production specifications and long book life also create the possibility of second hand markets, which can have a dramatic impact on the costs of provision to students. In general, higher level physical production specifications and a longer book life produce much lower annual amortised costs of textbook provision. Some secondary schools with high levels of book care and conservation can achieve very extended book life and thus very low annual costs of provision<sup>4</sup>.

In **Uganda**, despite the recent development of local secondary school textbook publishing for junior secondary, the majority of the textbooks recommended for senior secondary, were still UK-published textbooks, which had presentational and production standards designed for a UK/international market, which could afford much higher prices than the average Ugandan secondary school pupil. This was also true for many other countries in both anglophone and francophone Africa. The basic problem is that the still relatively small secondary roll numbers in many countries, particularly at senior secondary level, combined with widespread low parental purchasing power, and a lack of sustainable government/donor funding for secondary textbooks, do not add up to a market which is likely to attract investment in new title development for specific countries. Because there is a scarcity of local titles, particularly at senior secondary level, which have been conceived and originated

in the context of local conditions and local purchasing power, there is little alternative except to recommend imported textbooks. In some cases, where there are particularly popular imported textbooks (e.g. McKean's Biology) the overseas publisher may create a special "tropical" edition, which is made available at lower, but still durable, production specifications, and at significantly lower prices. But this is still the exception rather than the rule. There are similar examples from French publishers also, and particularly where titles are especially suitable for trans-national curricula.

The 2005 High School sub-sector study in **Zambia** complained of the lack of secondary school textbooks written and designed specifically for the Zambian market at prices that were affordable in the Zambian context. However, Zambian secondary school syllabuses had not been significantly changed since the early 1980s and there was little government funding provided to secondary schools for textbook purchase. There was also no widespread tradition of parental textbook purchase and thus the realistic available market was too small and uncertain to attract serious commercial publisher interest and investment in new titles written specifically for Zambia. Low level and unpredictable potential sales also militated against lower prices. The willingness of multinational, regional and local publishers to invest in and develop secondary school textbooks specifically to satisfy local market conditions and specifications, if the market has been created and is considered to be secure, is clearly demonstrated in **Nigeria, Kenya, Malawi, Tanzania, Ghana, Cote d'Ivoire, Cameroon, Botswana and Togo**.

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<sup>3</sup> Physical specifications comprise text paper and cover card/board, cover finish, binding style and sometimes book format. Presentational specifications normally comprise type font and size, number of colours, number and type of illustrations and sometimes book format. Book formats are sometimes included in physical specifications because large book sizes, particularly in landscape formats, are often considered to be not durable. Landscape and A4 formats are therefore often specifically excluded.

<sup>4</sup> For example, King's College Budu in Uganda had a number of textbook sets which were more than 20 years old. Each book had been re-bound and regularly repaired but the annual cost of provision was very low because the textbooks had been made to last for so many years. Of course, there is a down-side to maintaining textbooks for very long periods because the content can become dated and irrelevant. A reasonable balance between cost and longevity is desirable and a target six-year book life at secondary would seem to strike a reasonable balance.

## SECTION 4: REFERENCES AND GLOSSARY

### 8. References and further reading

- Bontoux V** August 2002 [Comparison of Textbook and Teachers' Guide Prices and Physical Production Specifications between Cycle 6 \(1998\) and Cycle 8 \(2002\)](#) IBD for DFID and the Ugandan MOEST
- Brickhill P, Chirwa C and Lindhal B 2006** 2006 [Changing Public Private Partnerships in the African Book Sector](#) ADEA Working Group on Books and Learning Materials, Paris
- The British Council** 1992 [Proceedings of the African Ministers of Education Conference on Textbook Provision and Library Development – October 1991](#)
- Baird, N** 1994 [Setting Up and Running a School Library](#) VSO
- Barnard M and Peacock J** 2000 [Dictionary of Printing and Publishing](#) Pira, London (see also [www.piranet.com](http://www.piranet.com))
- Barret L and Douglas J** 2005 [CILIP Guidelines for Secondary School Libraries](#) Facet Publishing, London
- Buchan A, Denning C and Read A** 1991 [African Book Sector Studies Summary Report](#) World Bank, Washington
- Bukenya M** 2005 [Findings and Recommendations of the NAPE Report: Levels of Competency in Literacy and Numeracy of Primary School Pupils in Uganda](#)
- Chatry-Komarek M** 2003 [Literacy at Stake](#) Gamsberg Macmillan, Windhoek
- Claussen J and Assad M J** October 2009 [Public Expenditure Tracking Survey for Primary and Secondary Education in Tanzania \(Final Draft Report\)](#) MOEVT, Dar es Salaam
- Crabbe R** 1996 [The Transition to Privatization: Ghana's Experience](#) in Altbach P (ed) [Privatization and Publishing in Africa](#) Bellagio Studies
- Easterly P** 2003 [The Elusive Quest for Growth](#) MIT Press
- Elkin J and Lonsdale R** 1997 [Focus on the Child: Libraries, Literacy and Learning](#) The Library Association, London
- Elley W B** 1992 [How on Earth do Children Read?](#) International Association for the Evaluation of Educational Achievement Hamburg, Germany
- Fuller B** 1985 [Raising School Quality in Developing Countries: What Investments](#)
- Hedkvist F** August 1996 [Baseline Study on Teaching and Learning Materials Availability in Primary Schools in Tanzania](#) SIDA Pilot Project for Publishing, page 24
- Graphium Consult and Opifer Tanzania** Jan 2001 [PPP Final Report](#) for SIDA/MOEC
- Greaney V (ed)** 1996 [Promoting Reading](#) International Reading Association, Newark, USA  
*There is a useful chapter on the Book Flood Experiments*
- Heyneman S and Farrel J** 1978 [Textbooks and Achievements; What we Know](#) World Bank, Washington
- Heyneman S** 1983 [Improving the Quality of Primary Education in Africa](#) World Bank, Washington
- Kalibbala G** 1999 [Sustainable Textbook Provision and Utilization in Uganda](#) PETDP for the Government of Uganda
- Lancer P et al** 1995 [Budget Support to the Education Sector in Kenya](#) Royal Netherlands Embassy, Nairobi
- Lewin K and Stuart J** 2003 [The Multi-Site Teacher Education Research Project \(MUSTER\)](#) DFID, London
- Lockheed M and Verspoor A** 1990 [Improving Primary Education in Developing Countries](#) World Bank, Washington for the World Conference on Education for All

**Mugiri E and Read T** 1998 [Kenya De-centralised Textbook Pilot Project Final Report](#) RNE for the MOESC

**Publishers Association/British Printing Industries Federation** [Customs of the Trade for the Manufacture of Books](#) (*this is a useful free pamphlet providing the basic contractual terms and conditions between printer and a publisher – see also [www.publishers.org.uk](http://www.publishers.org.uk)*)

**Read A, Bontoux V and Buchan A** 2007 [Secondary Textbook and School Library Provision in Sub-Saharan Africa: A Review based on 19 National Case Studies](#) World Bank, Washington (see also [www.worldbank.org](http://www.worldbank.org))

**Read A** Feb 2010 [The Future of Our Children's Education: Providing the Best Textbooks for the Next Generation in Tanzania](#) International Education Partners, Windsor, UK ([www.iepartners.co.uk](http://www.iepartners.co.uk))

**Read A (Ed)** 2000 [Financing Textbooks and Teacher Training Materials](#) ADEA Working Group on Books and Learning Materials, Paris

**Read A, Denning C and Bontoux V (Eds)** 2001 [Upgrading Book Distribution in Africa](#) ADEA Working Group on Books and Learning Materials, Paris

**Rosenburg D** 2000 [Books for Schools: Improving Access to Supplementary Reading Materials in Africa](#) ADEA Working Group on Books and Learning Materials, Paris

**Tanzania Education Sector Development Committee** Sept 2009 [Annual Performance Report for the Joint Education Sector Review](#), pp8-9

**Verspoor A** 2003 [The Challenge of Learning: Improving the Quality of Basic Education](#) ADEA Journal 5, Paris

**Ward M, Penny A and Read A** 2006 [Education Reform in Uganda – 1997 to 2004. Reflections on Policy, Partnership, Strategy and Implementation](#) DFID

**World Intellectual Property Organization (WIPO)** 2007 [At Home with Invention](#) (*this is a useful free pamphlet issued by WIPO, which provides a beginner's guide to copyright and patents – see also [www.wipo.in](http://www.wipo.in)*)

## Acronyms

DDD	Domestic digital divide	MoE	Ministry of Education
DIMP	Decentralised Instructional Materials Procurement (Uganda)	MoF	Ministry of Finance
DPs	Development partners	PRESET	Preservice teacher training
EMIS	Education Management Information System	PETS	Public expenditure tracking survey
ICT	Information and communication technology	PPP	Public private partnerships
INSET	Inservice teacher training	RRP	Recommended retail price
KSES	Kenya School Equipment Scheme	TCO	Total costs of ownership
LOI	Language of instruction	TRF	Textbook revolving fund
LPO	Local purchase orders	TRS	Textbook rental scheme
LTM	Learning and teaching materials	UACE	Uganda Advance Certificate of Education
		UCE	Uganda Certificate of Education

## 9. Glossary

**Actual Book Life** – the length of time a book actually lasts in use in the classroom. This is generally established by test sampling of schools in a system.

**Art Card** – wood-free cover card coated and polished to a high finish for fine printing.

**Binding** – the specialist book manufacturing process of attaching the cover to the text block.

**Blended learning** – a combination of different learning and teaching materials and methods usually based on the traditional textbook and teachers' guide but incorporating a range of alternative e-materials most often provided via a web portal.

**Book Block** – the block of trimmed text pages excluding the cover. Also known as the text block.

**Brightness** - the measure of a paper's reflectivity to a standardised light source.

**Caliper** – the thickness of a sheet of paper or card measured with a micrometer.

**Consolidation** – the process of collecting orders from many different schools and sorting them into combined orders for individual publishers or the process of collecting supplies from many different suppliers and sorting them into packages for end-users.

**Cost Benefit** – the relationship between the cost of any activity and the perceived benefit resulting from the activity.

**Durability** – the characteristic of being hard-wearing and long-lasting. A desirable characteristic in school textbooks intended for use in severe rural environments in many developing countries because it enables extended book life and thus the possibility of amortising costs.

**Four Colour** – in printing terms this means the three primary colours (yellow, magenta and cyan) plus black.

**Gathering** – a binding term meaning the process of collecting together the leaves of the signatures of a publication to form the text block prior to binding.

**Grain Direction** – the direction in which the fibres lie in sheets of paper or cover card; it is desirable to prevent warping to ensure that the grain direction is parallel to the spine of the book.

**Grammage** – the weight of a paper or cover card expressed in grams per square metre (gsm).

**Gutters** – the space occupied by the two inner margins separating the print areas on the facing pages of a book or publication; specifically, the margin allowed for in binding.

**Lamination** – the process of sealing or bonding the cover card of a book with a clear plastic sheet for the purpose of achieving enhanced protection for the cover.

**Mark-up** – an increase in the retail price of a book in order to achieve better financial margins and additional profitability.

**Notched Binding** – an unsewn binding in which adhesive flows through triangular notches cut in the signature folds. Similar in most respects to burst binding.

**One-sided** – a smooth coated high quality card, which has been treated to receive print on one side only. The coating on a two-sided card could prevent the binding adhesives from holding the cover on to the text block, so it is important to specify one-sided card.

**Opacity** – the degree to which light will pass through a text paper and thus the degree to which print on one side of the paper is visible from the other side.

**Origination** – the processes involved in initiating a book or publication. These normally include writing, artwork, picture research, illustrations, permissions, design, page layout etc.

**Perfect Binding** – an unsewn paperback binding style characterised by cutting flush the gathered signatures and applying adhesive to the fanned edges that are then glued directly onto the spine. This binding method is typically used for paperback fiction but is unsuitable for school textbooks.

**Piracy** – the illegal reproduction and sale of copyright material without seeking permission or paying remuneration to the legal copyright holder or licensee.

**Pre-Press** – the activities that have to be completed before a publication goes to press. Thus, typesetting, artwork, design and lay-out, film-making etc.

**Recommended Retail Price** – the retail price recommended but not enforceable by a publisher.

**Saddle Stitching** – a wire stitch binding in which all the signatures are gathered together within each other and the stitches are inserted through the signature fold. As a result there are limitations on the number of pages that can be accommodated within a saddle-stitched binding. The normal limit varies according to the thickness of the text paper but is generally somewhere between 96 and 112 pages.

**Show Through** – the extent to which the text printed on one side of a page is visible when the reverse of the page is read.

**Side Stabbing** – a form of binding in which a wire stitch is punched through the side of the book, usually with the head of the stitch on the front cover and the tails folded onto the back cover. A side stabbed book will not lie open when flat and students tend to shorten the book life by pressing out the gutters and thus breaking the binding. This is not a binding recommended for textbooks.

**Signature** – a folded and trimmed printed sheet.

**Thread Sewn Bindings** – a binding style in which the signatures are gathered and sewn together with thread before being glued into the covers.

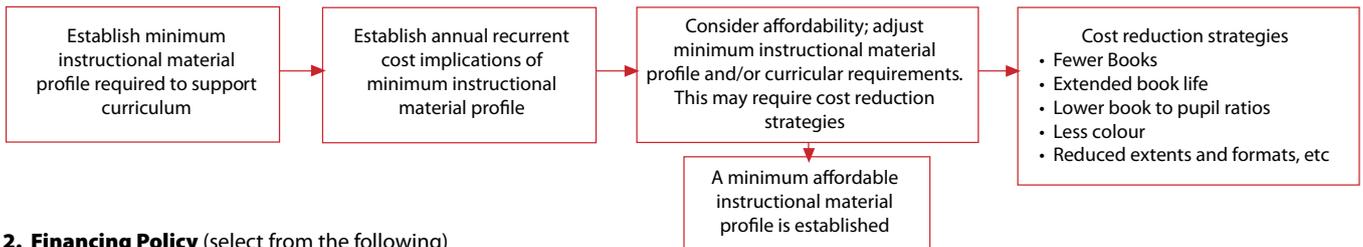
**UV Varnish** – a form of varnish applied to a paperback book cover in which the varnish is chemically bonded to the cover card by the use of ultra-violet light; a strong form of varnished finishing, which is often used for textbooks to be used in harsh conditions.

**Warp** – the distortion of a book caused by uneven shrinkage or expansion of the raw materials. Warping is often caused by using “green” boards or by failing to maintain the correct grain direction of the cover card.

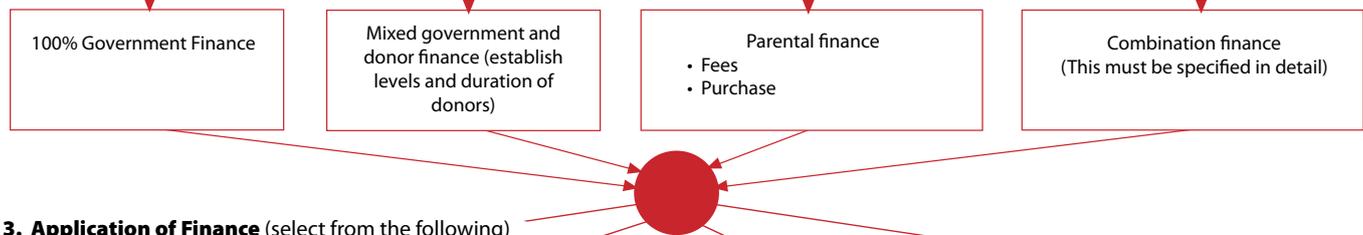
**Woodfree** – paper which contains no mechanical pulp.

## 10. A decision tree for national LTM system policy making

### 1. Preparation



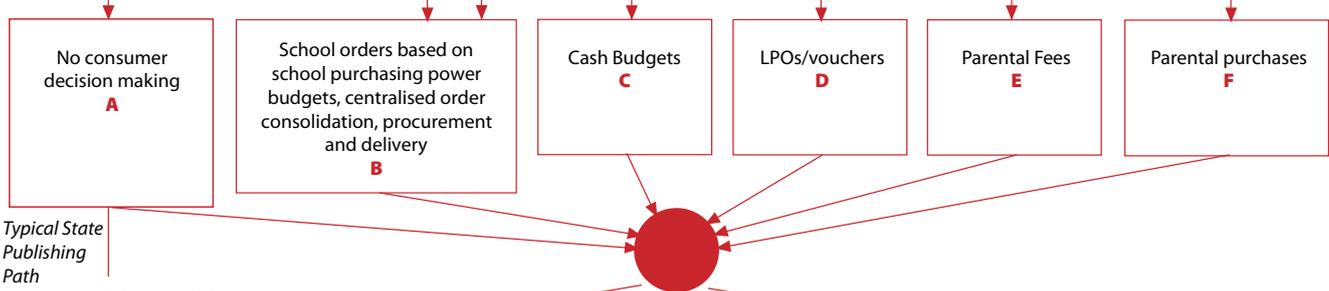
### 2. Financing Policy (select from the following)



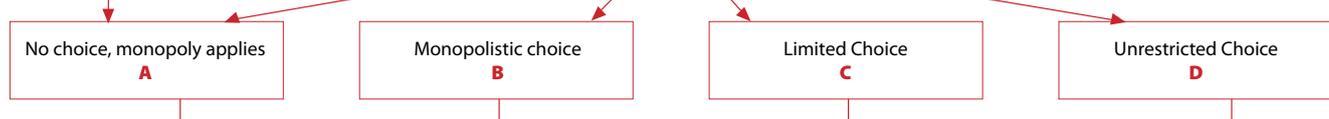
### 3. Application of Finance (select from the following)



### 4. Type of Funding (select from the following)



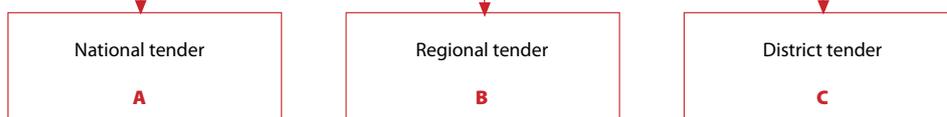
### 5. Level of Competition



### 6. Supply Route



### 7. Types of Tender



#### NB

4A is supply led distribution. 4B-4F are all demand led distribution systems because schools decide what they want against budget.

#### NB

5A and 5B provide school decisions on subjects and grade levels. 5C and 5D provide school decisions on titles, subjects and grades.

#### NB

6A does not assist retail development. 6B the smaller the size of the bid, the more local booksellers can participate. 6C and 6D support retail development.

#### NB

7A supports freight companies, consolidators and wholesalers. 7C supports retailers

## About this paper

This paper was written by Tony Read with contributions from Carew Treffgarne.

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