Preparation for Life and Work

Comparative Study with a Focus on Basic (Primary and Lower Secondary) Education in Developing African Countries

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Preface

The team of authors would like to express their gratitude to the German Federal Ministry for Economic Cooperation and Development (BMZ) and GTZ (German Development Cooperation (GTZ)[1] for the initiative to carry out curriculum-related research on the development of competencies for life and work in Sub-Saharan countries with technical support from IBE. This Study aims to provide an insight into the topic for the ADEA Biennale in May 2008 (Maputo, Mozambique). The authors are also grateful to Dr. Clementina Acedo, IBE Director, and all the IBE colleagues who assisted with materials, advice and administrative support during the research process and the writing of the present Report. Last, but not least, they are extremely grateful to all national teams and contact persons from the ten Sub-Saharan countries analysed[2] who offered their time and professional skills to make sure that the IBE had at its disposal, for each case, up-to-date information reflecting the most recent developments in curriculum.

The authors

Executive summary

In accordance with its terms of reference, the main tasks of the Study on Preparation for Life and Work with a Focus on Basic Education (Primary and Secondary) in Developing African Countries[3] were to examine the basic education (written) curricula of a range of African countries to assess the extent to which they provided opportunities to young people to develop practical and useful competencies and skills. A further task was to set this information in a broader context by analysing and describing the approaches to competency and skill development adopted in contexts outside Africa.

Life and work are strongly inter-connected and preparation for both ought to take into account current developments. What does it mean to live and work in the twenty-first century? What is different in comparison to the past, and what is to be envisaged with regard to the future? The curriculum (especially in its written form, which sets broader or more specific guidelines for learning) is only one of the factors impacting on individual and societal development, and has a mediated influence. Even a good curriculum is not effective per se, but reaches students based on teachers' facilitation, in specific conditions. However, it is useful and interesting to analyse the written/intended curriculum - and its discourse - for it reflects in many respects the ways societies envisage learning and preparation for life and work through mission statements, rationales, learning objectives and outcomes, the selection and organisation of the learning content, teaching and learning methods, as well as the ways learning is assessed and valued.

The Study aims to provide a comprehensive overview of how preparation for life and work is being emphasised in the written curriculum of selected Sub-Saharan African countries (Angola, Botswana, Burundi, Congo, Kenya, Mali, Mauritius, Mozambique, Senegal, South Africa), as well as of developed countries such as Australia (New South Wales) and United Kingdom (England). Given their emphasis on expanding basic education from 4/6 to 8/9 years, Sub-Saharan countries tend to focus increasingly on lower secondary education (usually Grades 6/7 to 8/9), reckoned as an education stage in need of substantive (re)construction. Most of such processes of (re)constructing lower secondary education envisage the development of life-relevant competencies in learners. This is proven by comprehensive processes of structural changes accompanied by curriculum and other reforms, such as in the realm of assessment and teacher education and training.

The research was thus focusing on identifying meaningful solutions to integrate competency-based approaches in basic education in a sustainable way. Throughout the Study, the authors preferred to use the term 'competency' (plural 'competencies') as an 'umbrella-term' embedding knowledge, values, skills, attitudes, behaviours, patterns of thinking.[4] The terms 'competency' and 'skills' are sometimes used as synonyms in the international pedagogical literature, however in this Study the term 'competency' is considered an overarching concept: as shown further on in Section 2 of the present Study, 'competencies' represent the capacity individuals have to mobilize, in an independent and effective way, their knowledge, skills[5], attitudes, values, etc., in order to give appropriate responses to challenges of different kind.

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3 Further on referred to as the Study.
4 See also the detailed discussions on the meaning of 'skills' and 'competencies' in Section 2 of this Paper.
5 Skills' may have different meanings, amongst which are, in a narrow sense, 'automated components of behaviour' or in a broader sense 'capacities individuals manifest in action'. In this broader sense, 'skills' are sometimes equated with 'competencies' especially because both terms make reference to capacities that become 'visible' in action.

All over the world, contemporary curricula are demonstrating a trend towards achieving an appropriate balance of knowledge, skills, values and attitudes in the outcomes they deliver to their students. Traditional curriculum focused heavily on knowledge transmission - especially on the memorization and recall of pre-fabricated facts and data. But this model does not serve students well in an age when our fields of knowledge are rapidly growing and lower level intellectual skills (such as memorisation) ought to be increasingly complemented by higher level intellectual skills (such as analysis and synthesis, problem solving, evaluation) as well as social, emotional, communication and other life-related skills.

New significant developments in today's (and tomorrow's) world determine that more traditional structuring of the curriculum and learning into discrete subjects be complemented or replaced by integrated and holistic learning. Learners need to understand and master the connections between different processes and phenomena, and make sense of their learning in responding successfully to different (new) challenges and opportunities in their local, national, regional and international environment. In these circumstances, there is a need for a new approach to curriculum development - one that provides young people with the knowledge, skills and values to live successfully in a rapidly changing world.

In addition to facing new challenges emerging from advances in knowledge and technology as well as societal and economic changes, like all other contemporary societies, many African countries also have particular needs as they seek ways to alleviate poverty, combat HIV/AIDS, and balance valued customs and traditions with the need for increasing productivity and sustainability. These are not insignificant challenges, but one critical strategy for meeting the challenge is to develop curricula that will produce knowledgeable, skilled and productive citizens able to benefit from new opportunities and face social and economic challenges constructively.

The research methodology consisted of analysing (on the basis of a detailed analytical framework) written (intended) curriculum documents such as Curriculum Frameworks, syllabuses for different learning areas, text-books, teacher guides and other materials, including education acts, policy papers, and education manifestos. Given the limitations of this Study, aspects of the implemented and effective curricula could not be considered extensively. Curriculum documents were analysed, as regards their intention, in the light of main hypothesis and research questions, such as:

• What evidence can be gathered from such documents that countries link schooling with developments in societal life and the world of work? (i.e. Rationales for curriculum change in line with new developments in today's and tomorrow's world; profiles of the learner and learning outcomes documenting an interest in developing competencies for life and work; learning content and methodologies encouraging the development of complex competencies learners need to integrate private, public and professional life successfully; assessment methodologies suggested by curriculum documents addressing not only rote learning and memorisation, but also higher-order intellectual skills and other social, communication, emotional, motor, etc. skills);

• What seem to be elements in the formal curriculum conducive to the development of competencies for life and work? (i.e. explicit and systematic "inventories" of competencies/learning outcomes emphasised in the context of "carrier-subjects" or cross-curricular approaches; problem-solving based and practically-oriented learning linking theory and practice in the context of learners' specific contexts; guidance and counselling with regard to life and work skills required in today's world, and also in the future);

• Does the formal curriculum imply links between formal and non-formal education? (i.e. project work; community service);

• What are differences and similarities amongst the analyzed country curricula, and what conclusions could be drawn with regard to most effective practices to encourage the development of life and work competencies through quality changes in formal schooling?

• What recommendations can be made to education stakeholders in order to build on existing effective local and international initiatives and enhance the potential of the formal curriculum to support quality learning, and the development of competencies needed in life and the world of work?

This Study adopts a conceptual framework that categorises competencies and skills related to
• Learning (including life-long learning, i.e. handling information; integrating new knowledge into existing structures),
• Life (i.e. problem solving; communication; social skills),
• Work (generic aspects, i.e. capacity to work in teams; capacity to follow instructions; efficient time management; decision making; entrepreneurial skills),
• Specific professions or occupations (i.e. capacity to handle specific processes/operations; capacity to handle materials/substances in a cost-effective and safe manner; capacity to assess the quality of services/products).

The Study then examines the basic education curricula of a range of countries and applies this framework of analyses:
• The policy position adopted by authorities and expressed in curriculum frameworks, educational legislation and other curriculum-related documents;
• The various curriculum design models that enable competencies and skills to be expressed and explained;
• The extent to which the opportunities for students to develop competencies and skills occur in individual subject or learning area syllabuses; and
• Where possible, other supplementary materials (such as textbooks and non-formal or extra-curricular programmes) to assess their contribution to competency and skills development.

These analyses are organised in two ways - as Comprehensive Case Studies (South Africa, Botswana, Mali and Congo), and as Other Reference Country Studies (Angola, Burundi, Kenya, Mauritius, Mozambique and Senegal). The main difference between the two categories of analysis consists in the level of examples and details considered. In the Comprehensive Case Studies, numerous (detailed) samples of curriculum documents (such as Curriculum Frameworks and syllabuses) are presented along with more detailed explanations of the local context, education reforms and curriculum processes, as well as their implications for teacher education and training, assessment, and school and classroom organisation and management. The Study then sets these findings against the approaches to this issue adopted in other, non-African contexts by presenting two Reference Country Studies - Australia (the state of New South Wales) and the United Kingdom (England).

Finally, the Report presents a range of conclusions reached as a result of the comparative analysis described above, and makes recommendations regarding some actions that could be taken to enhance current approaches.

The main research findings indicate that most countries analysed have integrated valuable elements able to contribute to developing competencies for life and work into their formal (written) curricula. For instance, there are clear statements about the types of competencies learners need in today's (and tomorrow's) world, and in many cases special attention has been given to developing specific competencies through "carrier-subjects" (i.e. citizenship education; life skills; home economics, entrepreneurial education; personal development; counselling and orientation; health education; work/labour education) and other cross-curricular approaches (i.e. specific topics/themes; project work; problem-solving and practically-oriented teaching and learning in the context of all subjects; interactive methodologies). It is also worth mentioning that most countries pay special attention to providing a meaningful balance between "traditional" and "contemporary" aspects, as well as between local and international developments, needs and trends. Countries also pay attention to pro-active dimensions, such as different forms of entrepreneurial and consumer education, participatory citizenship and locally-defined curricula based on the collaboration between schools and community stakeholders.

While in many cases the written curriculum addresses issues of teaching and learning methodologies, assessment, and school and classroom organisation and management, it is however less clear how teachers can benefit from innovative curricula, and whether or not existing school settings, facilities and the broader societal context encourage the development of appropriate competencies for life and work. In the curricula analysed, many contradictions were also noticed between the way rationales for change were formulated (i.e. by taking into account new opportunities and challenges of today's world and the future) and the fact that, in many cases, the detailed and specific learning experiences envisaged through objectives, content, methodology and suggestions for assessment pertained rather to more traditional (and static) views of life and work. With some few noticeable exceptions, the curricula analysed also paid little attention to ethical aspects of work and economy, and to broader aspects such as catering for social justice and inclusiveness, and linking rights and responsibilities fairly and meaningfully in the contexts of promoting competencies for living together peacefully.

While most of the countries analysed have recently carried out impressive (and comprehensive) processes of curriculum renewal from a competence-based perspective, research findings tend to back the observation that Francophone countries still incline to privilege a rather theoretical/conceptual approach, while Anglophone and Portuguese-speaking countries seem more adamant with regard to truly linking theory and practice, both in the curriculum discourse and in the way learning experiences are being selected and organised.

The Study provides also several categories of Recommendations for future action, such as:

• Designing and carrying out curriculum development processes based on sound needs analyses and prospective thinking;

• Designing and implementing effective capacity building programmes for policy makers, and curriculum and textbook developers, as well as for teachers, head teachers and assessment specialists focusing on how to foster the development of competencies for life and work in a sound, convergent and consistent manner;

• Learning from one another through networking, sharing and effective partnerships, for instance between formal and non-formal education; between different countries, regions and local communities; between schools and communities; between schools and the world of work and businesses, etc.;

• Addressing contradictions, tensions and dilemmas openly and constructively, and learning from both good and less fortunate experiences;

• Catering for flexible and locally-adjusted solutions for structuring the curriculum, and selecting and organising learning experiences (i.e. curriculum models encouraging a sound competence-based approach; locally-defined elements of the curriculum; flexible and innovative models of time allocation; integration of ICT and e-learning; catering for a balanced, learner-friendly and relevant curriculum);

• Encouraging effective links between formal, non-formal and informal education from a life-long learning perspective and with a view to increasing access to quality education for all;

• Catering for "the whole development of a person" and for addressing the development of life and work competencies from the broader perspectives of promoting ethical values and practices, such as social justice and inclusiveness.

The Study also contains References, a Glossary aiming to further clarify some of the most important conceptual and methodological aspects pertaining to the present research, as well as an Annex depicting the education structure of the countries analysed.

1. Introduction

1.1 Context and Scope of the Study

1.1.1 Context and scope

A contract for research on "Preparation for Life and Work: Comparative Study with a Focus on Basic (Primary and Lower Secondary) Education in Developing African Countries[6]" was awarded by GTZ[7] on behalf of BMZ to IBE[8] in the context of preparing for the ADEA Biennale in Maputo/Mozambique in May 2008.

The Study aims to provide the ADEA Biennale with an insight into possible effective strategies for reinforcing the links between schooling, life and the world of work in post-primary education (lower secondary) in Sub-Saharan African countries by encouraging integration into the curricula of life-related aspects and dimensions and thus developing students' competencies for life and work.

Today all countries are confronted with significant shifts in private and public life, as well as in the world of work. New challenges and opportunities are triggered by fast-growing changes in society, culture, the economy and technology, as well as by new trends in accessing and using information in what is called the 'knowledge society and economy'. While such new challenges and opportunities are functioning on a 'global' scale, individual countries respond quite differently to them for a variety of reasons. This is especially the case in the Sub-Saharan countries, which despite evident progress in many areas over the last few years, including increased access to education,[9] still lag behind international developments, especially with regard to improving links between education and societal and economic developments.

Contrary to some manifest international education trends that have emerged worldwide over the last few decades, documenting increased access to higher education stages in developing countries too, many students in Sub-Saharan African countries still only attend primary school, and many drop out without even obtaining a primary school certificate[10] representing the only prospect of integrating rapidly into the world of work and/or some forms of non-formal education in order to contribute to the well-being of their families.

However, it has been increasingly recognised that six years of primary education are not enough for learners to build basic competencies and become successfully integrated into life and the labour market. Consequently, Sub-Saharan African countries are now in a process of expanding basic education from four/six to nine years (or more) in compliance with international trends and new needs in today's societies and labour markets. As schools play a major role in transmitting knowledge, but also in developing skills and attitudes, Sub-Saharan countries are interested in strategies to improve preparation for life and work for all learners.

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6 Hereinafter referred to as "The Study".
7 German Development Cooperation (GTZ) GmbH.
8 International Bureau of Education (UNESCO's Institute specialising in education contents, structures and methods).
9 See more details in 2.1 (Country background data) based on information provided by the EFA Global Monitoring Report 2008 (Education for All by 2015: will we make it?)
10 See also the next chapter: Country background data

As in many other parts of the world, Sub-Saharan countries struggle for increased access of students to the lower secondary education level, leading to a situation in which increased numbers of students will be able to accomplish at least nine years of basic education. They will then be able to either continue their studies in upper secondary schools, continue with technical vocational education and training, or become integrated into the world of work. This encouraging perspective represents a strong argument for strengthening preparations for life and work in all lower secondary schools based on scaling up effective local education innovations, such as locally-defined curricula, and also integrating internationally validated 'good' policies and practices.

1.1.2 The concept of basic education

According to the UNESCO ISCED[11] classification, Basic education comprises Primary education (first stage of basic education - ISCED Level 1) and Lower secondary education (second stage of basic education - ISCED Level 2). Despite this, Ministries of Education use the concept of 'basic education' in quite different ways. This applies to all countries and regions, not only to Sub-Saharan states.

In most cases, the education legislation and national policy/curriculum documents do not refer explicitly to 'basic education' (again, with some exception[12]). While primary education is usually automatically associated with 'basic education' (which sometimes also comprises a reception year), it is increasingly common for lower secondary levels to be consistently associated with 'basic education'.

As in many other parts of the world, in the case of Sub-Saharan countries the definition of basic education also somehow equates with the concept of compulsory schooling, with some variations amongst the countries considered, as shown in the table below:

Table 1: Duration of primary, lower secondary, basic and compulsory education in ten sub-Saharan countries[13]										
	Angola[14]	Botswana	Burundi	Congo	Kenya	Mali	Mauritius	Mozam-bique	Senegal	South Africa
Duration of primary education*	4	7	6	6	8 (3+5)	6***	6	7	6	7 (6+1)
Duration of lower secondary education*	4	3	4***	4		3	3	3	3	3
Basic education**	8	10	10	9 (3-pre-primary and 6-primary)	8 (primary and non-formal)	9	No special concept of basic education	7	6 - No special concept of basic education	9 + 1
Compulsory education* (age range of students)	6-9	6-15	7-12	6-16	6-13	7-16	6-11	6-12	7-12	7-15

* Source: ** Source: Massimo Amadio, IBE (Overview of basic education worldwide in preparation, IBE working paper prepared for the EFA GMR 2008)
***Global Education Digest 2007.   ***Source: National Curriculum Documents

11 ISCED: International Standard Classification of Education (approved in 1975) used especially for statistical reasons.
12 For instance, Mozambique, with a Plano Curricular de Ensino Básico (Basic Education Curriculum Framework)
13 SSee also Annex C Education Structures of Countries
14 Since 2005, when a new education structure was introduced in Angola (6+3). At present both systems still run still in parallel.

At present, African Sub-Saharan countries are confronted with the need to respond adequately to new societal, cultural, scientific and technological developments while considering both the opportunities engendered by such developments, as well as their potential risks and counter-effects. For instance, increased mobility and new communication possibilities, including the Internet, constitute new opportunities for personal development, but they may also contribute to cultural clashes and the spreading of diseases. The openness towards an increasingly globalised world is often accompanied by fears of losing one's local, ethnic and national identity and the (sometimes painful) complexity of building 'multi-layered identities' in a constructive fashion. Processes of democratisation and of building just societies founded on the respect of fundamental human rights collide with forms of new (sometimes recurring) conflicts endangering sustainable development and the ideal of living together peacefully.

Many Sub-Saharan countries are also confronted with problems engendered by fluctuant economies and job markets hindering long-term projections with regard to trends and needs of the economy and the world of work. They need to adjust their education systems to new local, national, regional and international developments to make sure that learners are able to:
• participate in their families and communities as active, competent and responsible members;
• become integrated into the world of work and contribute to the development of the local economy;
• access higher levels of TVET to the benefit of individual and societal development;
• contribute to develop qualitative agriculture production in rural areas;
• contribute to creating better living conditions in rural and poor urban areas;
• create and take advantage of new living and working opportunities in an increasingly globalised world.

Taking into account the needs Sub-Saharan countries have of improving their education systems in compliance with new national, regional and international developments, the present Study aims to:

• Provide a comparative overview of the strategies different Sub-Saharan countries and some developed countries use in linking education, life and the world of work more strongly with a special focus on curricular provisions (Curriculum Frameworks and syllabuses);

• Offer a comprehensive image of the present situation in ten Sub-Saharan countries and some developed countries with regard to how the development of life and work competencies is addressed in primary and secondary curricula, covering in principle 'basic education';

• Draw conclusions, based on the case studies and reference country data analysed, with regard to what is common and what is different, as well as on what are the most important lessons learned from the present situation;

• Draw up recommendations for the future in terms of main lines of action that governments, in cooperation with other education stakeholders, may consider in order to improve links between schooling, life and the world of work, and equip learners with the competencies they need to become successfully integrated into adult life and the world of work.

Given the many limitations of this Study (including an extremely limited budget and challenging timelines), the team of authors, in agreement with GTZ, only took the written, intended and official curriculum into consideration, without having a chance to expand their research into aspects pertaining to curriculum implementation or the hidden curriculum. By analysing official curricula and education legislation documents (such as Education Acts, Curriculum Frameworks; syllabuses, and sometimes textbooks, teacher guides and student activity books), the team of authors tried to respond to research questions such as:

• What evidence can be gathered from policy documents that countries foster the development of life and work competencies? (i.e. Statements on the matter in the Constitution; Education and Work Legislation; National Plans to Fight against Poverty; National EFA Plans; others);

• What aspects and elements can be found in Curriculum Framework (CF) as evidence that countries foster the development of life and work competencies? (i.e. Rationales for curriculum change; The Structure of the curriculum - for instance, the presence of 'carrier-subjects' meaning those subjects contributing more specifically to preparation for life and work, such as Life skills, Health Education, Citizenship Education, or Work Education; time allocation; Learning objectives; Learning outcomes; Methodological instructions; Guidance for assessment and evaluation);

• What aspects and elements can be found in Syllabuses as evidence that countries foster the development of life and work competences? (i.e. Rationales for curriculum change/innovation; Cross-cutting issues and dimensions; Time allocation; Learning objectives; Learning outcomes; Learning content - values, concepts, theories, facts, procedures, behaviours; Methodological aspects underpinning teaching and learning; guidance for assessment);

• What aspects and elements can be found in textbooks and other learning materials (i.e. teacher guides; student activity books) as evidence that countries foster the development of life and work competencies) (i.e. learning objectives; learning outcomes; learning content - values, concepts, facts, procedures, behaviours; methodological aspects, such as suggestions for hands-on, problem-solving activities; guidance for assessment);

• What are main education/curriculum innovations with regard to the development of competencies for life and work? (i.e. new 'carrier subjects', such as Life Skills, cross-cutting approaches, competency-based approaches, links between formal and non-formal education; project work; community service-based learning);

1.2 Methodological Aspects

As stated above in the introduction (first part: Context and Scope of the Study) the present research focuses on curriculum aspects related to the preparation of students for life and work. Work cannot be separated from life contexts, for workers are at the same time family members, and members of their communities. Instead of treating work competencies (or skills) separately, the authors have opted to treat them from the point of view of various interdependencies between life and work, and the need to ensure consistency between the roles individuals play in private, public and professional life.

Owing to the limited resources supporting the research, only desk work, based on the first-hand analysis of curriculum documents, was possible. The authors are fully aware of the fact that if additional resources would were provided, such a Study ought to look also into the opinions of stakeholders, the way curricula are being implemented in daily school life and the impact curricula and schooling more generally have on learning achievements.

Consequently, the Study is based almost entirely on qualitative methods: analysis of curriculum documents based on an Analytical Framework (see in Annex 1). The authors have analysed whether the current curriculum (or new initiatives) tackle explicitly the need to develop life and work competencies in students, in compliance with following research directions:

- *General education policy and curriculum policy statements.* The authors have explored whether specific statements are to be found in national policy documents with regard to linking education and learning with changes in contemporary societies, and the need to equip learners with competencies for life and work.
- *Learning objectives and outcomes focusing on skills development for life and work.* Curriculum documents (especially Curriculum Frameworks and Syllabuses) were analysed with a view to identifying competencies for life and work stated in the context of formulating learning objectives and outcomes either in a more general way or as subject-bound and grade-bound elements.
- *'Carrier-subjects'.* The authors have explored national curricula with a view to identifying those learning areas and subjects that are prone contribute more specifically to the development of life and work competencies, such as Personal Development; Human Society and Its Environment; Work Education; Life Skills; Technology; Counselling and Orientation (what is said in syllabuses with regard to learning contents; objectives and outcomes; teaching and learning; assessment methods).
- *Cross-cutting elements.* National curricula were examined with regard to the question of whether different cross-cutting issues and dimensions can be explicitly related to the development of life and work skills (i.e. are there specific thematic approaches; what are cross-cutting objectives; are there cross-cutting methodological approaches; is assessment in general stimulating the formation and development of competencies for life and work?)

- *Time allocation.* The authors have looked also into the way schooling time is devoted to the development of competencies for life and work, and whether there are innovative approaches to the use of time in the service of linking schools, communities and work more closely (i.e. project work; modular learning).
- *Links between formal and non-formal education.* Wherever possible, the authors have also taken into account specific non-formal initiatives, such as the Life Skill Programme in Kenya. Given that references to non-formal education are quite rare in the formal curricula of the countries studied, information on this aspect is quite scarce and need needs to be complemented by additional information resulting from field-based work.
- *Specific curriculum initiatives.* The authors have also looked into specific curriculum initiatives in different countries with a view to identifying links between such initiatives and societal needs (such as the issues of the locally-defined curricula in Angola, new competency-based curriculum models in Mali and Senegal).

Quantitative comparisons were also possible by taking into account secondary research outcomes (i.e. international indicators for education, social aspects, demographics, the economy). In terms of the curricula, most quantitative elements refer to time allocation and to some available data of international research investigating links between the quality of the curricula and the quality of learning outcomes.

The Study addressed ten Sub-Saharan countries, four of which were treated as case studies, while the other six were called 'reference countries':

Case-study countries
Case studies contain a detailed analysis of national curricula under the aspect of development of competencies for life and work with numerous illustrations of competency-related statements in different subjects (such as in 'carrier-subjects', meaning those subjects that contribute more explicitly to preparation for life and work). In the situation of the case studies there are also detailed descriptions of the national context and education/curriculum reform processes. Links between curriculum and other components of the education system (for instance teacher education and training; assessment) are also extensively discussed.

Botswana
Congo
Mali
South Africa

Reference countries

The analysis of reference countries is performed in a similar manner, however in a more synthetic and concise way, and without detailed illustrations of curriculum statements addressing the development of competencies.

Angola
Burundi
Kenya
Mauritius
Mozambique
Senegal

The selection criteria for these ten Sub-Saharan countries took into account the following needs and country characteristics:
• The countries were selected to represent fairly all major Sub-Saharan linguistic groups from the point of view of national/official languages spoken (Anglophone countries; Francophone countries; bilingual countries; Lusophone countries);
• While all are developing countries, they are quite different with regard to economic and education indicators, including UNDP human development indicators, such as poverty or education levels;
• Some of them are post-conflict or conflict-affected societies;
• All of them are facing multicultural issues in specific ways; IBE had complete sets of curriculum documents from the respective countries, or was able to collect them based on exchanges with the Ministries of Education and national curriculum agencies. This allowed first-hand/primary research with original and up-to-date curricula documents available in different (original) languages;
• IBE had complete sets of curriculum documents…

Developed countries

Two developed countries and regions were also considered from a comparative perspective: Australia (New South Wales) and the United Kingdom (England) in order to analyse how they are coping with the need to address preparation for life and work more effectively, and what can be learned from both their successes and their failures.

2 Definition and categorisation of competencies and skills

2.1. Competency-based Curriculum Development: a Universal Challenge

Over the last 10-15 years, in the education literature and the community of educators and curriculum developers, a growing interest for, and emphasis on 'competencies' and competency-based curriculum development can be documented.

This happened because 'competency-based approaches are increasingly regarded as adequate solutions for reshaping education systems in their ability to empower educators and curriculum developers to adapt and respond to constantly rising new situations in a rapidly changing-world' (Georgescu, 2006, p. 89).

Competencies are sometimes equated with skills, however there is a more general understanding today that they embrace more than skills:

'…competencies generally imply complex actions systems encompassing not only knowledge and skills, but also strategies and routines needed to apply knowledge and skills, as well as appropriate emotions and attitudes and the effective self-regulation of these competencies. Learning processes are a necessary condition for the development of competencies …Even if Webster's dictionary considers them synonymous, a more detailed analysis could support a distinction between the two. Weinert proposes to refer to skills as those prerequisites that can in principle be fully automatized, whereas the term competencies has a broader context that includes skills (2001, p. 62). From a slightly different point of view, but paying attention to the mental work involved in the creation of knowledge, Kegan distinguishes between the observable surface of skills and the mental capacity that creates the behaviour, i.e. competence (2001, p. 192). A third related term is capacity, which is widely used in Spanish-language constructivist curricula, and that can be considered a synonym for competence. Weinert also makes some distinctions between general and specialized cognitive competencies, introduces the concept of action competencies and even tries to illustrate the concept of meta-competence, considered as the ability to judge the availability, use and learnability of personal competencies (2001, p. 46-54)". (Tiana, 2004, p. 40)

The same conceptual difficulty applies for defining 'key competencies' seen as either 'transversal', 'generic' or 'overarching' competencies across different areas of human knowledge and action. A special part of these 'key competencies' refers to the so-called 'basic competencies' usually associated with basic or primary education (i.e. literacy, numeracy, communication, social competencies). Key competencies are, however, always based on more specific competencies (or sub-competencies) through which they become indeed 'concrete' and 'operational'.

Competencies can be understood, in a broad sense as a sui-generis articulation of knowledge, skills, values, attitudes, behaviours, routines, patterns of thinking which individuals or groups can mobilise efficiently and autonomously in order to solve problems and face challenges and opportunities successfully. Competencies are actually demonstrated in action by the way individuals or groups engage in all kinds of interactions - this is also a reason for equating them with skills, for competencies are supposed to be 'operational' and 'visible' proofs of knowledge, skills, attitudes, etc. in the context of different (real)-life situations (and not only examinations and tests).

The concept of competencies poses several important problems with regard to whether it is possible to draw a 'universal' picture of human competencies and what the relationships between the understandings of competencies and cultural, social and political contexts are. As stated by Tiana, 'key competencies do not exist in the abstract, but are constructed on the basis of a theoretical, but also ideological, viewpoint (Perrenoud, 2001, p. 123). In fact, the selection of competencies is also a political exercise and not only a technical or scientific one. Selecting key competencies implies adopting a certain vision of humanity and society. It is value-driven exercise'. (Tiana, 2004, p. 42).

In order to analyse the presence of references to life-related and work-related competencies in the curricula of the ten African Sub-Saharan countries targeted by the present Study, the authors have explored different models of defining, selecting and organising 'key competencies' that are used by different international organisations or national education systems, as discussed below:

(1) **The OECD DeSeCo study proposes the following selection and classification of very broad, general yet comprehensive key competencies:**

Acting autonomously
• The ability to defend and assert one's rights, interests, limits and needs, and to take responsibility,
• The ability to form and conduct life plans and personal projects,
• The ability to act within the big picture/the larger context.

Using tools interactively
• The ability to use language, symbols and text interactively,
• The ability to use knowledge and information interactively,
• The ability to use (new) technology interactively.

Functioning in socially heterogeneous groups
• The ability to relate well to others,
• The ability to co-operate,
• The ability to manage and resolve problems.

Today the DeSeCo categorisation of key competencies is increasingly used as a reference model with a real potential for becoming 'universalised' in compliance with developments and needs of societies in the twenty-first century worldwide.

(2) The New Zealand Curriculum Framework (1994 and successively revised) makes reference to 'essential skills', classified into seven main categories:
• Communication Skills
• Numeracy Skills
• Information Skills
• Problem-solving Skills
• Self Management and Competitive Skills
• Social and Co-operative Skills
• Physical Skills.

(3) In Australia, the Mayer key competencies of 1999 proposed the following categorisation:
• Collecting, analysing and organising information
• Communicating ideas and information
• Planning and organising activities
• Working and organising activities
• Using mathematical ideas and techniques
• Solving problems
• Using technology

(4) A slightly different model followed in Australia in 2001 (Employability Skills Framework).
• Communication
• Team work
• Problem-solving
• Initiative and enterprise
• Planning and organising
• Self-management
• Learning
• Technology

(5) The EU Commission model of 2003 (Basic skills, Foreign Language teaching and Entrepreneurship) is also widely referred to, though it addresses explicitly the European context:
• Communication in the mother tongue
• Communication in a foreign language
• Mathematical literacy and basic competencies in science and technology
• ICT skills
• Learning-to-learn
• Interpersonal and civic competencies
• Entrepreneurship
• Cultural awareness

While such key competencies fit the image of EU countries with regard to the profile of an educated person in the twenty-first century, it is nevertheless true that they can be considered relevant for other contexts too.

(6) A background paper prepared for the Workshop 3: Quality education and competencies for life (ICE47, 2004) by Halfdan Farstad, Norway, synthesises key competencies (under the name 'generic competencies') as follows:
• Personal (cognitive, psychosocial)
• Interpersonal
• Physical/Practical

Farstadt observes in his paper that differences between countries are more in terminology than in substance, based on which he proposes a 'cross-country' model of key competencies as stated below:
• Mastery of the mother tongue and preferably other languages
• Working with others
• Problem solving
• Numeracy
• Basic understanding of natural sciences
• The use of information and communication technology (ICT)
• Learning competency

(7) Based on research commissioned by the Scottish Qualifications Authority (2003), clusters of key generic skills in developed countries could be identified:
• Autonomy/Personal mastery/Self direction
• Learning/Thinking/Analytical capability and problem solving/Systems thinking/Adaptability (plus willingness to learn, positive attitude to change and complexity, mastery of mental models)
• Interpersonal skills (Communication/Team skills/Customer service/Cultural understanding, Emotional intelligence, Self understanding)
• Work readiness and work habits (Basic skills/Using Technology/Practicability/Business orientation/Planning and organising activities/Self-management)
• Enterprise, innovation, creativity skills (Enterprise, Entrepreneurship, Creativity, Innovation)

Again, while applying to 'developed countries', they nevertheless express needs that are important today in all societies, regardless of their geographic positioning or development profile.

(8) The USA SCANS Workplace KnowHow proposes the following workplace competencies divided into Workplace competencies and Foundations skills:

Workplace competencies
Effective workers can productively use:
• Resources - they know how to allocate time, money, materials, space and staff;
• Interpersonal skills - they can work in teams, teach others, serve customers, lead, negotiate and work well with people from culturally diverse backgrounds;
• Information - they can acquire and evaluate data, organise and maintain files, interpret and communicate, and use computers to process information,
• Systems - they understand social, organisational, and technological systems, they can monitor and correct performance, and they can design or improve systems;
• Technology - they can select equipment and tools, apply technology to specific tasks, and maintain and troubleshoot equipment

Foundation skills
Competent workers in the high-performance work places need:
• Basic skills - reading, writing, arithmetic and mathematics, speaking and listening;
• Thinking skills - the ability to learn, to reason, to think creatively, to make decisions and to solve problems,
• Personal queries - individual responsibility, self-esteem and self-management, sociability, and integrity (SCANS 1992).

(9) The National Qualification Framework of England and Wales refers to functional, personal, thinking and learning skills:

"What are functional skills?
Functional skills are those core elements of English, mathematics and ICT that provide an individual with the essential knowledge, skills and understanding that will enable them to operate confidently, effectively and independently in life and at work. Individuals at any age who possess these skills will be able to participate and progress in education, training and employment as well as develop and secure the broader range of aptitudes, attitudes and behaviours that will enable them to make a positive contribution to the communities in which they live and work.

In the case of English this means that:
- each individual is confident and capable when using the skills of speaking, listening, reading and writing and is able to communicate effectively, adapting to a range of audiences and contexts. This will include being able to explain information clearly and succinctly in speech and writing, expressing a point of view reasonably and persuasively and using ICT to communicate effectively
- each individual will be able to read and understand information and instructions, then use this understanding to act appropriately and to analyse how ideas and information are presented, evaluating their usefulness, for example in solving a problem. They will be able to make an oral presentation or report, contribute to discussions and use speech to work collaboratively to agree actions and conclusions.

In the case of mathematics this means that:
- each individual has sufficient understanding of a range of mathematical concepts and knows how and when to use them. For example, they will have the confidence and capability to use mathematics to solve problems embedded in increasingly complex settings and to use a range of tools, including ICT as appropriate
- each individual will develop the analytical and reasoning skills to draw conclusions, justify how they are reached and identify errors or inconsistencies. They will also validate and interpret results, judge the limits of their validity and use them effectively and efficiently.

In the case of ICT this means that:
- each individual is confident and capable when using ICT systems and tools to meet a variety of needs in a range of contexts. For example, they will use ICT to find, select and bring together relevant information and to develop, interpret and exchange information, for a purpose
- each individual will be able to apply ICT safely to enhance their learning and the quality of their work.

Personal, thinking and learning skills

Overview
The personal, learning and thinking skills (PLTS) provide a framework for describing the qualities and skills needed for success in learning and life.

The PLTS framework embraces: social and emotional aspects of learning, employability, responsible citizenship, enquiry skills and creativity, self-direction and independent study, reflection on learning (learning to learn and assessment for learning).

The framework comprises six groups of skills:
- independent enquiring
- creative thinking
- reflective learning
- team working
- self-management
- effective participation

These generic skills, together with the functional skills of English, mathematics and ICT, are essential to success in life, learning and work.

For each group of skills, a focus statement sums up the range of skills and qualities. This is accompanied by a set of outcome statements that are indicative of the skills, behaviours and personal qualities associated with each group.

Each group [of skills] is distinctive and coherent. The groups are also interconnected and learners are likely to encounter skills from several groups in any one learning experience. For example, an independent enquirer sets goals for their research with clear success criteria (reflective learner) and organise their time and resources effectively to achieve these goals (self-manager). To develop independence, learners need to apply skills from all six groups in a wide range of contexts."

Competencies can be fostered in different ways: through specific types of new, innovative curricula, but also through new pedagogical approaches (teaching and learning strategies in line with appropriate assessment methods) focusing on linking knowledge and skills with concrete life-related situations that require independent, autonomous thinking and action, which is possible even in the context of a traditional, subject-based curricula. Only in very few countries worldwide (for example Mali, in the context of Sub-Saharan African countries) was an intentionally radical 'competency-based' curriculum introduced, where 'subjects' tend to be replaced with a different (quite complicated) sequencing of learning in compliance with specific competencies and sub-competencies to be developed.

The recent focus on competencies demonstrates a shift in pedagogical thinking from the excessive attention given to education inputs in the past towards a more balanced consideration of inputs, processes and education outputs understood not only in terms of memorised (prefabricated) knowledge, but as learning acquisitions articulating knowledge elements, skills, attitudes and values. As shown by many studies[15], the quality of education processes and their outcomes depends equally on learning inputs and preconditions, processes, and outcomes.

15 See among other for instance, the EFA GMR 2005: The Quality Imperative

2.2 Defining Competencies and Skills in the Context of this Study

There is no accepted consensus as to what constitutes a competency, nor what distinguishes a competency from a skill. In some contexts the terms are used synonymously. In others there is a significant conceptual distinction, which essentially defines a competency as a broad capacity to gain and apply knowledge independently in practical and meaningful ways (and in association with skills, attitudes and values), while a skill is seen as a very discrete capacity to perform a task (in a more automatic manner). From this latter perspective, "skills" are actually components of competencies, or sub-competencies.

This latter distinction is supported by Rychen (2004 pp. 22-3) who described a competency as 'a complex action system encompassing cognitive skills, attitudes and other non-cognitive components', while a skill is defined as 'an ability to perform complex motor and/or cognitive acts with ease and precision and an adaptability to changing conditions'. A competency is therefore seen as a more 'holistic' concept.

For the purposes of this analysis, the Study sought to identify and acknowledge the occurrence in curricula or related documents of any *statement, prescription, objective, learning outcome or learning experience that had the intention of providing students with specific capacities to lead successful private, public and professional lives.*

One of the challenges for all educators and for curriculum developers in particular is how to define the dimensions of life for which young people should be prepared. One approach to this issue is to identify the various roles that individuals play in the course of their lives, and to then elaborate the competencies and skills required to perform these roles successfully.

These 'life roles' might be defined as:
• Child
• Pupil / Student
• Apprentice
• University student
• Adult
• Family member
• Community member
• Citizen
• Workforce member (as either employer or employee or both; and also employment seeker/unemployed).

In undertaking the task of identifying how well curricula prepare young people for their future lives, this Study attempts to acknowledge the occurrence of both competencies and skills and their relevance to the various 'life roles' that people are likely to play.

The Study also acknowledges the uniqueness of life in the 21st century, characterised as it has been and will continue to be by rapid change and global interconnectedness. Life in this century will require competencies and skills quite different to those of previous times. For example, adaptability and capacity to learn are critical to success in times of rapid change, and extensive reference to these '21st century skills' will be made in the recommendations section of the report.

Today's increasingly interdependent world requires that decision makers and education specialists take into account the need to balance tradition and innovation meaningfully, as well as what is 'local' and what is 'regional and international'. New trends in business, technology, communication and the labour market cannot be ignored without serious consequences for the preparation of new generations for the future. While cherishing and preserving traditions and traditional ways of life, governments and education stakeholders more generally also have a responsibility to educate new generations with regard to (possible) future developments so as to enable them to integrate life and work at local, national, regional and international levels pro-actively, dynamically and successfully. Governments and other education stakeholders also need to apply effective solutions empowering people to face hardships of all kind, such as unemployment and poverty, in a dignified and pro-active fashion, and to make appropriate modalities available for them to feel valued as citizens regardless of their employment, social and economic status.

The scope of this Study does not include conducting a detailed qualitative analysis of each competency or skill occurring in the curriculum documents reviewed. Such a task would require detailed understanding of the national or regional context in order to assess the relevance and appropriateness of each competency or skill. Rather, it is the aim of this Study to note occurrences of competencies and skills in subject syllabuses and other related curriculum documents, such as curriculum frameworks, policy documents, textbooks and locally developed education programmes, and to provide a summarised analysis of their frequency and consistency.

As a working analytical framework for the Study, four broad categories of competencies and skills have been developed, as described in detail in Table 2 on the next page:

Competency/Skill Category		Description / Definition	Sample Competency/Skill (from African curriculum documents)
A	Learning skills	Competencies / skills which provide the learner with the capacity to learn effectively, to progress to higher levels of education and to learn throughout life (for instance: capacity to identify and face epistemic/ knowledge obstacles and/or opportunities to learn and solve problems; capacity to integrate new knowledge in existing patterns; capacity to identify, and learn from errors; capacity to make transfers).	<u>Geography, South Africa - Grade 6</u> The learner Identifies sources of information, including simple statistics, to help answer the question <u>Economic and Management Sciences, South Africa - Grade 6</u> Analyses personal strengths and weaknesses in becoming an entrepreneur
B	Life skills	Competencies / skills which provide the learner with the capacity to undertake tasks or processes related to their day to day lives, regardless of their socio-economic, geographic or other circumstances (i.e. capacity to identify situations that require action; capacity to assess risks; capacity to take decisions; capacity to link decisions with consequences; capacity to ask for help and help others; capacity to prove self-respect and respect of the others; capacity to engage constructively in differences of opinion)	<u>Curriculum Framework: Learning Area Statements/LAS (South Africa)</u> 1 Health Promotion - The learner will be able to make informed decisions regarding personal, community and environmental health. 2 Social Development - The learner will be able to demonstrate an understanding of and commitment to constitutional rights and responsibilities, and to show an understanding of diverse cultures and religions. 3 Personal Development - The learner will be able to use acquired life skills to achieve and extend personal potential to respond effectively to challenges in his or her world. 4 Physical Development and Movement - The learner will be able to demonstrate an understanding of, and participate in activities that promote movement and physical development. 5 Orientation to the World of Work - The learner will be able to make informed decisions about further study and career choices.

C	Work-related (generic) skills	Competencies / skills which prepare learners for the world of work, but which are not specific to any industry or profession (i.e. capacity to work in teams; to understand and follow working instructions; to cope with time effectively; to manifest initiative; to lead co-workers; to asses the quality of products/services; demonstrate ethical working behaviour)	Botswana Curriculum Framework Foundation skills 'applicable to work situations, such as decision-making and problem-solving, self-presentation, teamwork and computing', developed through 'cross-curricular approaches' and attention to processes as well as content
D	Professional skills (Related to specific occupations/ professions)	Competencies / skills which prepare learners for work in a particular industry or profession (i.e. capacity to understand and follow specific production processes, such as how to assemble a table; how to use tools; how to use materials cost-effectively and safely; to engage in specific tasks/ execute specific operations; manage task distribution and the progressing from simple to complex tasks)	Business Studies, Botswana - Form 2 Prepare a profit forecast for a mini-enterprise Agriculture, Botswana - Form 2 Prepare planting holes of appropriate dimensions for seedlings

3 Country background data

3.1 Comparative Aspects

Many international studies, such as those conducted by the World Bank and OECD as well as independent researchers, document an observable though complicated relationship between investments in education as a means of improving the quality of life of their citizens and economic growth of countries.

Guisan (1994, p.1), for instance, states that 'Education has a positive influence on economic growth…, creating a social environment that improves productive investment, making workers more productive and voters more prepared to choose a good government and promote reasonable socio-economic policies'. Ok and Tergeist consider that '…the theoretical links between schooling and growth have been extensively discussed in the literature. On the empirical level, although the link is not clearly established, recent works seem to suggest the existence of a robust relationship.' (2002, p. 4)

However, as also shown by different recent international studies, including PISA, the effects of education investments depends not only by the proportion of the GDP allocated for education: '…it is not the Member State [of OECD] that spends most on its school education system that has the best results - investment has to be efficient, too' (Figel, 2004, p. 2).

The positive association between education investments and economic growth does not automatically mean that there is a causal relationship. The complex relationship between education investment and economic growth can probably be best defined in the way Podrecca and Carmeci (2001, p. 1) synthesise the contributions of different factors to economic and societal progress: 'The analysis [on a sample of 86 countries - n.n.] shows that both education investment and the educational stock Granger-cause growth rates, (increase) both individually and jointly with physical capital investment.'

It is also worth mentioning that the effects of education investments have to be associated with education quality, not just equity: 'The results support the findings of earlier studies of a robust positive relationship between the two aggregates [education and economic growth, n.n.]. Moreover, they suggest that the quality of education (as measured by different education sectors) is itself a significant determinant of economic growth.' (Agiomirgianakis et al., 2001, p. 182)

Sub-Saharan developing countries seem particularly challenged by the apparent circular relationship between education investment and economic growth. While, on the one hand, economic growth depends (amongst other things) on the quality of human capital (which depends greatly on education quality), human capital (and the quality of education moreover) depends in turn on investments in education, which also depend greatly on the quality of the economy and finances of countries.

Despite much progress over recent decades in different areas of social, educational and economic development, Sub-Saharan countries lag still behind other regions of the world with regard to various indicators, as shown below:

(i) Investments in education

As stated in the Global Education Digest (2007, p. 12): 'The greatest imbalance [between education spending and the regional share of the world's children and young people] is found in Sub-Saharan Africa where only 2.4% of the world's education resources are devoted to 15% of the school-age population. According to estimates, the education budget of a single country like France, Germany of Italy outweighs the education expenditure of all Sub-Saharan African governments combined.'

Education spending is influenced by a multitude of factors, including national GDPs and international aid. The table below clearly shows that, even amongst developing countries, education systems tend to perform better in the higher-income countries:

Table 3: Multiple contexts influence public spending needs for education in Sub-Saharan Africa (Some examples)							
Country	GDP per capita US$, 2004 WB	Aid (% of GNI), 2004, WB	Adult literacy rates 2000s UIS	Expected School-age population growth 1005-2015, %, UNDP	Primary GER, 1999, UIS	Primary GER, 2005, UIS	% Repeaters 2005, UIS	Gross intake ratio to the last grade of primary, 2005, UIS
Botswana	3,668	0.5	81	-3	102	106	5	92
Burundi	105	54.6	59	9	61	85	30	33
Mauritius	4,289	0.6	84	1	105	102	5	100
South Africa	3,312	0.3	82	1	114	104	8	96

Source: Global Education Digest, 2007, p. 39

(ii) School life expectancy

School life expectancy tends to be lower in countries with a lower GPI, with female students being expected to spend less time in primary and secondary education than male students.

Table 4: School life expectancy			
School life expectancy (approximation method) in years **Primary and secondary education ISCED 1-3**			
Country	**MF**	**M**	**F**	**GPI**
Angola	-	-	-	-
Botswana	11.1	11.1	11.1	1.01
Burundi	6.2	6.7	5.6	0.83
Congo	8.7	9.3	8.2	0.88
Kenya	9.9	10.2	9.7	0.96
Mauritius	12.3	12.4	12.3	0.99
Mozambique	8.4	9.2	7.6	0.82
Senegal	6.2	6.5	5.9	0.91
South Africa	12.0	11.9	12.0	1.00
Developed countries			
Australia	16.2	16.4	15.9	0.97
EU countries (Finland)	12.6	12.5	12.7	1.02
EU countries (UK)	13.8	13.7	13.9	1.01
USA	11.6	11.6	11.6	1.00

Source: Global Education Digest, 2007, p. 154-163

(iii) The rise of the knowledge based society and economy

The newly globalised 'knowledge-based society and economy' require more skilled labour forces with services becoming the largest employment sector. They allow also for and trigger increased mobility internationally, embedding both new opportunities and risks. However, while the situation of the economy and labour markets in African Sub-Saharan countries (as well as in South West Asia) is quite different, such new developments as those mentioned above tend to become visible in various forms: 'Services have become [worldwide] the largest employment sector, before agriculture [through agriculture remains the largest in Sub-Saharan Africa, and South and West Asia] and services now account for about two-thirds of global outputs [69% in high-income countries, 55% in middle-income countries and 44% in low-income countries]…At the same time, industries in developed countries, faced with surging labour costs or with labour shortages, are relocating in developing countries with less expensive and more plentiful labour, supporting mobility of workers across borders and increasing demand for female labour.' (EFA Global Monitoring Report/EFA GMR 2008, p. 19-209)

The features of a more knowledge-intense society and economy ought to be taken into consideration by policy makers and curriculum developers, for they require a re-orientation of the curriculum and learning. Education stakeholders ought to take into account that:

• There are close links between science, technological innovation, productivity and countries' competitive advantages;
• Quality primary education and the development of more complex secondary education systems are crucial, as they can promote higher-order skills such as problem-solving skills, critical thinking, even creativity - which are the foundation for the development of higher education and research. (see EFA GMR 2008, p. 20)

In societies the world over, including Sub-Saharan countries, the situation of women ought to be considered carefully. While benefiting from some developments engendered by the knowledge-based society and economy, such new Information and Communication Technologies, women - more than men - still tend to be excluded from taking advantage of new opportunities. As stated in the EFA GMR 2008, 'Women in particular, stand to benefit from the development of information and communication technology infrastructure, as it appears to reinforce gender equality improvements in both education and employment…Although demographic trends noted above have been accompanied by an increase in female labour force participation rates worldwide since the 1980s, improvements in the quality of women's employment has not necessarily followed. Women are more likely than men to work in low-productivity jobs in agriculture and services because they lack education or access to the formal labour market.' (EFA GMR 2008, p. 20)

(iv) Changes in basic education

The EFA GMR 2008 cites several African Sub-Saharan countries as positive examples of passing compulsory education laws after 2000/Dakar (Burundi and Mozambique) and extending primary education since 2000 (Mauritius).

Some other positive trends are encouraging with regard to the Sub-Saharan region, such as the fact that there has been a clear (and spectacular) rise in participation in primary education since 2000, and that gross intake rates also tend to have grown:

Table 5: New entrants into Grade 1 and gross intake rates (GIR) by region, 1999 and 2005						
	New entrants			Gross intake rates		
	School year ending 1999	School year ending 2005	Change between 1999 and 2005	School year ending 1999	School year ending 2005	Change between 1999 and 2005
	Mill.	Mill.	%	%	%	Percentage points
World	129.9.	134.9	3.9	106	112	6.7
Sub-Saharan 16.4 Africa	22.9	39.9	90.0	113.0	22.4	
Arab States	6.3	7.0	11.5	90	97	6.7
Central Asia	1.8	1.5	-15.9	101	104	3.7
East Asia and the Pacific	37.0	32.6	-11.8	102	100	-2.6
South and West Asia	40.5	44.3	9.4	119	130	11.2
Latin America and the Caribbean	13.2	13.2	0.3	119	119	-0.1
North America and Western Europe	9.2	8.8	-4.3	102	102	-0.7
Central and Eastern Europe	5.4	4.5	-18.2	94	96	2.6

Source: EFA GMR2008, p. 41

While enrolment in lower secondary education (ISCED level 2) has grown steadily in Sub-Saharan African countries since 1991, gross and net enrolment rates are still much lower than in other regions of the world:

Table 6: Enrolment ratios in secondary education by regions, 1991, 1999 and 2005					
	Gross enrolment ratios (%)			Net enrolment ratios (%)	
	1991	1999	2005	1999	2005
World	52	60	66	53	59
Sub-Saharan countries	22	24	32	19	26
Arab States	51	60	68	52	58
Central Asia	98	86	68	52	58
East Asia and the Pacific	50	64	74	61	70
South and West Asia	41	46	53	40	46
Latin America and the Caribbean	51	80	88	59	68
North America and Western Europe	94	101	102	89	92
Central and Eastern Europe	81	87	89	80	81

Source: EFA GMR2008, p. 58

While progress rates in terms of access to education, enrolment and retention rates are extremely important, they ought to be accompanied by evident progress rates in terms of quality, amongst which the quality of learning outcomes constitutes a crucial aspect. Given the relative scarcity of studies targeting the quality of education in Sub-Saharan countries, more national and international surveys should thus be carried out to provide reliable data with regard to quality aspects and highlight factors supporting or hindering quality learning.

(v) Other background statistics

Sub-Saharan countries are also lagging behind other regions of the world (and especially developed countries) with regard to further indicators, such as HIV/AIDS, poverty and inequalities in income or expenditure:

Table 7: Human Development indicators								
Demography						**HIV/AIDS**		
	Total population 2005 (000)	Life expectancy at birth (years)			Total fertility rate	HIV prevalence rate in adults (155-49) %	% Women among people living with AIDS (+%+)	Orphans due to AIDS (000)
Country		Total	Males	Females				
Angola	15941	42	40	43	6.4	3.7	61	160
Botswana	1765	34	35	33	2.9	24.1	54	120
Burundi	7548	46	44	47	6.9	3.3	61	120
Congo	3999	54	52	56	6.3	5.3	61	110
Kenya	34256	50	51	49	5.0	6.1	62	1100
Mauritius	1245	73	70	76	1.9	0.6		
Mozambique	19792	42	42	42	5.1	16.1	60	510
Senegal	11658	57	56	58	4.5	0.9	59	25
South Africa	47432	44	44	44	2.6	18.8	58	1200
Developed countries								
Australia	20155	81	78	83	1.8	0.1		
EU countries (Finland)	5249	79	76	82	1.7	0.1		
EU countries (UK)	59668	79	77	81	1.7	0.2	31	
USA	298213	78	75	81	2.0	0.6	25	

Source: EFA GMR2008, p. 244-249

	GNP, AID and Poverty				Inequality in income and expenditure		
	GNP per capita (US$)		Net aid per capita (US$)	Population living on less than US$1 per day (%)	Share of income and expenditure		Inequality measures
					Poorest 20% 1996-2004	Richest 20% 1996-2004	Richest 20% to poorest 20% 1996-2004
Country	1998	2005					
Angola	520	1410	73.9				
Botswana	3290	5590	22.1	23.5	2.2	70.3	31.5
Burundi	140	100	48.2	54.6	5.1	48.0	9.5
Congo	530	950	29.9				
Kenya	360	540	19.0	22.8	6.0	49.1	8.2
Mauritius	3760	5250	30.8				
Mozambique	200	310	63.2	37.8	6.5	46.5	7.2
Senegal	510	700	92.4	22.3	6.4	48.2	7.5
South Africa	3290	4770	13.1	10.7	3.5	62.2	17.9
Developed countries							
Australia	21240	33120			5.9	41.3	7.0
EU countries (Finland)	24750	37530			9.6	36.7	3.8
EU countries (UK)	22830	37740			6.1	44.00	7.2
USA	30620	43560			5.4	45.8	8.4

Source: EFA GMR2008, p. 244-249

As shown in the tables above, African Sub-Saharan countries face much lower life expectancy at birth compared with developed countries, while fertility rates are significantly higher. Reduced life expectancy is associated with high prevalence rates of HIV in adults, including women, and huge inequalities in income and expenditure especially affecting the most deprived.

3.2 Policy Aspects

In the discourse on education policy and pedagogical issues, curriculum change and innovation are emphasised as an urgent need in most Sub-Saharan countries, given the new challenges and opportunities of today's world and the shortcomings of national curricula assessed as overloaded, out-dated and irrelevant to learners' and societies' needs (see Aglo, 2001).

Based on an analysis of education policy aspects in the ten Sub-Saharan countries targeted by this Study, the following main aspects have been identified:

• All countries (with the exception of Kenya) are currently carrying out processes of comprehensive curriculum reforms or have implemented such reforms quite recently. This demonstrates the strong political will in Sub-Saharan countries to improve equity and quality aspects of national education systems as a basis for improving the quality of learning outcomes and learners' chances to integrate adult life and the world of work success-fully. In several Sub-Saharan countries policy papers have been elaborated and largely discussed in order to provide a consensual foundation of reform efforts (e.g. Mauritius: Empowering the Nations' Children: Towards a Quality Curriculum, 2006).

• Curriculum reforms are usually linked with and based upon National (education and development) Strategies, such as National EFA Strategies; National Strategies to Combat Poverty; National Strategies for Literacy and Numeracy (for example Mauritius), or National Literacy Strategies fostering adult education. There is though little evidence that education and curriculum reforms are explicitly and comprehensively taking into account new developments in society and the world of work, such as changes in family and community life, new ethical and political challenges (for instance democratisation processes; citizen partici-pation; sustainable development; ecological concerns), the nature and structure of different economic areas and occupations, as well as new possibilities provided by modern technologies and regional and international mobility.

• There is also little evidence that education and curriculum reforms are explicitly linked with other sectoral reforms, such as reforms in social, economic and political life. It is also difficult to state whether education and curriculum reforms have been thought out in collaboration with education stakeholders (for instance, with the participation of representatives of local communities, businesses, students, teachers, parents, head-masters, etc.).

- Statements of a more political nature in curriculum documents (rationales in Curriculum Frameworks and Syllabuses) about the new directions that curriculum and teaching and learning should embrace usually refer only generally to concrete changes in life and the economy that would require specific life and work competencies. Some noticeable exceptions are Botswana and South Africa, where curriculum documents embrace a more analytical approach to such changes impacting education and learning. In some cases national priorities are mentioned, such as alphabetisation in Mozambique, or inclusive education in Mauritius. It is however rare to find concrete references to 'burning' issues, such as HIV and AIDS, poverty, violence or gender inequality.

- There is also little reference in general in policy documents to international comparative research and relevant data that may allow informed decisions from the broader perspective of aligning national efforts to regional and international processes of curriculum change and innovation.

- While in some countries reference is made to the need to provide monitoring and evaluation of curriculum design, making and implementation processes, there is usually no mention of concrete mechanisms of quality assurance, and also no detailed explanation of mechanisms to assure sustainability.

- In some cases (Angola; South Africa; Mauritius; Botswana; Mozambique) references are made in curriculum documents to effective implementation strategies (including the provision of financial and human resources) supported by relevant policy and legislation. However, it is worth mentioning that, as a general case, the curriculum of the countries analysed does not seem to be strongly backed by effective implementation models and solutions providing a meaningful balance between top-down and bottom-up approaches. It appears from the research undertaken that special attention was given to processes of curriculum design and writing, while curriculum implementation was expected to follow somehow automatically as translation of the new curriculum prescriptions into daily school life. Schools, teachers, head teachers, community representatives, students and parents need, however, to be experiencing ownership of education/curriculum changes for curriculum reforms to truly reach the classrooms. It would thus be recommendable for curriculum documents, while projecting new paradigms of teaching and learning, to also envisage effective strategies for classroom implementation in order to bridge the gaps between policy intentions and discourses, and what happens in real life education at grass-roots level.

4 Curriculum analysis

The Country Studies undertaken as part of this analysis are of two types;

Comprehensive Case Studies: These studies provide an in-depth analysis of documents relating to basic education curricula in selected countries, including, where relevant and available, policy statements, curriculum standards, curriculum frameworks, subject curricula (syllabuses, learning area statements and the like), assessment guidelines, textbooks and non-formal programmes.

Other Reference Country Studies (Africa): In order to provide an expanded frame of reference for this Study, limited analysis of a range of 'reference countries' is supplied. For each of these countries, a summary is provided of
• educational policy context as it relates to curriculum,
• curriculum approach and philosophy,
• general curriculum structure through the phases of basic education (subjects / learning areas and their place and time allocation in the curriculum), and
• findings and conclusions regarding the prominence of competencies and skills for life and work in the basic education curriculum.

In addition to the country studies there will be:
Reference Country Studies (Other Regions): As well as analysing the approach of countries in Sub-Saharan Africa, the terms of reference of this Study require a comparative analysis of approaches to the development of skills and competencies in other regions of the world. This is done through a comparative analysis using documents from two systems / regions: Australia/New South Wales and UK (England).

4.1 Comprehensive Case Studies

4.1.1 Research Questions Informing this Study

The Study reports on four case studies - South Africa, Botswana, Mali and Congo - selected to represent a broad cross section of Sub-Saharan Africa. They contain countries of both the Anglophone and Francophone groups (acknowledging also the range of national languages of each) and a diversity of socio-economic, geographical and historical contexts.

The approach to the case studies was structured around inquiry into the following core questions, which are further elaborated in Appendix A:

1. **Can relationships between education and life and the world of work be identified in basic education curricula (primary and lower secondary education) in developing countries in Africa (and what kind of relationships…)?**
   - Do basic education curricula address opportunities and challenges of today's world?
   - Do basic education curricula take into account the needs of and developments in the societal environment and the labour market in African developing countries?
   - What ways and options are there to address the issue of skills formation for life and work through the curriculum?

2. **Are there relevant links between formal and non-formal education?**

3. **Are there important partnerships of schools with local communities and other stakeholders?**

4. **What innovative practices can be capitalised on?**

5. **What recommendations are there for improving preparation for life**

5. **and work in developing countries in Africa?**

4.1.2 Structure of the Case Studies

The case studies will be structured as follows:

1. Source Documents

This section describes the source documents available to the Study for each country. Every effort has been made to confirm that these documents are current.

2. Curriculum Policy and Structure

This section describes the structure of the curriculum, including its policy framework, its educational and curriculum philosophy and the subjects to be studies in each grade or cycle. The purpose of this section is to identify the extent to which competencies and skills form part of the broad rationale of the curriculum and whether any subjects or learning areas with specific relevance to competencies and skills are included within the structure.

3. Subject Curricula / Learning Area Statements

This section contains a description of each subject or learning area and the framing of its content, and notes the extent to which competencies and skills are elaborated in the syllabuses.

4. Analysis of non-formal or extra-curricular programmes

This Study acknowledges that analysis of formal documents which express the intended curriculum does not always accurately reflect the learning that occurs in any given context. Where information is available, these section analyses non-formal or extra-curricular programmes to evaluate the extent to which competencies and skills are added to the expectations of the formal curriculum.

5. Summary and conclusions

Each country analysis concludes with a summary of findings. These are in narrative form and attempt to reflect the major findings or points of interest found in all the curriculum-related documents.

4.1.3 Comprehensive Case Studies

Case Study A - South Africa

Features of the Basic Education Curriculum of South Africa:

- Ten years of basic education (R/Reception year + 9 [6 primary +3 lower secondary])

- Consistent with and cascades logically from the Constitution and national policy documents

- Outcomes-based approach to curriculum development emphasising the fostering of competencies and skills for life and work in compliance with clear expectations and assessment standards

- Consistent philosophy and approach to sequencing of competency and skills development across all Learning Areas and grades

- Makes specific reference to current societal issues (e.g. post-apartheid reconciliation; democratisation of the country; social justice and equity; health issues; sustainable development), the world of work as well as to the national vision and nation-building priorities

- Addresses different roles people have in economic processes (e.g. producers, consumers, entrepreneurs) and the links between economy, societal aspects and personal development

1 Source Documents

- C2005 Revised National Curriculum Statement Grades R-9 (Schools) Policy - Overview Document
- C2005 Revised National Curriculum Statement Grades R-9 (Schools) Policy - Overview and Learning Area Statements

2 Curriculum Policy and Structure

2.1 Duration of Basic Education

Basic education in South Africa consists of ten years (referred to as 'compulsory education'). It comprises three cycles or 'phases': Foundation (Grades R-3), Intermediate (Grades 4-6) and Senior (Grades 7-9). Foundation and Intermediate grades form primary education while Senior grades pertain to lower secondary education.

2.2 Curriculum philosophy and overall approach

The core documents of the South African curriculum (known as the Revised National Curriculum Statement) are
- an overall policy statement (published in all eleven national languages) and
- an Overview and Learning Statement for each of the eight learning areas which comprise the curriculum.

These documents are supplemented by a range of materials, all of which are available on the internet at http://www.education.gov.za/Curriculum/GET/GETstatements.asp.

The documents have clearly articulated connections to the national Constitution (1996) and to the Department of Education's Manifesto on Values, Education and Democracy.

The school curriculum of South Africa is outcomes-based. This is explained as emphasising equally both the process and content of learning, which is done by 'spelling out the outcomes to be achieved by the end of the process' (Department of Education, South Africa Overview - English, 2005, pp.10-11). The Overview document defines seven broad 'critical' outcomes and five broad 'developmental outcomes'. These are:

Critical Outcomes for Learners
• Identify and solve problems and make decisions using critical and creative thinking
• Work effectively with others as members of a team, group, organisation and community
• Organise and manage themselves and their activities responsibly and effectively
• Collect, analyse, organise and critically evaluate information
• Communicate effectively using visual, symbolic and/or language skills in various modes
• Use Science and Technology effectively and critically showing responsibility towards the environment and the health of others
• Demonstrate an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation.

Developmental Outcomes for Learners
• Reflect on and explore a variety of strategies to learn more effectively
• Participate as responsible citizens in the life of local, national and global communities
• Be culturally and aesthetically sensitive across a range of contexts
• Explore education and career opportunities
• Develop entrepreneurial opportunities

These outcomes are intended to 'describe the kind of citizen the education and training system should aim to create' and it is from these broad outcomes that the more specific Learning Area learning outcomes and assessment standards were developed.

South Africa has therefore developed a cohesive and integrated conceptualisation of curriculum in which national policy statements cascade down to clear statements of broad learning outcomes, which in turn cascade down to individual Learning Area statements of outcomes. The documents also integrate outcomes with assessment standards, which describe levels of achievement using indicators.

It is important to acknowledge that this structural model in itself encourages the development in learners of competencies and skills.

2.3 Subjects / Learning Areas

The Revised National Curriculum Statement identifies eight Learning Areas. These are:

• Languages
• Mathematics
• Natural Sciences
• Social Sciences
• Technology
• Economic and Management Sciences
• Life Orientation
• Arts and Culture

With regard to emphasis on life and work skills, the inclusion of Economic and Management Sciences and Life Orientation in the curriculum structure is of particular interest, demonstrating the commitment of curriculum designers and developers to the aim of 'stimulating the minds of young people so that they are able to participate fully in economic and social life' (p. 12)[16].

The Revised National Curriculum Statement also allocates time to the various learning areas. These allocations are relatively flexible in the Foundation Phase and more prescriptive in the latter two phases.

Table 8 below provides a summary of time allocations across Learning Areas and Phases.

Table 8: Time Allocations (as %[17]) to learning areas across all phases – South Africa			
Learning Area	Time Allocation as %		
	Foundation	Intermediate	Senior
Literacy	40		
Numeracy	35		
Life Skills	25		
Languages		25	25
Mathematics		18	18
Natural Sciences		13	13
Social Sciences		12	12
Technology		8	8
Economic and Management Sciences		8	8
Life Orientation		8	8
Arts and Culture		8	8

16 Illustrations of the approach to, and content of learning in the respective learning areas/subject are given under 3.3.
17 The formal teaching time per week is 35 hours (National Education Policy Act 1996)

2.4 Learning Programmes

The Learning Area Statements are put into practice through the development of Learning Programmes, a responsibility of teachers. These are defined as 'structured and systematic arrangements' of activities that promote the attainment of learning outcomes and assessment standards for the phase.

A range of systemic support is provided to teachers in the form of Learning Programme Guidelines, which cover such matters as integration within and across learning areas, relationships between learning outcomes of different learning areas/subjects, designing a learning programme based on the Guidelines, and by taking into account local conditions and needs, and time allocation.

3 Subject Curricula / Learning Area Statements (LAS)

3.1 Structure of the LAS

All the Learning Area Statements within the Revised National Curriculum Statement (Grades R-9) are structured in a similar way and their contents are described with 'clarity and accessibility in both its design and language' (as a principle contained in the policy Overview).

Each Learning Area Statement consists of four sections;
• Introduction - introduces the National Curriculum Statement and the particular Learning Area
• Learning Outcomes and Assessment Standards - expresses the minimum requirements and expectations of learners in each grade across the three phases. Where appropriate, this section also contains information about topics or a 'knowledge framework' for the Learning Area
• Assessment - principles, guidelines and suggested processes for recording and reporting assessment
• Reference lists - contains glossaries, acronyms and abbreviations used.

3.2 Content of the LAS

In its introduction, each LAS articulates a manageable number (usually three or four) broad learning outcomes specific to that Learning Area. These outcomes are then elaborated through the LAS in increasing complexity across all grades by the detailed descriptors and indicators in the assessment standards.

With regard to the assessment standards, it is significant to note that they are all expressed in terms of skills and competencies, each beginning with an active verb (identifies, analyses, suggests ways, makes informed decisions, selects, locates, uses, reports, etc.). In other words, students can only achieve the required standard by demonstrating that they have acquired and can apply the relevant competency or skill.

3.3 Sample Subjects

3.3.1 Economic and Management Sciences (EMS) as part of the broader 'Life skills' area

Time allocation: Foundation Phase   25% (as part of 'Life Skills')
                   Intermediate Phase   8%
                   Senior Phase   8 %

EMS deals with 'the efficient and effective use of different types of private, public or collective resources in satisfying people's needs and wants, while reflecting critically on the impact of resource exploitation on the environment and on people' (LAS p. 4).

With regard to skills development, the LAS specifically refers in its definition to 'financial management and planning skills for private, public or collective ownership', and as one of its purposes to 'develop entrepreneurial skills needed to play a vital role in transforming the country's socio-economic environment, and reducing the gap between rich and poor' (LAS p. 4).

For the purposes of this Study, the LAS also lists within its 'Features and Scope' two significant aspects:

• Leadership and management, which covers such areas as
   • basic aspects of leadership, such as planning and directing
   • negotiation, motivation, delegation and conflict management
   • basic aspects of management, such as administration, finance and production
   • marketing, purchasing, public relations and human resource development
   • rights and responsibilities of management and workers.

• Entrepreneurship, which aims to develop 'the skills related to taking initiative, as well as the calculated risks in conceptualising, financing, starting and running a business' (LAS p. 5).

The Learning Outcomes specified for EMS are
   1 The Economic Cycle - The learner will be able to demonstrate knowledge and understanding of the economic cycle within the context of 'the economic problem'
   2 Sustainable Growth and Development - The learner will be able to demonstrate an understanding of sustainable growth, reconstruction and development, and to reflect critically on its related processes.
   3 Managerial, Consumer and Financial Knowledge and Skills - The learner will be able to demonstrate knowledge and the ability to apply responsibly a range of managerial, consumer and financial skills
   4 Entrepreneurial Knowledge and Skills - The learner will be able to develop entrepreneurial knowledge, skills and attitudes.

As with other learning areas, each of these learning outcomes is developed as students move from R to Grade 9 through increasingly complex and sophisticated assessment standards and knowledge framework. Examples of assessment standards for sample EMS Learning Outcomes are described in Table 9.

Table 9: Assessment Standards for Sample Economic and Management Sciences Learning Outcomes – South Africa			
Learning Outcome	**Sample Assessment Standards**		
	Grade R	**Grade 6**	**Grade 9**
LO1 - '… demonstrate knowledge and understanding of the economic cycle within the context of an economic problem'	The learner • Identifies own personal role in the home as a consumer • Explores and begins to understand the notions of bartering and money and its uses	The learner • Describes the roles of households, businesses and government in the economic cycle • Presents different flows of resources and services in the economic cycle (e.g. the flow of wages to households in exchange for labour; …)	The learner • Explains the different flows of money, factors of production, goods and services in the economic cycle within the South African economy • Discusses the effect of the national budget on the economy (e.g. taxation and expenditure on education, social welfare, health and security)
LO3 - '… demonstrate knowledge and the ability to apply responsibly a range of managerial, consumer and financial skills'	None	The learner • Understands and participates in the production process, from raw materials to final products, including waste products' • Explains the relationship between leadership and management in a business • Explains the concept of debt and compares the banking and savings facilities offered by different banks	The learner • Completes a basic income statement and balance sheet for a service and retail business • Investigates the public relations, social responsibility and environmental responsibility strategies of different businesses and organisations • Analyses financial statements for decision-making at a basic level • Differentiates between the forms of credit purchases … and explains and assesses • The use of different means of payment in the economy • The advantages of cash purchases

LO4 - '… develop entrepreneurial knowledge, skills and attitudes'	None	The learner • Analyses personal strengths and weaknesses in becoming an entre-preneur • Identifies a variety of business opportunities within the community • Develops and implements a simple business plan for a trading or service business that could be operated from school or home	The learner • Generates, through SWOT analysis, possible business ideas to meet the need for manufactured goods and services • Develops a business plan (including a budget) for a manufacturing, service or tourism enterprise … • Conducts a marketing campaign to promote a product and discusses the self-selected advertising media

Of special note in these standards are:
• their (intentional or unintentional) consistency with theory and principles of child development as expressed, for example, in The Evolving Capacities on the Child (UNICEF and Save the Children Sweden, 2005);
• the extent to which the standards illustrate the concept of competency as 'a complex action system encom-passing cognitive skills, attitudes and other non-cognitive components' as noted earlier in this Study. For example, the achievement of the standard 'Conducts a marketing campaign to promote a product and discusses the self-selected advertising media' noted above requires learners to engage in a range of meta-cognitive, intrapersonal, interpersonal and positional competencies as noted by Tiana, 2004 (e.g. capacity to develop creative strategies fitting best one's personality; communication skills; empathy skills; .self-evaluation skills).

3.3.2 Life Orientation (LOr) as part of the broader area 'Life skills'

Time allocation: Foundation Phase   25% (as part of 'Life Skills')

Intermediate Phase   8%

Senior Phase   8 %

The explicit purpose of the LOr Learning Area is to equip learners for 'meaningful and successful living in a rapidly changing and transforming society'. (LAS, p. 4). Its aim is to integrate social, personal, intellectual, emotional and physical growth as 'part of an effort to create a democratic society, a productive economy and an improved quality of life'. Its central theme is the concept of 'self-in-society' with the following five Learning Outcomes:

1 Health Promotion - The learner will be able to make informed decisions regarding personal, community and environmental health
2 Social Development - The learner will be able to demonstrate an understanding of and commitment to constitutional rights and responsibilities, and to show an understanding of diverse cultures and religions.
3 Personal Development - The learner will be able to use acquired life skills to achieve and extend personal potential to respond effectively to challenges in his or her world.
4 Physical Development and Movement - The learner will be able to demonstrate an understanding of, and participate in activities that promote movement and physical development.
5 Orientation to the World of Work - The learner will be able to make informed decisions about further study and career choices.

Learning Outcomes 1 to 4 apply across all grades (R-9) while Learning Outcome 5 is introduced in the Senior Phase (Grades 7-9).

Through its focus on health, social and personal development, LOr is able to provide a wide range of life competencies and skills to students appropriate to their age and stage of development. These competencies range from those dealing with self image and personal strengths and weaknesses, to identifying and explaining stereotype, discrimination and bias, and to describing and selecting a range of problem-solving skills for different contexts.

The LAS also specifies a range of learning competencies and skills, such as
• applies appropriate study skills (grade 4)
• develops and implements a personalised study method (grade 5)
• critically evaluates own study skill strategies (grade 7).

The Learning Outcome 'Orientation to the world of work' is introduced in Grade 7, and is expressed in assessment standards sampled in Table 4.

Table 10: Assessment Standards for sample Life Orientation learning outcome 5 (South Africa)			
Learning Outcome	**Sample Assessment Standards**		
	Grade 7	**Grade 8**	**Grade 9**
LO5 - '… make informed decisions about further study and career choices'	The learner • Discusses interests and abilities related to career and study options • Reports on an initiated or simulated career-related activity	The learner • Identifies and discusses career and study choices and their corresponding requirements • Discusses the role of work in relation to needs in South Africa	The learner • Researches study and career funding providers • Discusses rights and responsibilities in the workplace • Outlines a plan for own lifelong learning

This Learning Area is clearly focused on the development of competencies and skills related to life, learning and work in a consistent fashion.

3.3.3 Social Sciences[18]
(examples of statements illustrating their contribution to preparation for life and work through the development of generic and thinking skills)

Time allocation: Foundation Phase   25% (as part of 'Life Skills')
                  Intermediate Phase   12%
                  Senior Phase   12 %

The learning area Social Sciences in the South African curriculum consists of History and Geography, which are presented as 'separate but linked disciplines' (Social Sciences p. 5). History and Geography each have three specified learning outcomes which apply across all grades:

History
1 Historical Enquiry - The learner will be able to use enquiry skills to investigate the past and present.
2 Historical Knowledge and Understanding - The learner will be able to demonstrate historical knowledge and understanding
3 Historical Interpretation - The learner will be able to interpret aspects of history.

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18 Note: Social Sciences is included as an example of a competencies- and skills-based approach to subjects traditionally categorised as general or academic. Such subjects can contribute in specific ways to the development of competencies for life and work, for instance by encouraging the development in learners of higher-order intellectual skills, and of social, emotional and personal skills.

Geography

1 Geographical Enquiry - The learner will be able to use enquiry skills to investigate geographical and environmental concepts and processes

2 Geographical Knowledge and Understanding - The learner will be able to demonstrate geographical and environmental knowledge and understanding

3 Exploring Issues - The learner will be able to make informed decisions about social and environmental issues and problems.

Each of these learning outcomes is developed as students move from R to Grade 9 through increasingly complex and sophisticated assessment standards and knowledge framework. Examples of assessment standards for sample Social Science Learning Outcomes are described in Table 5.

Table 11: Assessment Standards for sample Social Science learning Outcomes (South Africa)			
Learning Outcome	Sample Assessment Standards		
	Grade R	Grade 6	Grade 9
History LO1 - '…use enquiry skills to investigate the past and present'	The learner • Answers simple questions about stories of the past (answers the question) • Retells stories about the past, with guidance writes short sentences about the past, draws pictures, makes models and acts (communicates the answer)	The learner • Identifies sources to help answer the question about the topic • Selects and records relevant information for specific purposes from a variety of sources • Arranges information logically and chronologically • Communicates historical knowledge and understanding by discussion and guided debate, through structured writing, by using graphs, tables…	The learner • Investigates a topic by asking key questions and identifies a variety of relevant sources to explore this topic (finds sources) • Analyses the information in the sources (works with sources) • Presents an independent line of argument in answering questions posed, and justifies (using evidence) the conclusions reached (answers the question) • Communicates knowledge and understanding by constructing own interpretation and argument based on the historical sources …; uses information technology where available and appropriate (communicates the answer)

Geography LO3 - '...make informed decisions about social and environmental issues and problems'	None	The learner	The learner
		• Identifies inequalities within and between societies (identifies the issue)	• Identifies social and environmental conflicts in South Africa and compares with other contexts (identifies the issue)
		• Analyses some of the factors that leas toward social and environmental inequality at different geographical scales and in different places (factors affecting the issue)	• Identifies factors affecting selected social and environmental disputes … (factors affecting the issue)
		• Evaluates actions that lead to the sharing of resources and reducing poverty in a particular context (makes decisions)	• Analyses the causes of disputes or conflicts (makes choices)
			• Makes informed decisions about various solutions to social and environmental conflicts (makes choices)

4 Analysis of non-formal or extra-curricular programmes
– None available to the study –

5 Summary and conclusions
The adoption of a new Constitution in South Africa and the National Education Policy Act in 1996 provided the country with an opportunity for 'curriculum transformation and development' based on a new set of national values and for dealing with a new set of national issues. A series of integrated and consistent laws and documents cascading from the Constitution (Lifelong Learning through National Curriculum Framework, 1996; National Education Policy Act, 1996; Statement of the National Curriculum for Grades R-9, 1997 and subsequent review; Manifesto on Values, Education and Democracy, 2001) have resulted in a basic education curriculum that is
• consistent with South Africa's vision and national goals,
• outcomes-focused, with prominent and consistent attention given to real life skills and competencies in a range of domains,
• accessible and clear.

The overall approach of clearly articulating the type of person, community member, citizen and worker that the education system should produce has successfully guided the production of a set of learning outcomes and assessment standards, as well as the development of highly relevant curriculum structure and individual learning areas to meet the needs of the country. The curriculum clearly concentrates on providing a broad set of learning experiences to students that will equip them for life in 21st century South Africa and a 21st century world. The decision to defer profession-specific education and training to the upper secondary years reflects the country's economic and social circumstances.

Case study B - Botswana

Features of the Basic Education Curriculum of Botswana:

• Ten years of basic education (7 lower and upper primary + 3 lower/junior secondary)

• All five clearly defined components of Basic Education focus explicitly on the development of competencies and skills related to life and work

• Curriculum Framework contains aims that relate directly to students' futures as individuals, community members and citizens, and address cross-cutting themes such as environmental sustainability

• Syllabuses consistently support the competencies and skills-oriented approaches of the Curriculum Framework

• Industry-specific subject (Agriculture) introduced in upper primary (standard 5) to reflect local economic circumstances

• Some professional subjects available as practical options in junior secondary (9-10)

• Curricula make references to ICT in support of learning

1 Source Documents
• Curriculum Framework: Blueprint - Primary (undated)
• Curriculum Programmes (undated)
• Curriculum Development and Evaluation / Curriculum Programmes - Syllabuses (undated)
• Lower Primary, Upper Primary and Junior Secondary syllabuses (undated)

2 Curriculum Policy and Structure

2.1 Structure of Basic Education

Basic education in Botswana lasts ten years and is divided into Primary (seven years) and Junior (Lower) Secondary (three years). The Primary Programme is further divided into two levels of learning - lower primary (Standards 1-4) and upper primary (Standards 5-7).

2.2 Curriculum Philosophy and Overall Approach

In its document, Curriculum Programmes, the MoE describes its primary programme as emphasising the acquisition and application of 'foundation skills', particularly 'communication, literacy and numeracy skills, the development of an awareness of the interrelationship between Science, Technology and Society and the acquisition of desirable skills and attributes'.

The components of Botswana's Basic Education are listed in its Curriculum Framework as

a. Foundation skills 'applicable to work situations, such as decision-making and problem-solving, self-presentation, team-work and computing', developed through 'cross-curricular approaches' and attention to processes as well as content

b. The vocational orientation of academic subjects which are to be 'taught in such a way that they are related to the world of work' and, where appropriate, applied to 'various jobs' that will be available to students on completion of basic education

c. Practical subjects to enhance students' understanding and appreciation of technology, as well as developing manipulative skills and familiarity with tools, equipment and materials

d. Readiness for the world of work through both curricular (through, for example, the study of the subject Commerce) and co-curricular (such as structured visits to companies and simulated work or business activities.

e. Careers Guidance to assist them in identifying their own capacities and interests as well as understanding the labour market.

The general approach of Botswana's Basic Education curriculum is therefore very strongly focused on the development of generic life and work competencies and skills through a range of curriculum design strategies. Botswana's aims and objectives for Basic Education are founded firmly on a base of competency and skills development within a framework of personal growth and personal and social responsibility.

2.3 Subjects / Learning Areas

The subjects taught in the Basic Education of Botswana are summarised in Table 12. The subjects in the Lower Primary level (standards 1-4) are broad and integrated (for example, Creative and Performing Arts contains the elements of Music, Physical Education, Design, Art and Craft) but they become increasingly more specific in the Upper Primary and Junior Secondary levels.

Table 12: Subjects comprising Basic Education by level - Botswana						
Primary		**Junior Secondary**				
Lower (1-4)	Upper (5-7)	Core	**Practical**		**General**	
			A	B	A	B
Setswana	Setswana	Setswana				Third Language
English	English	English				
Mathematics	Mathematics	Mathematics				
Cultural Studies	Religious and Moral	Moral Education				Religious Education
	Social Studies	Social Studies	Business Studies	Home Economics		
Environmental Sciences	Science	Integrated Science				
	Agriculture	Agriculture				
Creative and Performing Arts		Design and Technology			Music	
					Art	
					Physical Education	

With regard to time allocations, considerable flexibility is afforded to schools in the primary levels - 'To allow for provision of full experiences, schools will have to work out suitable timetables based on the current length of the school day. The number of periods per week in Junior Secondary is prescribed in Table 7, which reflects a general requirement for 'the weighting among core subjects, optional subjects and Guidance and Counselling will approximately be 78%, 20% and 2% respectively' (Curriculum Framework, p. 10).

Table 13: Number of Periods per subject per week, Junior Secondary – Botswana		
	NUMBER OF PERIODS PER WEEK	
SUBJECT	40 X 40	45 X 35
Core Subjects		
Moral Education	2	2
English	5	5
Social Studies	4	4
Mathematics	5	5
Integrated Science	5	5
Design and Technology	4	5
Agriculture	4	5
Setswana	4	4
Electives		
Practical Subjects	2	3
General Subjects	2	3
Third Option	2	3
Guidance & Counselling	1	1
TOTAL	40	45

One section of the Botswana Basic Education Curriculum Framework is devoted to 'Attainment Targets' (which might equate to 'outcomes' in other contexts) in each subject at each level.

In the lower primary, there is a focus on the development of foundation knowledge and competencies (such as those related to literacy and numeracy). In upper secondary there is a more identifiable expectation of outcomes-related work and life by the inclusion of such subjects as Agriculture as a discrete subject, as well as the clearer elaboration of these outcomes in many subjects through individual Attainment Target descriptors.

In Junior Secondary this trend is even more clearly apparent with the inclusion of Design and Technology as a core subject, Home Economics, Business Studies and a Third Language as optional subjects and a programmed co-curricular activity. The purpose of this latter activity is 'to provide an opportunity for practical skills (sic) development and relating education to the world of work' (Curriculum Framework, p. 11). In addition, at least seven of the fifteen aims of education for Junior Secondary can be construed as directly relating to competencies for work, while all promote practical competencies and skills for everyday life, and Guidance and Counselling, aimed at promoting a range of life skills, is included in the formal learning programme.

3 Subject Syllabuses

3.1 Structure of Syllabuses

Each subject syllabus in Botswana contains the following sections:

• Introduction
• Rationale
• Aims
• Organisation of the Syllabus
• Assessment Procedures
• Attainment Targets
• Organisation of the Syllabus and
• Assessment Procedures
• Modules (Thematic units).

The majority of syllabuses also contain a section which provides advice on teaching methodology relevant to the subject, and some provide guidance regarding time allocation at particular levels.

3.2 Content of the Syllabuses

The syllabus contents demonstrate a very high level of consistency in tone and message with the competencies and skills focus and the practical and work orientations of the Curriculum Framework. Some examples to illustrate this point are contained in Table 14.

Table 14: Sample statements illustrating consistency of syllabuses with policy statements – Botswana			
Level	Syllabus	Section	Reference
Upper Primary	Science	Rationale	The acquisition of scientific knowledge enhances the learner's ability to make associations and generalisations about life, thus enabling the learner to adapt to various life situations
Upper Primary	Social Science	Aims	• Develop critical thinking, problem solving, interpersonal and inquiry skills • Develop skills for accessing and processing of information for using information technology
Junior Secondary	Art	Aims	• Acquired knowledge, skills and attitudes about art-related industry • Developed their skills and abilities in critical thinking and problem solving, as well as showing initiative and resourcefulness
Junior Secondary	Moral Education	Aims	• Develop analytical (research) skills on contemporary moral issues • Accept their identity, recognise personal talents, by developing them for use in the work place and in the community
Lower Primary	Mathematic	Rationale	(Mathematics) empowers learners to make associations and generalisations, which are important … in the operation of industry and business
Lower Primary	English	Methodologies	Some examples of contexts (sic) (for realising syllabus objectives) are • The world of work - occupations, helping others, providing services, commerce • Inquiry - curiosity, comparing, discovery, inventing, problem-solving.

In addition to these general statements of approach and intent, each module in each syllabus contains General and Specific Objectives expressed as statements commencing with 'Students should be able to:…'. Each statement therefore commences with an active verb (such as explain, identify, use, describe, etc.) which itself indicates an expectation that students will develop competencies and skills and be able to apply them to a range of situations.

3.3 Sample Subjects

3.3.1Business Studies (Junior Secondary)

Time allocation: 105 minutes per week

Business Studies was recommended as part of the Junior Secondary curriculum in Botswana as early as 1977 and in 1994 the Revised National Policy on Education recommended that Commerce, Bookkeeping / Accounting and Office Skills be incorporated. The stated purposes for the inclusion of these competency and skill based are 'to lay a foundation for the study of the subjects at a higher level and to prepare students for the world of work' (Business Studies Syllabus Introduction, p. i).

In essence, Business Studies is a learning Area comprising three subjects
• Commerce
• Bookkeeping / Accountancy
• Office Skills.

The first part of the course (for Form 1 or Standard 8) is a core component studied by all students and prepares them for the specialisation in Forms 2 and 3 (or Standards 9 and 10) when they select either
• Commerce and Office Procedures or
• Commerce and Bookkeeping /Accountancy.

The rationale for the syllabus reiterates the practical nature of the subject and that 'the subjects aim at providing students with usable skills such as critical evaluation, logical thinking and working habits, positive attitudes to work and a sense of leadership', and 'contribute to their development as informed consumers and producers'. As a result of studying the learning area, students will better understand 'the point of views of labour, enterprise and government and so fit them into the world of work'. The statement of aims for the syllabus strongly reinforces this intention.

It is clear, therefore, that this is a subject focusing directly on competencies and skills relevant to the workplace, however, within the specific context of learners (i.e. their societal environment, community, natural environment). The specific inclusion of continuous assessment reiterates the focus on competency and skill development over the duration of the courses.

The introduction to the syllabus claims that it contains twelve themes or modules although only ten were contained in the document available to this Study:

1. General to Commerce
2. Introduction to Bookkeeping / Accountancy
3. Introduction to Office Procedures
4. Office Machines, Equipment and Keyboarding
5. Mini-Enterprise
6. Systems and Procedures
7. Recording of Business Transactions
8. Finance
9. Final Accounts and Bank Reconciliation Statements
10. Computer Application in Accounting

These modules are arranged in a number of prescribed patterns to reflect the options within the course structure over standards 8-10 as described above.

As with all syllabuses, a range of General and Specific objectives elaborate the learning expected from the study of each module. A sample of objectives is provided in Table 15 to illustrate
• the focus on competencies and skills and
• the increasing complexity and sophistication of the objectives over standards 8 to 10.

Of particular interest in the context of this Study is Module 5 - Mini-Enterprise. This module takes up a substantial proportion of class time and requires students to apply the knowledge and skills learned in other modules in practice in an extended, simulated business activity. The module takes a practical, work-related approach and has a practical content that requires the demonstration of a broad range of work-related competencies and skills.

3.3.2 Agriculture (Upper Primary)

50% of Botswana's population lives in rural areas where agriculture plays a major economic role. The Agriculture syllabus aims to ensure that attitudes to agriculture change and that in future agriculture will be viewed more as a business. Consistent with the Curriculum Framework, and as with other subjects in the curriculum, students learn a range of practical competencies and skills - 'manipulative, problem-solving, experimenting, investigating and record-keeping' - and a sense of responsibility in using agricultural equipment. This approach to competencies and skills is consistently reflected in the subject's statement of aims and achievement targets through such references as

- '... knowledge, skills and understanding of basic concepts such as measuring, observation and record keeping' (Aim 5)
- '... skills in the correct use, storage, handling and servicing of commonly used farm tools and equipment' (Aim 7)
- '... basic skills in cultivation and animal rearing' (Attainment Target 8)
- '... inquiry, problem solving and critical thinking skills' (Attainment Target 9)

The syllabus content is organised around four topics:

1. General Agriculture
2. Soils
3. Crop Husbandry
4. Animal Husbandry.

Students are expected to achieve increasingly complex outcomes as they move through standards 5 to 7. This progression is illustrated in the sample syllabus statements in Table 16.

Table 16: General and specific objectives, Upper Primary Agriculture - Botswana		
Standard 5 Students should be able to	**Standard 6**	**Standard 7** NA
Module: 2 Soil		
Understand the concepts of soil fertility and fertilisers • Explain soil fertility • Differentiate between organic and inorganic fertilisers • Demonstrate the proper application of processes of organic and inorganic fertilisers	Know different types of soils and their textures • Explain soil texture • Determine the types of soil texture • Identify clay, loam and sandy soils	Acquire knowledge and understanding on soil erosion and measures undertaken to conserve the soil • Identify at least three signs of soil erosion • Explain causes of soil erosion • Demonstrate the process of soil erosion
Module:		
3 Crop Husbandry	**3 Crop Husbandry**	**4 Animal Husbandry**
Develop skills in vegetable production • Explain at least three factors to consider when selecting a site • Prepare a plot • Demonstrate methods of planting	Develop practical skills in field crop production • Investigate problems faced by field crop growers • Carry out field crop management practices • Keep proper field crop production records	Apply the management practices involved in an animal production enterprise • Demonstrate proper animal production management practices • Suggest at least three general disease prevention and control measures • Demonstrate the marketing of the animal and its products

3.3.3 Environmental Science (Lower Primary)

As has been stated previously, the lower primary curriculum focuses largely on the development of 'foundation skills'. As a result, it would be expected that syllabuses would aim more to develop learning and life competencies and skills (categories A and B as defined for this Study) rather than those related to work and professions (categories C and D). This expectation is illustrated in the syllabus for lower primary Environmental Science.

The following modules comprise this syllabus and are studied in each of standards 1-4:

1. Our Surroundings
2. The Non Living Environment
3. The Living Environment
4. Health and Safety

Each of the modules also has a generally consistent set of topics within each module studied across each standard. Elaborating each topic are General and Specific Objectives which are expressed in terms of competencies and skills and which increase in complexity and sophistication as students move from standard 1 to standard 4. Examples of this progression are illustrated in Table 17.

Table 17: Samples of general and specific objectives, Lower Primary Science - Botswana			
Module	2 The Non Living Environment		
Topic	2.2 Natural Resources		
Standard 1	Standard 2	Standard 3	Standard 4
Students should be able to[19]			
Identify sources and uses of water • Identify sources of water • Observe water from different sources • State the uses of water at home • Demonstrate the uses of water at home • Appreciate that water is a limited resource and should not be wast	Keep water safe • Distinguish water from other clear liquids • Describe ways of saving water • State ways of storing water • Describe ways that can make water dirty • State ways in which water can be dangerous	Demonstrate proper care of water • Describe ways in which water can be polluted • Describe ways of disposing of dirty water • Make a soak pit • List ways of preventing water pollution • Investigate common water-borne diseases in the community • Describe symptoms of malaria and bilharzia	Demonstrate ways of making water safe to drink • Explain why water may be unsafe to drink • Demonstrate simple purification of water • Demonstrate individual responsibility in using water
Module	4 Health and Safety		
Topic	Safety		
Standard 1	Standard 2	Standard 3	Standard 4
Demonstrate personal safety • Practise proper handling of tools with sharp edges • Model how to safely cross a road • Identify service providers in the community	Describe potential hazards and safety procedures • Explain the need for safety rules at home, school and playground • Interpret meaning of common road signs • Classify road signs and markings using own criteria • Predict consequences of unsafe behaviour	Demonstrate safety procedures on the road and at home • Observe road signs and markings • Name departments and personnel that ensure safety • Identify and demonstrate proper handling and storage of hazardous household equipment, materials and substances	Match safety procedures to potential hazards • Discuss how accidents in the home and school can be prevented • Demonstrate how to handle accident victims with care to avoid HIV infection • Describe at least three examples of each of warning, regulatory and information signs • Discuss the causes, effects and ways of preventing road accidents

19 It should be noted that the General and Specific Objectives in this table are samples only

4 Analysis of non-formal or extra-curricular programmes
– None available to the Study –

5 Summary and conclusions
The Curriculum Blueprint documents in Botswana take an approach to curriculum and learning that is focused very clearly on students achieving practical life and work-related competencies and skills. Its 'basic education philosophy' is summarised in the following statement:

'(Quality basic education) promotes the all-round development of the individual; fosters intellectual growth and creativity; enables every citizen to achieve his/her full potential; develops moral, ethical and social values, cultural identity, self-esteem and good citizenship; prepares citizens to participate actively to further develop our democracy and prepares citizens for life in the 21st century.

... It incorporates a sound pre-vocational preparation through comprehensive knowledge and selected practical experience of the world of work; provides a foundation that enables individuals to cultivate manipulative ability, positive work attitudes, and make optimum choices for future careers.' (Curriculum Framework Blueprint, pp. 2-3).

This approach is sustained throughout all the syllabuses and other documents analysed as part of this Study. Botswana has developed a curriculum structure that balances the acquisition of knowledge with practical skills and takes a consistent approach to competencies as complex constructs involving a range of elements and processes.

The inclusion of Agriculture from Standard 5 as a compulsory subject for all students is a clear indication of the relevance of the agriculture industry to the current and future economic circumstances of Botswana and its relevance to the lives of large numbers of people, as well as the government's intention that it be presented to students as an area of business opportunity.

The five components of basic education as described in its curriculum framework provide further clear evidence of the life and work orientation of the curriculum for standards one to ten.

Case Study C - Mali

Features of the Basic Education Curriculum of Mali:

- Features of the Basic Education Curriculum of Mali:

- Nine years of basic education consisting of four levels (6 primary divided into 3 cycles/levels of two years each + 3 lower secondary)

- Basic education curriculum is developed in an integrated, competency- based approach. Competencies are the principal entry point for the curriculum. Subjects, although mentioned,, do not appear clearly as structural elements of the curriculum

- Syllabuses reflect the key competencies defined in the Curriculum Framework well

- Syllabuses of all the four levels of basic education integrate life and work competencies predominantly in five learning areas, but cross-cutting aspects are also being considered

- Practical activities can be found in the basic education curriculum, but the emphasis is placed almost entirely on traditional activities/occupations

- Emphasis is placed on remedial education

- The lower secondary curriculum (level 4) is still being developed but will have the same structure and learning areas as primary education (levels 1, 2 and 3).

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1 Source Documents

- Cadre général d'orientation du curriculum de l'enseignement fondamental du Mali (Juin 2002) [Curriculum Framework for Basic Education, June 2002]

- Curriculum de l'Enseignement Fondamental. Programme de formation Niveau 1 (Juin 2004) [Curriculum Framework for Basic Education - Education Programme Level 1, June 2004]

- Curriculum de l'Enseignement Fondamental. Programme de formation Niveau 2 (Janvier 2005) [Curriculum Framework for Basic Education - Education Programme Level 2, January 2005]

- Curriculum de l'Enseignement Fondamental. Programme de formation Niveau 3 (Décembre 2006) [Curriculum Framework for Basic Education - Education Programme Level 2, December 2006]

- Programme officiel du second cycle de l'enseignement fondamental (1990)- Ancien curriculum [Official Education Programme of the Second Cycle of Basic Education - 1990, previous curriculum]

2 Curriculum Policy and Structure

2.1. Structure of Basic Education

Basic Education in Mali, named "Enseignement Fondamental", comprises nine years articulated in four levels.

Level 1 (initiation): two years - 1st and 2nd degree

Level 2 (aptitude development): two years - 3rd and 4th degree

Level 3 (consolidation): two years- 5th and 6th degree

Level 4 (orientation): three years- 7th, 8th and 9th degree

Level 4 is considered as lower secondary education and an integral part of basic education.

The curricula for the first 3 levels are available and actually used in 2550 schools out of 9000 schools in Mali. The level 4 curriculum is being developed. The 1990 curriculum is currently used for grades 7, 8 and 9.

2.2. Curriculum Philosophy and Overall Approach
The Malian Curriculum Framework presents seven reasons justifying the orientation given to the new curriculum - historical, legislative, sociologic, socio-politic, socio-economic, socio-cultural, and psycho-pedagogical.

Regarding socio-economic justifications for developing a new curriculum, some clear reasons linked to life and work competencies are given in the document:

'Conditions in the labour market, the importance of education for the development of our nation and the challenges of sub-regional integration ask for young people to develop competencies, creativity and an entrepreneurial spirit. Schools should consequently cultivate a sense of autonomy, responsibility and the capacity to make effort, and, moreover the capacity of future agents of development and constructors of a democratic society to master working methods properly.' [20]

Four principles are proposed by the Curriculum Framework document for the development of the new curriculum:
1. Every child can succeed if means and time are given to him/her
2. The curriculum must support the autonomy of learners.
3. Interdisciplinarity
4. Competencies- based approach

The Curriculum Framework defines and describes three key competencies for the basic education curriculum:
1. Intellectual competencies
2. Personal and social competencies
3. Communication competencies

Finally, the learner profile for Basic Education defined in the Curriculum Framework envisages the acquisition of competencies for life and the preparation of young people for work:
• to prepare the learner for his/her insertion into working life by the acquisition of competencies of life
• to train the learner to know and practice the rights and responsibilities of an active member in a respectful democratic society based values and principles such as peace and human rights
• to prepare the learner to continue more advanced studies (general secondary or technical or professional education):

---

20 *'La restriction du marché de l'emploi, les exigences en matière d'éducation pour le développement national, le défi de l'intégration sous-régionale nécessitent une formation de la jeunesse axée sur l'acquisition des compétences, la stimulation de la créativité, de l'esprit d'entreprise. D'où l'impérieuse nécessité de cultiver à l'école le sens de l'autonomie, de la responsabilité, le goût de l'effort et par-dessus tout, la maîtrise de méthodes de travail par le futur agent de développement et bâtisseur d'une société démocratique' in Cadre Générale d'orientation du Curriculum de l'Enseignement Fondamental du Mali. Ministère de l'Education. Centre National de l'Education. Juin 2002. p.4 [General Orientation Framework of the Curriculum for Basic Education. National Education Centre. June 2002., p. 4]*

'The education programme is defined in compliance with the Profile of basic education graduates to be found in the General Orientation Framework of the Curriculum. The Education Programme should:
• prepare students to integrate active life based on acquiring life-related competencies;
• encourage students to know and practice the rights and obligations of an active member of a democratic society respectful of peace, human rights and citizenship;
• prepare students to pursue higher education stages (general secondary or technical or professional)'.

2.3. Subjects / Learning Areas
While competencies are widely considered as entry points for structuring the curriculum, they are further on grouped around specific learning areas and subjects, as shown below.

The curricular competency- based approach defined five learning areas:

Table 18: Learning areas and subjects in Basic Education – Mali	
Learning Areas	**Disciplines**
Languages and Communication	Mother tongues, French
Mathematics, sciences and technology	Mathematics, sciences and technology
Personal development	Civic, moral, physical and sports education
Arts	Music, dance, theatre, plastic arts, drawing, modelling, painting
Human sciences	History and geography

The learning areas and disciplines remain the same for the lower secondary education (level 4 of the new Basic Education structure). However, in level 4 (currently being developed), there will be two major changes in two learning areas:
1 Language and Communication: English or Arabic (according to the schools) will be added to mother tongues and French
2 Mathematics, science and technology: Technology will be divided into two "learning sub-areas": i) Computer science (basic concepts) and ii) Arts trades (leather working, etc.) - learning will be both theoretical and practical.

21 'Le programme de formation est bâti à partir du profil de sortie de l'Enseignement Fondamental défini dans le Cadre d'Orientation Générale du Curriculum. Il doit permettre de :
- préparer l'élève à son insertion dans la vie active par l'acquisition de compétences de vie
- d'entrainer l'apprenant à connaître et à pratiquer les prérogatives, les obligations d'un membre actif d'une société démocratique respectueuse de la paix, des droits de l'homme et du citoyen
- de préparer l'élève à poursuivre des études plus avancées (secondaires générales ou techniques ou professionnelles) ' in Curriculum de l'Enseignement Fondamental. Programme de formation. Niveau 1. Ministère de l'Education. Centre National de l'Education. Juin 2004. p.14 [Basic Education Curriculum. Education Preogramme Level 1. Ministry of Education. National Education Centre. June 2004]

For each learning area, the final competencies to be developed at the end of the basic education are clearly defined:

Table 19: Competencies to be developed by the end of the Basic Education – Mali	
Learning Areas	Disciplines
Languages and Communication	To communicate orally and in writing by taking into account the situation of the communication
Mathematics, science and technology	To solve problems of everyday life
Human sciences	To understand the world and to take part fully in the development of the country
Arts	Self-expression through artistic productions
Personal Development	To integrate harmoniously family and community life

Competencies are the main entry points for structuring the Basic Education curriculum which is in implementation process for levels 1, 2 and 3. Level 4 is actually still in making. As illustrated in some of the examples below, the learning objectives, contents, activities as well as assessment activities are defined in association with selected competencies. However, teachers may still find it difficult to select and organise learning activities at the classroom levels based on quite complicated statements in the syllabuses that resemble rather to a meta-curriculum discourse than to the practical guidance they need, and that can be usually found in syllabuses the world over.

Table 12: Subjects comprising Basic Education by level – Botswana							
Level	Working Minutes Week	Support And remedial activities	Languages and Communication	Maths, Science and Technology	Personal Development	Arts	Human Sciences
		Time in min/ week	Time in min/week	Time in min/week	Time in min/week	Time in min/ week	Time in min/week
1	1260	315	441	252	126	63	63
2	1380	345	414	345	138	69	69
3	1500	375	405	375	165	75	105
4	1620	405	486	405	162	81	81

Regarding the time allocation in Basic Education, around 25% of the weekly time is allocated to support and remedial activities. The time allocation is also flexible to permit the organisation of school and out- of- school projects and activities.

3 Subject Syllabuses

3.1. Structure of syllabuses

Each subject syllabus in Mali is organised to be pertinent, coherent and realistic. It contains the following sections:

• Introduction
• General principles
• Curriculum foundations
• General objectives of the level
• Progression of learning units
• Time tables
• Learning areas
• Competencies
• Learning Objectives
• Learning contents

Some of the syllabuses also present a box with transversal competencies to be developed within each learning unit.

3.2. Content of the Syllabuses

The syllabus contents are strongly linked to life and work competencies which are disseminated in the different disciplines. They contain three types of learning linked with different type of competencies:

'- subject-bound content linked with subject-bound competencies leading to the mastering of the content of one or more subjects;
• essential content linked with transversal competencies addressing several subject areas; and which are developed in relation to problem-solving approaches;
• content linked with life competencies addressing attitudes and behaviours essential for integrating life situations.'[22]

22 - des apprentissages disciplinaires liés aux compétences disciplinaires portant sur l'appropriation du contenu d'une ou de plusieurs disciplines ;
  - des apprentissages essentiels liés aux compétences transversales portant sur plusieurs domaines disciplinaires ; et qui se développent à partir de la résolution de situations problèmes.
  - des apprentissages liés aux compétences de vie portant sur des attitudes et des comportements essentiels pour s'adapter à la vie.'

Many practical activities can be found in the basic education curriculum: design and conception of simple objects, using instruments and manipulation, simple machines, maintenance of henhouses, etc. At the end of each learning unit, concrete projects are proposed as a means of reinforcing learning.

The domains of life experience ("domaines d'expérience de vie") in the curriculum are referred to as:
• Communication
• Health-nutrition
• Socio-economic activities
• Leadership
• Peace Culture, Human Rights and Democracy
• Gender
• Child protection
• Environment.

In addition, it is interesting to note some curriculum innovations:
• The curriculum adopts a functional bilingual model used in the so-called 'pedagogy of convergence' (pédagogie de la convergence) and utilises elements of learning units as supports and procedures
• Introduction of differentiated pedagogy (remedial action, accompaniment, etc)
• Integration of HIV/AIDS prevention into the programmes of all four levels.

In the new curriculum, students are promoted to the next level through an assessment conducted at the end of the preceding level.

3.3. The current curriculum of lower secondary education

The present curriculum of lower secondary education, called "second cycle de l'enseignement fondamental" in Mali, will be replaced by the new level 4 curriculum in which the principal curriculum organisers will also be learning areas and competencies rather than subjects and objectives.

The current curriculum is organised into twelve subjects:
- French: 6h/week
- History and Geography :   3h/ week
- English: 2h/ week
- Mathematics: 6h/ week
- Natural sciences: 2h/ week
- Physical sciences (Physics and Chemistry) :   1h/ week for Physics and
                                                   1h/ week for Chemistry
- Drawing: 1h/ week
- Music: 1h/ week
- Sports: 2h/ week
- Civic and Moral Education: 1h/ week
- Family Economics: 1h/ week
- Technology: 1h/ week

Each syllabus contains
- an official statements with regard to the subject nature, mission and scope
- specific objectives
- general objectives

3.4. Sample Subjects
3.4.1. Mathematics, science and technology (level 2)
Time allocation: 345 minutes per week

Mathematics, science and technology is a learning area which includes eight competencies:
- to read, write and communicate messages by using mathematic language and symbolism
- to solve life-related problems while using knowledge, capacities and skills acquired in mathematics
- to protect the environment
- to protect health
- to use instruments of everyday usage and some simple machines
- to use rationally various sources and forms of energy to improve the quality of life
- to make and repair objects

Learning objectives and learning contents are defined for each of these competencies.

Table 21: Example of Mathematics, Science and Technology at level 2 – Mali		
Competencies	**Learning Objectives**	**Learning contents**
to use rationally various sources and forms of energy to improve the quality of life	to use various types of "foyers améliorés" [improved ovens]	• different types of "foyers améliorés" • mode of use
to protect health	To develop a good alimentation hygiene	alimentation intoxications and poisoning prevention measures
	To prevent diseases of the "Programme Elargi de vaccination (PEV)"[24]	identification of the eight PEV diseases (diphtheria, measles, polio, tetanus, tuberculosis, whooping-cough, yellow fever, hepatitis B)

3.4.2. Arts (level 3)

Time allocation: 75 minutes per week

Arts is a learning area which includes four competencies:
• to interpret and create artistic productions
• to use bodily expression
• to share one's artistic experience
• to appreciate artistic productions

Table 22: Example of Arts at level 3 - Mali		
Competencies	Learning Objectives	Learning contents
to interpret and realize artistic productions	To create objects	• Working with different materials
	To classify music instruments	• identification of music instruments • classification of music instruments inside different families
to express ourselves with our body	To dramatize a text	• imitation • incarnation • roles interpretation
	To experience ownership of the cultural heritage	• execution of a local dance
to share our own artistic experience	To provide a dramatised account from own experience	• presentation of own artistic production • explication of different steps of realisation using appropriate vocabulary • exchanges around the artistic production
to appreciate artistic productions	To analyse an artistic production	• observation/ listening of an artistic production • identification and verification of the constitutive elements of the production
	To give a judgement on an artistic production	• utilisation of judgement register to appreciate (very good, good, bad, etc.)

3.4.3. Technology (Grade 7 in lower secondary education/current curriculum corresponding to level 4 of the new basic education structure for which a new curriculum is now in making):

Time allocation: 1 hour per week

Learning subjects: wood work, masonry, forging (metal), electricity, graphic ART / expression

General objectives:
- to train teenagers to improve their environment in an effective way and their living conditions by using an adapted technology
- to train teenagers to demonstrate aptitudes to master traditional and modern techniques of production in their environment (tools, machines, etc.)
- to train young people to integrate scientific knowledge in their daily lives harmoniously
- to develop the scientific curiosity and skills needed in scientific work
- to value manual work and to develop motor aptitudes

Examples of 'wood working' objectives and contents are:
- description of specific tools used in carpentry;
- construction of items for daily use with specific tools (simple benches, children's carts with two wheels).

3.4.4. Family Economy (Grade 7 in the lower secondary education/ current curriculum corresponding to level 4 of the new basic education structure for which a new curriculum is now in making):

Time allocation: 1 hour per week

Learning subjects: Food/Nutrition, child welfare, sewing/dressmaking and domestic economy.

General objective: to allow the learner to act for him/herself and improve his/her environment by the acquisition of practical and positive attitudes with the aim of developing a good individual and collective being

Example of sewing/dressmaking objectives and contents:
- Definition of sewing/dressmaking in one course (materials, tools and basic operations)
- Sewing points: in 3 courses
- Practical Application: in 3 courses: e.g. making a handkerchief or tablecloth

These examples illustrate that the current curriculum in lower secondary education provides life and work skills to the learners, although its structure is based on a different approach (objectives-based curriculum development: 'curriculum par objectifs') than the one of the new curriculum in making that is being developed from a competency-based perspective.

4 Analysis of non-formal or extra-curricular programs
- None available to the Study -

5 Summary and conclusions
The new curriculum in Mali for Levels 1 to 3 constitutes a radical change compared with the former curriculum. The latter, which is still being used in Level 4, successfully integrates competencies and skills into existing, traditional subjects. The new curriculum is intentionally and entirely competency-based in that the traditional curriculum 'organisers' (subjects) are not taken into account explicitly in the curriculum discourse, and teachers are required to focus entirely on organising learning around learning outcomes defined in terms of different types of competencies (though in daily school life 'subjects' may still be found as 'pragmatic organisers').

It is not within the scope of this Study to evaluate the success or appropriateness of this model. However, the introduction of an approach that is so different to the former curriculum and which requires enhanced professional skills and knowledge on the part of teachers must logically be accompanied by extensive teacher training and development as well as significantly revised support materials. It would be expected that teaching guidelines will be provided to help teachers organise learning in effective ways, or that significant training opportunities would be given to teachers to enable the development of such resources at the school level.

It would be also recommendable that comprehensive evaluations of such new approaches be conducted as soon as possible.

Case study D - Congo

Feature of the Basic Education Curriculum of Congo:

• Ten years of basic education (6 primary + 4 lower secondary)

• Basic education syllabuses are clearly structured around objectives

• Several subjects have new names indicating a broader scope with regard to preparation for life and work

• Primary Education and Lower Secondary Education syllabuses contain life and work skills. Primary syllabuses put more emphasis on life and work skills than the lower secondary ones

• Emphasis is put also on personal development

• Lower Secondary Education prepares essentially for the continuation of studies in upper grades

• There are no Industry-specific subjects in Primary education and lower secondary education. Vocational schools and industry-specific training centres at lower secondary education level exist and provide work skills only for workers and qualified employees

1 Source Documents

- Programmes de l'Enseignement Primaire (2006) [Syllabuses for Primary Education]
- Programmes des Collèges d'Enseignement Général (2002) [Syllabuses for Lower Secondary Education]
- Manuel de l'élève du Cours Elémentaire (2006) [Textbook for the elementary level]
- Manuel de l'élève du Cours Moyen (2006) [Textbook for the middle level]

2 Curriculum Policy and Structure

2.1. Structure of Basic Education

Basic Education in Congo comprises of ten years divided into:

- Primary Education (6 years)
- Lower Secondary Education, called "premier cycle de l'enseignement secondaire general", (4 years)
  [First cycle of Lower Secondary]

The six years of Primary Education and the four years of the Lower Secondary Education Cycle are both certificated through a final examination.

According to the Constitution of the Republic of Congo[25] in article 23, the compulsory school attendance takes until 16 years of age.

2.2. Curriculum Philosophy and Overall Approach

In the General Presentation of Primary Education Syllabuses, three main principles are presented as main orientations for the teaching and learning of primary subjects:

- The development of learners as persons, embedding the development of their intellectual, logical and critical, artistic, moral and physical capacities
- The training of learners to become responsible, constructive and peaceful citizens
- The development of general aptitudes to prepare for socio-economic life which ought not to be confused with forms of prevocational training:

'The primary Congolese school aims to allow students to pursue their studies in lower secondary education, but to also integrate directly active life (…) Primary education is guided by three main aims:

- 'whole-person' development (intellectual skills, logical and critical thinking, artistic, morale and physical capacities)
- Development of a responsible and peaceful citizenry
- General skills allowing for socioeconomic integration which are not to be confounded with an early professional training.
- Schools should not anymore just transmit knowledge without catering for life preparation.'[26]

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25 Constitution de la République du Congo. 2002 [Constitution of Congo]

26 L'école primaire congolaise doit permettre aux élèves de poursuivre leur scolarité au collège, mais aussi de s'insérer directement dans la vie active (…) Trois grandes finalités orientent les programmes de l'EP :
  • le plein développement de la personne humaine, de ses aptitudes intellectuelles, logiques et critiques, artistiques, morales et physiques
  • la formation à une citoyenneté responsable et pacifique
  • les aptitudes générales à l'insertion socioéconomique qui ne seront pas confondues avec une formation professionnelle prématurée. L'école ne doit plus dispenser des savoirs sans grand intérêt pour réussir sa vie (…). ' in Programmes de l'Enseignement Primaire. Ministère de l'Enseignement Primaire et Secondaire chargé de l'Alphabétisation. Institut National de Recherche et d'Action Pédagogique. 2006. p.6 [Programme of Primary Education. Ministry of Primary and Secondary Education in charge with Literacy. National Institute for Pedagogical Research and Action. 2006. p. 6]

The primary education general objectives are clearly expressed in the Primary school syllabuses: CP (Preparatory Class 1 and 2) and CE1 (Elementary Class): the cycle of basic acquisitions consists of the acquisition of reading, the basis of oral and written expression, calculation/numeracy and the development of the psychomotor and aesthetic capacities.

CE2 (Elementary Class) to CM2 (Middle Class): the cycle of consolidation aims to the reinforcement and the development of basic knowledge in mathematics, French, natural sciences and civic and moral education. It also includes artistic education, in particular drawing, music, bodily expression and technical agricultural education.

New subjects have also been introduced in the curriculum: observation and activities, family education, civic and moral education, peace education, initiation to production.

The lower secondary education, called 'premier cycle de l'enseignement secondaire général' aims to widen and deepen the general training given to students in primary education in order to enhance the acquisition of theoretical and practical knowledge and skills necessary for the continuation of studies.

In the first cycle of general secondary education some colleges of technical education function aiming to train workers and qualified employees. Practical trainings related to professional skills are linked to the resolution of practical problems.

2.3. Disciplines and Time Allocations
Disciplines in the 3 first years of primary education are mainly concentrated on the development of basic competencies.

'Personal development' has been recently introduced as a subject in primary schools with a view to encourage learners' curiosity and prepare them for the consolidation cycle (3 last years of primary education). The subjects of upper primary education (last 3 years of primary schools) are more focused on the development of competencies and capacities directly linked with life and work needs, such as 'Initiation to production and cooperative projects' and 'Family Education'.

In Lower Secondary Education, the subjects are refocused on general competencies to improve the theoretical and practical knowledge necessary for the continuation of studies in, for example, university (higher education/ tertiary level).

After the first six years of primary education, many subjects disappear at the lower secondary level: for example, Initiation to production and cooperative projects, Family Education, Health Education, Artistic Education, Peace Education.

Table 23: Subjects in Primary and Lower Secondary Education27			
Subjects	Primary Education (6 years)		Lower Secondary Education (4 years)
	CP to CE1 (basic acquisitions cycle)	CE2 to CM2 (consolidation cycle)	
Personal development			
French			
Mathematics			
Health Education			
Sports			
Civic and Moral Education, Peace Education			
Artistic Education			
History			
Geography			
Sciences and Technology			
Initiation to Production and Cooperative Projects			
Family Education			
English			
Natural Sciences (Physics, Chemistry)			
Natural Sciences			
(Biology, Geography, Ecology)			
Drawing			
Music			

Learning areas/Subjects	Sub-subjects	Primary Education (6 years)			
		CP1 and CP2	CE1	CE2	CM1 and CM2
Observation and awakening activities		1h20	1h20		
French	Poesy	40mn	1h		
	Reading	10h			
	Reading-Comprehension		3h	3h	3h
	Reading-Communication		2h30	2h	30mn
	Language	6h40			
	Writing/Spelling	1h40	30mn	40mn	20mn
	Oral expression		30mn	30mn	30mn
	Writing expression		1h	30mn	1h
	Grammar		1h	1h	1h20
	Reading games		20mn	20mn	40mn
	Orthography/Grammar		1h	30mn	30mn
	Usage of Orthography		1h	30mn	30mn
	Vocabulary		1h	1h	1h
	Conjugation			50mn	30mn
	Student portfolio		30mn	30mn	30mn
Mathematics		4h10	5h	5h	5h
Health Education		30mn	35mn	30mn	30mn
Sports		30mn	1h		1h
Civic and Moral Education, Peace Education		30mn	1h		1h
Artistic Education	Plastic Arts	30mn	1h	1h	45mn
	Music	30mn	1h	1h	45mn
History				1h	1h20
Geography				1h	1h20
Sciences and Technology				1h40	2h
Initiation to Production and Cooperative Projects				1h30	1h30
Family Education				1h	1h
English					
Natural Sciences (Physics and Chemistry)					
Natural Sciences (Biology, Geography, Ecology)					
Drawing					
Music					
Break		2h30 or 3h	3h	3h	3h
TOTAL		30h	28h. 1h45 for support and re-medial activities	30h	30h

Table 24: Time allocations in Primary Education – Congo

30 hours per week in primary schools

28 hours per week in lower secondary education

3. Subject Syllabuses

3.1. Structure of syllabuses

In primary and lower secondary education syllabuses for each subject and grade provide the following information:

• learner profile

• general objectives

• specific objectives

• learning contents

Table 25: Example of 'Initiation to Production', primary education syllabus – Congo				
Subject	**Learner profile**	**General Objective**	**Specific Objective**	**Learning Contents**
Initiation to Production and Cooperative Projects ("Cours Moyen"/Middle course)	The learner must be able to cooperate with others effectively in the context of an economic project	To conduct a project	• to elaborate and design a project • to implement a project in the context of specific economic activities	**Elaboration of a project** • Definition of objective, list of tools and materials, tasks repartition, activities planning, budget previsions **Implementation of a project** • Execution of tasks according to plans, follow-up of activities, evaluation of activities Respect of specific procedures

3.2. Content of the Syllabuses

The syllabus contents are linked with life and work competencies, especially in primary education, and some innovations in the new syllabuses should be noted:

Widening / re-definition of some subjects:
• Health Education instead of Hygiene and health.
• Civic, Moral education and Peace Education, instead of 'Military instruction'.
• Artistic Education includes visual arts and music, instead of only Drawing and Song.

Introduction of new subjects:
• Initiation to Production and Cooperative Projects
• Family Education
• Integration of HIV/AIDS education in all basic education grades in the 'Health Education' subject.

3.3. Sample Subjects

3.3.1 Health Education (Primary Education)

Time allocation: 30 to 35 minutes per week

Health Education is a subject which addresses different objectives for each grade. As illustrated in the table below, these objectives (and the learning contents linked with each of them) provide life skills useful in every day life.

Table 26: Samples of general objectives in Health Education (Primary stage) – Congo	
Grade	**General objectives**
CP1	1. to practice corporal hygiene
	2. to care for clean clothes, shoes and avoid bad hygiene
	3. to promote nutritional hygiene rules
	4. to prevent diseases
	5. to promote cleaning actions in local environments
CP2	1.to care for clean clothes, shoes and overall hygiene practices
	2. to promote nutritional hygiene rules
	3. to promote cleaning actions in local environments
	4. to prevent diseases
CE1	1. to understand the importance of hygiene
	2. to be aware of the consequences of pollution for human life
	3. to prevent diseases
	4. to prevent accidents
	5. to help an injured person
CE2	1. to understand the importance of nutritional hygiene
	2. to undertake actions against pollution in local environments
	3. to prevent child diseases
	4. to help an injured person
CM1	1. to be aware of auto-medication dangers
	2. to be aware of sexual problems
	3. to practice first aid
CM2	1. to understand the functioning of machines and the importance of maintenance
	2. to acquire information on reproductive health
	3. to prevent tobacco, alcohol and drug consummation

Learning contents and specific objectives are also clearly defined and give a global idea of the type of skills developed in primary education.

Table 27: Example of Health Education objectives and learning contents in Primary Education – Congo				
Grade	Learner profile	General Objective	Specific Objective	Learning Contents
Primary : CM1	The learner must be able to : • become aware of health problems • understand the role of individuals in protecting their own health • be familiarized with real life problems • take rational decisions	To practice first aid	possible sources, types and consequences of accidents • to manifest precaution • to master first aid techniques	**Accidents:** Drowning, electrocution, asphyxiation, intoxication, loss of consciousness, bite **Execution of first aid techniques and/or precaution measures:** • mouth to mouth venti-lation and/or mouth to nose ventilation: in the case of asphyxiation • compressive bandage: in the case of haemor-rhage, • wound treatment: in the case of wounds • transportation of victims: in the case of bone fracture or serious-ly injured persons

3.3.2 Natural Sciences (Lower Secondary Education)

Time allocation: 2 hours per week

The new lower secondary education syllabuses in Natural Sciences are also structured by objectives. They mention general objectives for each grade, traduced afterwards into specific objectives.

These general and specific objectives cater for three main types of learning : i) to know; ii) to know how to do; iii) to know how to be..

The Natural Sciences subject presents different modules in biological and geological sciences and demonstrate a progression from one grade to another. For example in Grade 6 of lower secondary education, the modules (thematic units) are: botanic, zoology, ecology and geology.

Table 28: Objectives and contents (Natural Sciences) - Congo			
Learning units	**General objective**	**Specific objective**	**Learning contents**
Botanic	To understand the general organisation and the reproduction of flower plants	• to describe the vegetative system • to define pollination, fecundation, germination • to classify flower plants	• vegetative system : root, stem, sheet • reproductive system : sterile organs, male reproductive organs, female reproductive organs • definition of pollination, • different pollination • definition of fecundation, results of fecundation • definition of germination

In lower secondary education, there is more emphasis on knowledge outcomes in various subjects than practical skills, especially those for life and work.

4 Analysis of non-formal or extra-curricular programmes
During the political transition (1997 to 2002), a government department was especially created to redeploy and reintegrate youth. For this reason, private sector workplaces were identified where opportunities for training were created in different occupations: plumbing and sanitary installations, masonry, hotel trade, electricity, mechanics, metals, etc. The intention was to provide vocational training opportunities to those excluded from schools, through literacy and other non formal education programmes. This response to the specific needs of youth and adults provided knowledge and competencies for life and work.

Given the limited scope of the present Study, no in-depth analysis of such specific non formal training programmes was possible.

5 Summary and conclusions
Basic education syllabuses in Congo are clearly structured around objectives focusing merely on knowledge aspects. Somewhat unusually for such a curriculum model privileging academic/theoretic learning, Primary Education and Lower Secondary Education syllabuses contain life and work skills (e.g. personal development, health; nutrition, family life), and primary level syllabuses put more importance on life and work skills than lower secondary. Lower Secondary Education contains little reference to competencies and skills and aims to prepare students essentially for the continuation of studies in upper grades.

There are no Industry-specific subjects in either primary or lower secondary education. Vocational schools and industry-specific training centres at lower secondary education level exist and provide work skills only for workers and qualified employees.

4.2 Other Reference Country Studies

The commonly-envisaged structure for analysing the curriculum of other reference countries slightly differs from the one used for the comprehensive case studies. It consists (with some slight differences from country to country) of following sections:

General Country Overview (Textbox)
1. Reference Documents
2. Basic Education Model and Structure
3. Curriculum Model and Subjects in Basic Education
4. Approaches to Development of Competencies and Skills
    (4.1 Rationales; 4.2 'Carrier-subjects'; 4.3 Cross-cutting approaches)
5. Summary

Reference country study A - Angola

> **Features of the Basic Education Curriculum of Angola:**
> - Basic education in Angola currently comprises eight years (four years of primary school and four years of lower secondary school). However, the Education Act of 2001 (Lei 13/01 de 31 Dezembro) introduced a new 6+3+3/4 education structure meaning that primary education expands from 4 to 6 years, and lower secondary is reduced from 4 to 3 years (with basic education comprising a total of 9 years). The new education structure was implemented at the system level starting with 2006, after two years of experimentation. Only the first two grades of primary education are therefore affected to date by the new reform.
> - Given the high level of illiteracy in the country, adult education (Educação de adultos - Alfabetização) is part of the education system along with the so-called 'regular' classes (Educação regular).
> - The new Curriculum Frameworks for Primary (2005) and Lower Secondary Education (2005) emphasise an outcomes-based approach around three main categories of competencies: Saber (to know); Saber-fazer (to do) and Saber-ser (to be).
> - Several 'carrier-subjects' cater more specifically for life and work preparation, such as Moral and Civic Education and Practical and Plastic Education (primary schools); and Moral and Civic Education and the new subject Educaçao Laboral (Education for work) in lower secondary schools.
> - Key competencies and sub-competencies for life and work are mentioned in both the new Curriculum Frameworks and syllabuses. However, their wording envisages conceptual dimensions instead of operational, problem-solving and action-related aspects pertaining to the way learners make proof of their knowledge, skills, attitudes, etc.
> - Some basic professional training starts in lower secondary.
> - While new challenges and opportunities of today's (globalised) world are mentioned in curriculum documents, many references to the world of work and illustrations of different occupations envisage only traditional agriculture and handicrafts without presenting learners with new images of current world economies and job markets in developing and developed countries.

1 Reference documents

- Lei de Bases do Sistema de Educação (Lei N.° 13/01 de 31 de Dezembro de 2001) [Fundamental Law of the Education System/Law no. 13 of 31 December 2001]
- Comparação entre o Sistema de Educação em vigor e o Sistema de Educação a implementer. INIDE/Ministério da Educação [Comparison between the present education System and the Education System to be implemented. INIDE/Ministry of Education]
- Currículo do Ensino Primário. Reforma curricular. 2005. INIDE/Ministério da Educação [Primary Education Curriculum Framework]
- Currículo do 1.° Ciclo do Ensino Secundário. Reforma curricular. 2005. INIDE/Ministério da Educação [Lower Secondary Curriculum Framework.]
- Syllabuses for primary and secondary education
- Estratégia de Combate à Pobreza. Reinserção Social, Reabilitação e Reconstrução e Estabilização Económica. Versão Sumária. Ministério do Planeamento. 2003 [Strategy to fight Poverty, Social Reinsertion, Rehabilitation and Reconstruction, and Economic Stabilisation. Abbreviated version]
- Plan d'Action Nationale d'Education pour Tous. Angola. 2001-2015

2 Basic Education Model and Structure

Currently basic education covers the first eight years of schooling: 4 grades of primary education and 4 grades of lower secondary. A new education structure was introduced based on the Education Act of 2001 that became effective at the system level in 2006: 6+3+3/4, meaning that basic education will cover 9 years (6 years of primary education and 3 years of lower secondary). The comprehensive implementation cycle of the new education structure will be finalized by 2011 for primary education and 2008 for lower secondary.

Table 29: Comparison between the 'old' and 'new' education structure – Angola		
	Old system	New system (based on the Education Act of 2001)
Primary education	4 Grades (First level of Basic education) First level of Adult education/Literacy and Post-literacy	6 Grades of Regular Education Adult education
Lower secondary	4 Grades Grade 5 & 6 (Second level of Basic education) Adult education First cycle of professional training (Cycle 1 to train skilled workers) Grades 7 & 8 (Third level of Basic Education) Adult education First cycle of professional training (Second cycle of training skilled workers)	3 Grades (7, 8, 9) Regular Education Adult education Basic Professional Formation/Training
Upper secondary	3 or 4 Years 3 - General pre-university 4 - Pedagogical Schools 4 - Technical Schools	3 or 4 years 3 -Regular Education Adult Education 4 - Pedagogical Schools 4 - Medium Level Technical Schools

1 Reference documents
- Lei de Bases do Sistema de Educação (Lei N.° 13/01 de 31 de Dezembro de 2001) [Fundamental Law of the Education System/Law no. 13 of 31 December 2001]
- Comparação entre o Sistema de Educação em vigor e o Sistema de Educação a implementer. INIDE/Ministério da Educação [Comparison between the present education System and the Education System to be implemented. INIDE/Ministry of Education]
- Currículo do Ensino Primário. Reforma curricular. 2005. INIDE/Ministério da Educação [Primary Education Curriculum Framework]
- Currículo do 1.° Ciclo do Ensino Secindário. Reforma curricular. 2005. INIDE/Ministério da Educação [Lower Secondary Curriculum Framework.]
- Syllabuses for primary and secondary education
- Estratégia de Combate à Pobreza. Reinserção Social, Reabilitação e Reconstrução e Estabilização Económica. Versao Sumária. Ministério do Planeamento. 2003 [Strategy to fight Poverty. Social reinsertion, Rehabilitation and Reconstruction, and Economic Stabilisation. Abbreviated version]
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Primary education	4 Grades (First level of Basic education)	6 Grades of Regular Education
	First level of Adult education/Literacy and Post-literacy	Adult education
Lower secondary	4 Grades	3 Grades (7, 8, 9) Regular Education
	Grade 5 & 6 (Second level of Basic education)	Adult education
	Adult education First cycle of professional training (Cycle 1 to train skilled workers)	Basic Professional Formation/Training
	Grades 7 & 8 (Third level of Basic Education)	
	Adult education First cycle of professional training (Second cycle of training skilled workers)	
Upper secondary	3 or 4 Years	3 or 4 years
	3 - General pre-university	3 -Regular Education
	4 - Pedagogical Schools	Adult Education
	4 - Technical Schools	4 - Pedagogical Schools
		4 - Medium Level Technical Schools

3 Curriculum model and subjects in Basic Education (Primary and Lower Secondary)

The new curriculum (2005) for primary and secondary education emphasises learning outcomes and a balanced curriculum structure, as follows:

Table 30: Primary Education curriculum structure – Angola							
	Weekly timetable						
Subjects	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Total per subject
Portuguese language	9	9	9	9	8	8	1560
Mathematics	7	7	7	7	6	6	1200
Environmental studies	3	3	3	3			360
Natural Sciences					4	4	240
History					2	2	120
Geography					2	2	120
Moral and civic education					2	2	120
Plastic (visual Arts) and Manual education	2	2	2	2	2	2	360
Music	1	1	1	1	1	1	180
Physical education	2	2	2	2	2	2	360
Total of weekly hours	24	24	24	24	29	29	
Total of annual hours	720	720	720	720	870	870	4620
Total number of subjects	6	6	6	6	9	9	

Source: New Curriculum Framework for Primary education (2005)

Table 31: Lower Secondary curriculum structure – Angola				
	Weekly timetable			
Subjects	Grade 7	Grade 8	Grade 9	Total per subject
Portuguese language	4	4	4	360
Foreign language (English or French)	3	3	3	270
Mathematics	4	4	4	360
Biology	2	2	3	210
Physics	3	2	2	210
Chemistry	2	3	2	210
Geography	2	2	3	210
History	3	3	2	240
Physical Education	2	2	2	180
Moral and civic Education	1	1	1	90
Plastic education and Visual Arts	2	2	2	180
Education for work (Educação Laboral)	2	2	2	180
Total weekly	30	30	30	
Total annually	900	900	900	2700
Total number of subjects	12	12	12	

Source: New Curriculum Framework for Lower Secondary Education (2005)

4 Approaches to Development of Competencies and Skills

4.1 Rationales

Rationales for linking schooling with new developments in society and the
world of work are presented in curriculum documents as follows:

• The Angolan curriculum has an emphasis on fighting illiteracy given 70% of the population of the age range
from 6 to 14 runs the risk of remaining illiterate (which affects negatively employment chances and social
integration). Adult education is therefore integrated into the formal education system at both primary and
secondary levels.

• Angola has a new Curriculum Framework for Primary education (2005), as well as a new Framework for
Secondary Education highlighting the social function of education and learning, and advancing a compre-
hensive profile of learners at the end of primary (e.g. literacy skills; moral and social development; coopera-
tion and fair competition skills).

• Both learning objectives and learning outcomes are mentioned in the Primary Curriculum Framework. In
terms of learning objectives, the Curriculum Framework sets an emphasis on values education, identity for-
mation, the development of a sense of responsibility and social justice, as well as on the capacity of learners
to handle different materials and procedures (associated with handicrafts). In terms of learning outcomes, the
Primary Curriculum Framework presents a profile of learners at the end of the first six grades in compliance
with three main axes: To know (Saber); To do (Saber-fazer); and To be (Saber-ser). In the realm of Saber-
Fazer it is mentioned that learners ought to be able to apply different working techniques (most of them
being associated with handicrafts).

• The new Curriculum Framework for Lower Secondary Education (1.° Ciclo) preserves the three main axes
based on which learning outcomes (competences) are being defined: Saber, Saber-Fazer, Saber-Ser. In the
area of Saber-Fazer more emphasis is now put on a combination of intellectual and practical skills needed in
the world of work, such as to observe, analyse and generalise; to interpret schemes, diagrams and graphic
representations; to apply capacities, habits, and competencies in daily-life problem solving; to utilize and
maintain correctly instruments/tools. In the case of the Saber-Ser domain (to be) skills and attitudes such as
critical judgement, the sense of responsibility, awareness and respect of differences, as well as cooperation
with others are mentioned. However, no special mention of more specific work competencies is made and
general objectives assert quite broadly that learners need to acquire competencies to intervene actively in
social life.

• Both primary and secondary syllabuses talk in their Rationales about links between education and active life,
such as:
  • Primary level: students should acquire basic competencies to be able to integrate active life;
  • Secondary level: the curriculum offers a good balance between general subjects and subjects contributing
    more specifically to practical training and the preparation of young for work (such as the newly-introduced
    subject: Educação Laboral/Education for work).

4.2 'Carrier-subjects'

• Carrier-subjects for the development of life and work competencies in primary schools are Moral and Civic Education (Educação Moral e Cívica, 2 hours/week x two years=120 hours) and Practical and Plastic Education (Educação Manual e Plástica, 2 hours/week x 6 years=360 hours).

• The carrier- subjects for the development of life and work competencies in lower secondary education seem to be Moral and Civic Education (Educação Moral e Cívica, 1 hour/week x 3 years= 90 hours) and a newly-introduced subject called Education for work (Educação Laboral, 2 hours/week x 3 years= 180 hours). Educação Laboral is subdivided into two areas: (A) Technical Design (Desenho Técnico) and (B) Work and life skills (Oficina). The new subject Educação Laboral has been introduced with a view to teaching students how to cope with daily life situations (in their domestic environment, at school and in the community) and applications of technologies (e.g. electricity, carpentry, agriculture). The main objective of Educação Laboral is to have students acquire important elements of a working and technological culture so that they can become active and valuable members of their families, even before completing a medium form of vocational education and training. It is also mentioned that, in order to be successful, teaching and learning of this subject have to be supported by appropriate facilities.

4.3 Cross-cutting approaches

• The Primary Curriculum Framework also contains references to methodology (e.g. attitudes and characteristics of an innovative teacher who is able to combine oral, visual and practical methods) as well as orientations with regard to assessment (such as the assessment to be based on pedagogical principles, to be coherent, to target children's personality integrally, to be positive, diversified and transparent).

• Different curriculum innovations are brought into the education system, such as the INIDE Project on Sexual Education with a view to prevent HIV infection and AIDS. An experimental curriculum is being currently implemented in three provinces (Huíla, Benguela and Luanda) covering the first eight grades of schooling.

5 Summary

The Angola education system is currently undergoing a deep structural reform which is accompanied by important curriculum changes, as well as changes in teaching and learning methodologies and assessment strategies. Emphasis is put on balancing general/theoretical training of students with practical formation.

However, the curriculum seems to be fragmented into many subjects which would impose specific actions (such as teacher team work) to reinforce inter-disciplinary and cross-cutting approaches supporting holistic and comprehensive learning. New carrier-subjects for life and work skills development have been introduced, such as Educação Laboral. While encouraging learning about traditional occupations, preparation for work should focus more on new areas of competencies and new occupations, in line with today's developments in Angola, the region and the world. While moral and civic education are present in the curriculum, they do not benefit of the same time allocation like other subjects and it appears that the curriculum content focuses more on conceptual issues than on participatory, hands-on activities involving the application of knowledge, skills, attitudes, in concrete (problem-solving) situations.

Reference country study B - Burundi

- Six years of basic education (compulsory education comprises of 10 years: 6 primary and 4 lower secondary)
- Value-based teaching and learning focusing especially on peaceful management of conflicts and LTLT
- Competencies for life and work are envisaged in the curriculum but the curriculum tackles merely theoretical aspect pertaining to such competencies

1 Reference Documents

Programme de l'Enseignement Primaire du Burundi (2004) [Burundi Basic Education Programme, 2004]

2 Basic Education Model and Structure

In Burundi, Basic education is defined as primary education which comprised six years of primary school.

3 Curriculum Model and Subjects in Basic Education

The previous Burundi curriculum was based on a 'objectives-driven pedagogy' approach ('pédagogie par objectifs'). The new curriculum has been developed to better respond to the aspirations of the people, taking into consideration a human rights approach and the prospect of community development. Primary and all secondary stages were equally affected by the curriculum reform taking place after 1995.

The aims of the Burundi education system are expressed in the sector's policy document as training of qualified, competitive, creative and imaginative citizens who are open to the world, tolerant and appreciate their culture.

The primary education curriculum is aiming at developing the whole person as it is stated with regard to the learners' profile at the end of primary school:
- Learners must have such competencies as listening, reading, oral expression, writing and artistic skills.
- In mathematics, they must have developed competencies enabling them to solve problems which require at the same time the four fundamental operations with whole numbers, decimal numbers and fractions, as well as the knowledge and know-how required for geometry and measurement.
- In environmental studies, their competencies must enable students to act autonomously, to interact with their environment, to use knowledge about simple phenomena of everyday life and their interactions in the context of problem solving, to cater for their physical and mental health, to demonstrate attitudes and behaviours which correspond to a rational use of their environment resources, to fight effectively against malnutrition and to improve themselves, their habitat and community.
- In sports, learners will develop competencies allowing them to be familiar with different games, to move freely and to embrace a sport discipline (athletics, collective sports, gymnastics).
- In plastic and musical expression, the competencies of the learners will help them to act in ways useful to themselves and the community.
- Lastly, in competencies of everyday life (life skills), they will develop and make proof of competencies enabling them to positively influence their environment by taking significant, practical actions in situations/ problems, requiring the application of notions related to health, hygiene, nutrition and human rights.

In their daily lives, learners will adopt behaviours to avoid risks of HIV/AIDS contamination and to reproductive health, will develop positive attitudes to people living with HIV/AIDS and will communicate with peers and adults on HIV/AIDS prevention.

The subjects and time allocation for Basic education in Burundi is summarised in Table 24.

Table 32: Overview of subjects and time allocation in Basic Education – Burundi						
	Time allocation					
Subject	1st year	2nd year	3rd year	4th year	5th year	6th year
Languages						
Kirundi	9	9	7	5	4	4
French	8	8	8	9	8	8
English	-	-	-	-	3	3
Mathematics	8	8	8	8	7	7
Environment studies	5	5	7	8	7	7
Sports	2	2	2	2	2	2
Plastic expression	1	1	1	1	1	1
Musical expression	1	1	1	1	1	1
Life Skills	-	-	-	-	1	1
Religion	1	1	1	1	1	1
Total	35	35	35	35	35	35

There is one subject (Life Skills) with a clear focus on life skills in the primary education curriculum. The subject is taught only in the last two years of primary schools (5th and 6th years).

4 Competencies and Skills in the curriculum
4.1. Type of competencies and skills which can be found in the syllabuses
Basic essential competencies related to life and work can be found in the basic education curriculum, such as:
• To conceive small projects
• To practice small animal breeding, (breeding of hens, goats, rabbits…)
• To protect from diseases
• To distinguish drinking water from polluted water
• To maintain and wash clothes
• To create a clean school and house
• To rationally manage natural resources
• To prepare a balanced meal
• To defend human rights
• To use computer and Internet.

4.2 Sample Subject - Life Skills

The Life Skill syllabus comprises six topics in the 5th year of primary education:

i)   Characteristics and fundamentals of democracy
ii)   Human rights
iii)   Knowledge of ourselves and others
iv)   Sexuality and reproductive health
v)   Peace education
vi)   Ubushingantahe[28] values (Moral education)

The syllabus is structured through objectives, competencies, teaching and learning methodology and assessment.

1 Terminal Integration Objective

At the end of the 5th year, learners must be able to communicate with peers and adults in order to protect themselves from HIV/AIDS and STI (Sexually Transmissible Infections), to claim their rights and to fulfil their duties, to peacefully solve small conflicts in their environments, to live in harmony with themselves and others and to develop the spirit of Ubushingantahe.

2 Basic competencies

BC1: in their daily lives, to avoid situations with HIV/AIDS and STI (Sexually Transmissible Infections) contamination risk and to exchange with the others on these diseases.

BC2: to denounce violations of child rights, to claim respect and to take part in peaceful resolution of small conflicts.

BC3: in their daily lives, to show good manners in relations with peers and adults, to develop the spirit of Ubushingantahe and to live in harmony with themselves and others.

The Burundi Life Skills Syllabus contains a range of life skills competencies. The wording of such competencies however is taking into account mainly cognitive aspects, as to be able to 'identify', 'describe', 'list', and so on, without tackling explicitly how knowledge and thinking skills translate into daily action, e.g. attitudinal and behavioural aspects and manifestations.

5 Summary

There is evidence in the basic education curriculum of Burundi of competencies and skills development related to life and work although, as they are expressed in syllabuses, they tend to remain mostly at a theoretical level. Emphasis is put also on country-specific issues, and priorities, such as Learning to Live Together/LTLT, especially the constructive approach of 'otherness'.

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28 *"In the understanding of a Burundian, whether Hutu or Tutsi, Ubushingantahe describes a set of personal virtues, including a sense of equity and justice, a concern for truth, a righteous self-esteem, a hard-working character - all of which could perhaps be summed up in the word "integrity." In: Ubushingantahe as a base for political transformation. Agnes Nindorera. Boston Consortium Fellow. 2002-2003. p.2 Available online http://209.85.135.104/search?q=cache:XB6iVbbh_k0J:www.genderandsecurity.org/Agnes.pdf+Ubushingantahe+Burundi&hl=fr&ct=clnk&cd=9&gl=fr*

Table 33: Sample competencies – Burundi					
	Knowledge **To know**	**Know How to Do** To do (however the 'To do' competencies are expressed merely in cognitive terms)	**Know How to Be** **To be**	Methodology	Assessment
Human rights Peace Education	1. Basic principles of Human Rights • Equality • Liberty • Dignity 2. Children Rights • right to live • right to development • right to participation • right to protection	• To explain the basic principles of Human Rights • To list, to recognize and to explain Children Rights • To recognize Children's Duties	• To live based on values and principles such as equality, liberty and dignity • To respect Children Rights	• Case studies • Discussion • Group work • Case studies • Discussion • Group work	Formative and criterion-based
	3. Children's Duties • regards to family • regards to school and community 1. Peace • definition • types of peace 2. Me and the Other 3. Prejudices and stereotypes 4. Peacefully resolution of conflicts • types of conflicts • causes of conflicts • resolution of small conflicts	• To explain the concept of peace • To distinguish different types of peace • To recognized differences of others • To distinguish prejudices and stereotypes • To distinguish types of conflicts • To identify causes of conflict • To apply techniques of conflict resolution	• To apply Children Duties • To be peaceful • To respect others • To fight against prejudices and stereotypes • To prevent conflicts • To resolve peacefully conflicts	• Group work • Discussion • Role plays	Formative and criterion-based

Reference country study C - Kenya

Features of the Basic Education Curriculum of Kenya:

• Eight years of basic education consisting of two primary cycles (Lower Primary - Standards 1-3, Upper Primary - Standards 4-8).

• The curriculum structure reflects traditional subjects

• Statements of National Goals for Education and the General Objectives of Primary Education refer to the need for the development of skills to satisfy social, economic, technological and industrial needs

• Subject syllabuses consist largely of knowledge statements

• Life skills programmes developed by the Kenya Institute of Education (as links between formal and non formal education: health education; Human Rights Education; Risk assessment and decision making, etc.)

1 Reference Documents

Primary Education Syllabus, Volume 1 (2002)

Primary Education Syllabus, Volume 2 (2002)

Primary Teacher Education Syllabus, Volume 1 (2004)

Primary Teacher Education Syllabus, Volume 2 (2004)

2 Basic Education Model and Structure

The Kenyan education structure is described as an 8-4-4 model comprising eight years of primary school (Standards 1-8), four years of secondary education (Forms 1-4) and four years of first degree studies at university.

Basic education is defined as primary education - i.e. eight years of primary education. Standards 1-3 are referred to as Lower Primary and Standards 4-8 are referred to as Upper Primary.

3 Curriculum Model and Subjects in Basic Education

The subjects and time allocations[29] for Basic education in Kenya are summarised in Table 34.

29 Lower Primary classes are having a 30 minutes duration; Upper Primary classes take 35 minutes.

Table 34: Overview of subjects and time allocations in Basic Education - Kenya		
Subjects	Number of Lessons/week	
	Lower Primary	Upper Primary
English	5	7
Kiswahili	5	5
Mathematics	5	7
Science	2	5
Social Studies	2	5
Religious Education	2	3
Mother Tongue	5	0
Creative Arts	3	3
Physical Education	5	4
Pastoral Programmes	1	1
Total	35	40

There are no subjects within this structure which, of themselves, suggest a focus on the development of competencies and skills for learning, life and work. There is little reference to how cross-cutting issues are dealt with, although there are environment-related units located in Social Studies. HIV/AIDS education may be presented through a separate Life Education Programme, but no mention is made of this in syllabus documents or time allocation tables.

4 Approaches to Development of Competencies and Skills

4.1 Statement of National Goals for Education

As stated in the national curriculum documents consulted, there are eight National Goals of Education defined for Kenya. With regard to the promotion of competencies and skills, Goal Number 2 is 'to promote the social, economic, technological and industrial needs for national development'.

a) Social needs

'Education in Kenya must prepare children for the changes in attitudes and relationships, which are necessary for the smooth process of a rapidly developing modern economy. … Education should assist our youth to adapt to this change.'

b) Economic Needs

'Education in Kenya should produce citizens with skills, knowledge, expertise and personal qualities that are required to support a growing economy …'

c) Technological and Industrial Needs

'Education in Kenya should provide learners with the necessary skills and attitudes for Industrial development …'

The other national goals promote the achievement of a range of personal and social competencies.

The Objectives of Primary Education in Kenya are to provide the learner with opportunities to
• acquire literacy, numeracy, creativity and communication skills (Obj. 1)
• develop ability for critical thinking and logical judgement (Obj. 3)
• appreciate and respect the dignity of work (Obj. 4)
• develop individual talents (Obj. 11)
• develop awareness and appreciation of the role of technology in national development (Obj. 13)

4.2 Sample Subject - Social Studies
The Introduction to the Social Studies Syllabus contains the statement 'The course also provides the learners with skills for productive problem-solving, decision making, assessing issues and making of balanced value judgement, (Primary Syllabus Volume 2 p. 74).

Among its General objectives relevant to this Study are those enabling students to:
• understand, use and manage the immediate environment for individual and national development
• acquire knowledge of available natural resources and demonstrate ability and willingness to utilise them properly
• acquire knowledge and skills necessary to understand and analyse population issues …
• identify and promote economic activities in the society
• understand and use map reading skills to interpret information.

The syllabus is divided into sections, each of which is devoted to a single Standard (or grade). These sections are in turn divided into units which are the same across all grades within Lower or Upper Primary. Table 35 gives examples of Specific Objectives for each Standard in Upper Primary for Topic 4 - Resources and Economic Activities.

Table 35: Sample of specific objectives, Social Science (Upper Primary) – Kenya			
Standard 5	Standard 6	Standard 7	Standard 8
Topic: 4.1 Agricultural Development - … the learner should be able to			
• Describe how traditional methods of farming were used in food production • Identify some subsistence crops grown in Kenya • Identify the conditions influencing the growth of cash crops in Kenya	• State the conditions of growth of major cash crops • Identify where crops are grown • Identify contribution of cask crops to the economy	• State the factors influencing the growth of some crops • Locate areas where these crops are grown • Identify uses of the crops	• Describe the traditional forms of agriculture • Name the subsistence crops grown in national agriculture • State the farming methods used in traditional agriculture
Topic: 4.2 Mining - … the learner should be able to			
• Identify and locate the major minerals of Kenya • Describe the methods of mining the minerals	• Identify the location of the minerals • Describe how the minerals are mined • Explain the uses of the minerals	• Describe how the minerals are extracted • List various uses of the minerals • Identify the contribution of the minerals to the economy	• Locate the distribution of the minerals • Describe ways of extracting minerals • Describe uses of the minerals • State problems associated with mining

The Kenyan Social Studies Syllabus contains only knowledge outcomes. Students are encouraged to learn and be able to repeat (by 'identifying', 'describing', 'listing' and so on) a wide range of information. There is little evidence in the Social Studies Syllabus that they are expected to develop competencies and skills related to life and work, or that they are encouraged to reflect on information, critically analyse it or engage in any high level cognitive activities associated with the information.

5 Summary
The curriculum documents for Basic education in Kenya are very traditional in their structure and scope. Although the various overarching statements make some reference to skills development and the challenges of today's worl, there were very few examples of competency and skill development identified in the syllabus documents themselves.

Reference country study D - Mauritius

Features of the Basic Education Curriculum of Mauritius:

• There is no special reference to 'basic education' in Mauritius documents. The education system has a 6 + 5 + 2 structure (6/primary education, Standards I to V + 5/Secondary Education, Cambridge School Certificate/CSC + 2/Cambridge Higher School Certificate); thus 'basic education' covers theoretically primary education (compulsory education ending with the Certificate of Primary Education/CPE examination).

• Mauritius established a pre-vocational system (lower secondary education) for learners without a CPE (Certificate of Primary Education obtained based on passing a challenging examination at the end of Standard VI). Mauritius has also put in place a National Strategy to fight against poverty through education in the so-called ZEP schools (Zone d'_ducation Prioritaire) with a view to raising the level of achievement and reducing inequalities. This is based on mobilizing all the community resources within the Zone and a more flexible curriculum allowing for differentiated solutions to foster learning in students. Mauritius disposes also of a National Strategy for Literacy and Numeracy.

• The new Primary Curriculum Framework (2006/2007) and the draft Secondary Curriculum Framework address extensively teaching and learning strategies emphasising the need to support student learning and link conceptual learning to concrete life situations.

• There is a cross-curricular concern to promote life and work competencies.

• The new proposed secondary curriculum introduces carrier-subjects for the development of work skills and economic and entrepreneurship competencies.

• The new draft secondary curriculum envisages an outcome-based approach (Overarching Learning Outcomes/OLOs).

• Curriculum documents make reference to priorities and new orientations of the Mauritius economy in the context of a globalised economy.

• The Mauritius curriculum is targeting inclusiveness, and integrated and differentiating learning.

• While, theoretically, time is allocated in both primary and secondary education for values education and life skills (e.g. civic and moral education), contact periods are currently used for other subjects (and no specific materials have been developed to support teaching and learning of those subjects).

• At present, the General Paper (GP) course in secondary schools is a carrier-subject for life skills development and integration of life and work competencies (e.g. HRE; Health education, Economic education).

1 Reference documents
- ***2004. The Development of Education. National Report of Mauritius. Ministry of Education and Scientific Research (prepared for the ICE47).
- ***2006. Empowering the Nation's Children. Towards a Quality Curriculum. Strategy for Reform. Ministry of Education and Human Resources.
- 2006/2007.Curriculum Framework for Primary Education. MIE and Ministry of Education and Human Resources.
- 2007. (Draft) Curriculum Framework for Secondary Education. MIE and Ministry of Education and Human Resources.
- 2007. The Plan of Action for Human Rights Education. MoE &HR
- Syllabuses for primary and secondary education
- Textbooks for Social and Environmental Studies (primary education)

2 Basic Education Model and Structure
Although no explicit reference to 'basic education' is made in official education documents of Mauritius, it can be inferred that basic education covers mainly primary education (Standards I to VI, divided into 3 stages: Stage I: Standards I &II; Stage II: Standards III & IV; Stage III: Standards V & VI), which is compulsory.

Specific to Mauritius is the presence of a Pre-vocational Stream in Secondary Education accommodating mainly students who failed twice the Certificate of Primary Education Examination (CPE).

With the launching of the Curriculum Manifesto "Empowering the Nations' Children. Towards a Quality Curriculum. Strategies for Reform" (November 2006) an era of profound curriculum reforms started at both primary and secondary levels. The Manifesto sets important directions for content selection, as well as teaching and learning strategies, as follows:

For primary education:
"Stage I: In this stage, emphasis will be placed on Literacy, Numeracy and Health and Physical Education. Other areas of learning, emanating from subjects such as Basic Science, the Environment, the Arts, History and Geography, will be integrated in the core subjects. This will de-load the curriculum to a large extent. Children will learn through activities such as music, singing, drawing and other forms of creative activities and ICT.

Stage II: In addition to Languages, Mathematics, Health and Physical Education in stage II, students will be introduced to Basic Science, History & Geography and The Arts. Other elements like Values, Citizenship Education, ICT and Body Awareness will continue to be integrated in the core subjects. This approach will also be guided by the necessity to de-load the content part of the curriculum.

Stage III: The same core areas will be reinforced during phase III with a view to preparing the pupils for the end of primary cycle evaluation. A component of sex education will be introduced in Phase III with a view to creating an early awareness of life skills."

For secondary education:

[In the]"The pre-vocational stream:
The focus will be on:
i)   Developing functional literacy and numeracy
ii)   Using ICT as a support for learning
iii)   Developing basic scientific skills, and environmental awareness
iv)   Learning to manage emotions and developing positive self-esteem
v)   Promoting creativity, artistic dispositions, physical health and fitness
vi)   Mastering relevant technical skills.

Other important domains of learning such as Anti-Corruption, Values, Human Rights, Sex Education, anti-Drug Education, will be integrated across the curriculum. On-the-job training will be an important component of the curriculum."

"New subjects: Secondary education
3. To enhance the creative and critical thinking of students and their employability, the Ministry of Education and Human Resources (ME&HR) will explore the possibility for introducing new subjects such as Travel and Tourism; Environmental Management; Physical Education; Philosophy and Psychology at both principal and subsidiary levels. General Paper will remain compulsory at HSC level."

3 Curriculum model and subjects in Basic Education (Primary and Lower Secondary)
Timetables are not available making it thus difficult to gauge time allocation for different proposed learning areas and subjects.

Table 36a: Proposed subjects for Primary Education – Mauritius		
Stage I	• Languages (integrating Values; Basic sciences; History and geography; The Arts; Environment), with ICT as support • Mathematics • Health and Physical Education	
Stage II	**Core** • Languages • Mathematics • Basic Science • History and Geography • Health and Physical Ed. • The Arts • (all with ICT support)	**Integrated component** • Other life skills • Citizenship Education • Values • Body awareness
Stage III	**Core** • Languages • Mathematics • Basic Science • History and Geography • Health and Physical Ed. • The Arts	**Integrated component** • Other life skills • Citizenship Education • Values • Body awareness

Table 36b: Proposed subjects for Lower Secondary Education (Forms I-III, Main Stream) - Mauritius		
Core	**Electives**	**Essential General Knowledge and Skills to be integrated intorelevant subjects**
• English • French • Science • Mathematics • ICT	All other subjects as presently offered in schools	• Environmental education • Anti-corruption values & Humanitarian Law • Law and intercultural understanding • Human Rights • Anti Drug Education • Sex Education • And other important emerging issues

Table 37: Proposed subjects for Lower Secondary Education (Levels I-III, Pre-vocational Stream) - Mauritius		
Core	**Electives**	**Essential General Knowledge and Skills to be integrated intorelevant subjects**
		(the same as for the mainstream)
• Functional Literacy and Numeracy	All other skills-based and trade-oriented subjects	
• Environment	On-the-job training	
• Arts & Crafts		
• Science and Technology		

Assessment principles and methods are also mentioned:

Main stream — *Pre-vocational*

Assessment based on:

Main stream	Pre-vocational
Continuous Assessment	Student activities
Project work	Project work
Portfolio	
Group work	Group work
Summative assessment	Field visits

Source: Empowering the Nation's Children: Towards a Quality Curriculum (2006)

4 Approaches to Development of competencies and skills

4.1 Rationale for linking schooling with new developments in society and the world of work

• The new Primary Curriculum Framework contains generic learning outcomes that refer to the competencies to be achieved by the learner after primary schooling (e.g. self-expression; reasoning skills, independent learner skills; inter-personal, inter-cultural and social skills; creativity) although practical skills are not explicitly envisaged.

• The new (draft) Secondary Curriculum Framework aims to support the development of learners able to cope with the new challenges and opportunities of life-long learning in a knowledge-driven economy and the interdependent global context. The Framework mentions explicitly the rationale for curriculum innovation in compliance with new economic and social developments.

• The Overarching learning outcomes (OLO) of the new (draft) Secondary Curriculum Framework put emphasis on competencies such as communication, independent handling of information, effective and responsible usage of technology, capacity to work in multicultural settings, creativity and personal skills. The OLO are then further on described in more details though most of such description concern conceptual aspects, and not practical contexts of students demonstrating their competencies in an operational way. Level descriptors are usually associated to specific competencies.

4.2 Carrier-subjects

• Currently, in primary education, except Values Education (as a new proposed learning area and subject), there are no other explicit 'carrier- subjects' for the development of life and work competencies. Some important themes addressed are Civic values; Living values (e.g. peace, right conduct, non-violence, love and truth); Child's Rights and responsibilities; Environmental care and awareness.

• In secondary education, current carrier-subjects for the development of life and work competencies are Social Sciences (e.g. Sociology, Economics, Business Studies) and Technology (Design and Technology; Design and Communication; Home economics/i.e. Food and nutrition).

4.3 Cross-cutting approaches
• There is a cross-curricular concern to promote life and work competencies
• Languages as a tool for communication, further learning, employment, business, leisure, travel and tourism;
• Mathematic and its role in problem-solving;
• Sciences and their application in life, such as health issues, benefits, limitations and threats with regard to energy, environment, poverty, technology;
• Technology as a man-made environment and means for problem solving, implying specific knowledge, decision making, practical skills, and responsible action;
• Social sciences - especially Economics and Business Studies putting an emphasis on cultural awareness and living and working in a multicultural environment, preserving the environment, and engaging in activities in the service of the public good and community welfare;
• The Arts with significant emphasis on working skills, collaborative work and creativity;
• Health and Physical education emphasising practical skills, such as the capacity to work in teams, to integrate socially-structured activities, healthy life styles and personal training to cope with effort, challenges and risks.
• Mauritius established a pre-vocational system (lower secondary education) for learners without a CPE (Certificate of Primary Education obtained based on passing a challenging examination at the end of Standard VI). Mauritius has also put in place a national strategy to fight against poverty through education in the so-called ZEP schools (Zone d'Education Prioritaire) with a view to raise the level of achievements and reduce inequalities based on mobilizing all the community resources within the Zone and a more flexible curriculum allowing for differentiated solutions to foster learning in students.

5 Summary

The Mauritius primary and secondary curriculum is in a process of profound change motivated by new developments in society and economy. Education authorities and stakeholders are profoundly aware of globalisation processes impacting their country, and of new opportunities and challenges learners ought to be prepared for. There is a strong emphasis on cross-cutting approaches to the development of life and work competencies. 'Carrier-subjects' are also part of the newly proposed curriculum structure. However, there is a need for the time allocated to such 'carrier subjects' to be properly used, based on developing adequate materials and implementing appropriate teacher education and training strategies. At present, given the lack of adequate teaching and learning materials and appropriate teacher education and training, the time theoretically allocated for Moral and Civic Education in primary education is used for other subjects.

While the curriculum discourse promises a learner-centred approach, the preservation of some challenging examinations, such as the CPE, raises fears amongst stakeholders that teaching and learning will remain elitist and highly theoretical.[30]

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30 At present, the ME&HR, in cooperation with other stakeholders, is considering some significant changes with regard to the CPE, including ways of taking into consideration, in a more significant proportion, results of continuous, formative and classroom-based assessment of students along primary education.

Reference country study E - Mozambique

Features of the Basic Education Curriculum of Mozambique:

• 'Basic education' embraces the seven years of primary education.

• Lower secondary education represents the first secondary cycle (Grades VIII, IX and X).

• The Basic Education Curriculum Framework (2003) mentions learning outcomes as part of the profile of graduates of primary education, and allows for 20% of each subject to be defined locally (local curriculum) which may be used to reinforce the development of competences for life and work (though no specific instructions are given with regard to how to use the 20% of each subject in order to privilege 'local' aspects).

• Carrier subjects are Ofícios (Life and work skills); Social Sciences; Moral and Civic Education; Science Education. While targeting 'practical' aspects they remain however quite theoretical/conceptual in the way they tackle the formation of 'practical' skills.

• While Rationales for curriculum change in the Curriculum Framework and syllabuses make reference to new developments in today's world learnings in carrier subjects (i.e. Ofícios) are oriented towards rather traditional (manual) working operations and procedures.

• The Curriculum Framework addresses special needs education issues (including the development of practical skills) and assessment aspects. Syllabuses usually include methodological advice for teachers although presented in a more general way.

• Although 'autonomy' of a person is mentioned as an education objective there is no mentioning in the curriculum of entrepreneurial aspects (this has to be checked again especially for lower secondary.)

• Some aspects pertaining to work ethics are tackled in the curriculum however in the absence of a more systematic approach to ethical issues in the context of work situations.

1 Reference documents
• Plano Curricular do Ensino Básico (2003) [Curriculum Framework for Basic Education]
• Syllabuses (Grades 1-7; Grades VIII-X)
• Mozambique: National Report (2005, IBE Project on Curriculum and Poverty Alleviation)
• Mozambique: World Data on Education, 6th Edition, 2006/7, IBE

2 Basic Education Model and Structure
(Integrated) Basic Education covers in Mozambique the seven grades of primary education. Currently, basic (primary) education is divided into three learning cycles, namely:
• Cycle 1 (Grades 1 and 2);
• Cycle 2 (Grades 3, 4 and 5);
• Cycle 3 (Grades 6 and 7).

In addition to Basic Education, secondary education comprises five grades divided into two cycles:
• Cycle 1 (Grades 8,9, and 10) - Lower secondary education;
• Cycle 2 (Grades 11 and 12).

3 Curriculum Model and Subjects in Basic Education (and Lower Secondary/First secondary cycle)

The basic education curriculum is structured into three main learning areas, as follows:

• Communication and Social Sciences (Comunicação e Ciências Sociais) including subjects such as Portuguese (Língua Portuguesa); Local languages (Línguas Moçambicanas); English (Língua Inglesa); Music (Educação Musical); Social Sciences (Ciência Sociais: História, Geografia e Educação Moral e Cívica; Educação Moral e Civica);

• Mathematics and Natural Sciences (Matemática e Ciências Naturais/Biologia, Fisica e Química);

• Practical and technological activities (Actividades Práticas e Tecnológicas): Life and work skills (Oficios); Visual arts (Educação Visual) and Physical Education (Educação Física).

Timetables for primary (basic education) vary in compliance with the number of shifts (2 or 3) and the monolingual or bilingual school programme. The Basic Education Curriculum Framework allows for 20% of each learning area/subjects to be defined locally (local curriculum).

Table 38: Timetables for schools working in three shifts - Mozambique (weekly contact periods)							
	Grades						
Subject	1	2	3	4	5	6	7
Portuguese language	10	10	8	7	7	6	6
Mozambican language			2	2	2	2	2
English						3	3
Visual arts	2	2	2	2	2	2	2
Music	1	1	1	1	1	2	2
Mathematics	8	8	6	6	6	5	5
Social sciences				2	2	2	2
Natural Sciences			2	2	2	2	2
Life and work skills/Oficios	2	2	2	2	2	2	2
Physical education	2	2	2	2	2	2	2
Moral and Civic Education						2	2
Total	25	25	25	25	25	30	30

Source: Plano Curricular do Ensino Básico (2003), p. 41

Table 39: Timetable for schools working in two shifts (monolingual instruction) - Mozambique							
	Grades/Classes						
Subject	1	2	3	4	5	6	7
Portuguese language	12	12	10	8	8	6	6
Mozambican language			2	2	2	2	2
English						3	3
Visual arts	2	2	2	2	2	2	2
Music	2	2	2	2	2	2	2
Mathematics	8	8	6	6	6	5	5
Social sciences				2	2	2	2
Natural Sciences			2	2	2	2	2
Life and work skills/Oficios	2	2	2	2	2	2	2
Physical education	2	2	2	2	2	2	2
Moral and Civic Education						2	2
Total	28	28	28	28	28	30	30

Source: Plano Curricular do Ensino Básico (2003), p. 42

Table 40: Timetables for schools working in two shifts (bilingual instruction) - Mozambique							
	Grades/Classes						
Subject	1	2	3	4	5	6	7
Portuguese language	4	5	7	7	8	7	7
Mozambican language	8	7	5	3	2	2	2
English						3	3
Visual arts	2	2	2	2	2	2	2
Music	2	2	2	2	2	1	1
Mathematics	8	8	6	6	6	6	6
Social sciences				2	2	2	2
Natural Sciences			2	2	2	2	2
Life and work skills/Oficios	2	2	2	2	2	2	2
Physical education	2	2	2	2	2	2	2
Moral and Civic Education						2	2
Total	28	28	28	28	28	30	30

Source: Plano Curricular do Ensino Básico (2003), p. 43

Table 41: First cycle of general secondary education: weekly lesson timetable – Mozambique			
	Grades		
Subject	VIII	IX	X
Portuguese language	5	5	5
English language	3	3	3
Mathematics	5	5	5
Biology	3	3	3
Physics	3	3	3
History	2	2	2
Geography	2	2	2
Chemistry	3	3	3
Desenho (Design)	2	2	2
Physical Education	2	2	2
Total	30	30	30

Source: IBE's 2002 curriculum data set

4 Approaches to Development of Competencies and Skills

4.1 Rationale for linking schooling with new developments in society and the world of work

The Basic Education Curriculum Framework (Plano Curricular do Ensino Básico, 2003) lists a series of contextual factors underpinning the development and implementation of a new primary curriculum, such as:

• Economic and political factors (post-conflict country, with a recovering, but vulnerable economy and dependent on foreign aid);

• Socio-cultural factors (multicultural and multi-linguistic society with diversity issues challenging the 'traditional monolithic' education system; gender inequalities);

• Education factors (new national education policy adopted in 1995 as part of the National Development Strategy; basic education and adult literacy as major government priorities; basic education is seen as central for the development of human resources able to contribute to societal and economic progress, as well as for the development of citizenship skills).

The General objectives of the National System of Education emphasise the following dimensions:
- Citizenship education (personal development; respect; loyalty; discipline and responsibility; aesthetic development; patriotism; respect of Mozambican cultures and traditions; environmental awareness; tolerance; national unity; solidarity; respect of the Constitution and laws; openness to international issues and cooperation);
- Education for economic and social development (illiteracy eradication; universal access to quality basic education; education for sustainable development; basic scientific literacy; communication and inter-cultural skills; development of vocational skills to support integration in the community);
- Education for practical activities (interest for physical activities, sport and recreation; hygiene; nutrition; healthy lifestyles);

The Basic Education Curriculum Framework also addresses learning achievements/student competences without identifying them explicitly as 'competences' but as 'most relevant learnings' (ensino mais relevante). Such outcomes are presented in the description of the profile of students graduating basic education (Perfil do Graduado do Ensino Básico), namely:
- Personal development (i.e. self-awareness and awareness of all aspects pertaining to personal development; protect life, health and environment; be able to organise his/her activities and balance personal interest and social obligations; make proof of moral behaviour; develop autonomy skills; be responsible; respect and cooperate with the others; respect people with disabilities);
- Social and economic behaviour (respect public and private property; provide community service, have a problem-solving approach; engage in productive activities; handle information efficiently; use resources meaningfully);
- Technical and scientific literacy (communication skills; numeracy skills; make use of scientific work methods; use technology in a responsible way to improve the quality of life);
- Cultural aspects (cultural awareness and intercultural skills; competent usage of oral and written forms of communication; be gender-sensitive).

4.2 'Carrier-subjects'
In Mozambique, the main carrier-subjects for the development of competencies for life and work are:
- Oficios (Life and Work Skills);
- Moral and Civic Education;
- Social studies;
- Science Education;
- Physical Education.

4.2.1 Oficios (Life and work skills)

In primary/basic education, the main topics addressed are: family; nutrition; health; environment; agriculture and fishing; work; technical facilities; cultural heritage. The syllabus uses the term 'competencies', emphasising the development of basic competencies (Competências básicas) - for example, in the case of agriculture, to be able to master specific (traditional) operations pertaining to different types of crops and cultivation cycles.

Methodological aspects are addressed in syllabuses in a more general way. Teachers are invited to create an atmosphere of confidence, explain the importance of agriculture to the economy of Mozambique and organise field visits so that students can have first-hand experiences. In the presentation of different occupations, most examples pertain to traditional areas of production and trade. In upper primary grades students are also exposed to safety rules in the context of different occupations, as well as to issues of balancing economic productivity and the protection and preservation of the environment.

4.2.2   Moral and Civic Education

In this area issues such as poverty and social inequalities are addressed along with the development of basic competencies of a responsible citizen. Most aspects pertaining to social life and citizenship are, however, approached merely from a conceptual point of view with little emphasis (or no emphasis at all) on practical skills (e.g. students are encouraged to write compositions on traffic rules, but get no opportunities to practice such rules in a concrete way).

Many life skills are context-related, such as mine awareness. Ethical issues pertaining to decision making, risk taking and work more generally are also tackled (such as how to develop a positive attitude towards work) but without engaging students in a more detailed discussion of work-related ethical aspects.

Science education

Science education addresses technological applications of science in daily life situations (such as the usage of electricity) and the efficient and safe handling of different technology tools in daily-life problem solving. Students are encouraged to deal responsibly with natural and man-made resources such as water, food, energy (e.g. solar energy) and to be aware of recycling processes and their benefits. Learners also explore consequences of risk-taking behaviour, such us drinking contaminating water or engaging in unprotected sex.

4.3 Cross-cutting approaches

There are some overlaps between different subjects with regard to learning objectives, outcomes, topics and approaches, especially between Science education and Ofícios (Life and Work Skills). These do not appear to be the consequence of a deliberate strategy to reinforce cross-cutting dimensions in the curriculum. Arts education (visual arts and music) tend also to develop practical skills especially in relationship to traditional occupations and handicrafts.

5 Summary

Competencies for life and work are mentioned explicitly in the curriculum (syllabuses) but there is little emphasis on the practical demonstration of competencies in concrete situations. In other words, competencies are approached from a merely conceptual perspective. While some current developments in science and technology are mentioned (e.g. usage of solar energy), emphasis on work competences is on traditional (manual) occupations and procedures.

There appears to be no emphasis on the development of entrepreneurship and economic 'literacy'. There are several carrier-subjects for the development of competences for life and work. However, it would be important to reinforce the curriculum coherence amongst these subjects in order to avoid unnecessary repetitions and overlaps, and to provide a more systematic distribution of appropriate topics and learning outcomes across different subjects and grades.

Reference country study F - Senegal

- Six years of basic education equivalent to primary education
- There is reference to competencies in the curriculum but they are treated from a rather theoretical point of view
- Comprehensive reforms of the primary curriculum are under way since 2005

1 Reference Documents

Curriculum de l'éducation de base (Ceb) [Curriculum of basic education]

2 Basic Education Model and Structure

Basic Education in Senegal comprises 6 years. It includes the classes of Ci (introductory course), CP (preparatory course), CE1 (elementary course first year) CE2 (elementary course second year), CM1 (middle course first year), CM2 (middle course second year).

3 Curriculum Model and Subjects in Basic Education

Senegal currently undertakes a reform of its basic education curriculum (Curriculum de l'éducation de base/ Ceb). This reform entered a pilot phase in 2005. The changes recommended in the basic education programmes address the need to adapt Senegal to the changes occurred in the national and international environment. Education authorities and stakeholders envisage the new curriculum as a means to support the modernisation of the education system and the country in a suitable way. The new curriculum under development is built according a competencies- based approach.

Table 42: Overview of Subjects in Basic Education – Senegal			
DOMAINS	SECTIONS	ACTIVITIES	TRANSVERSAL THEMES
DOMAIN 1 Language and communication	SECTION 1 Oral communication		
	SECTION 2 Written communication		
DOMAIN 2 Mathematics		• Geometry activities • Arithmetic activities • Measurement activities • Problem solving activities	
DOMAIN 3 Education to Science and Social Life	SECTION 1 World discovery	History	
		Geography	
		Scientific and Technology Initiation (IST)	
	SECTION 2 Education for Sustainable Development	Living in one's environment	Environment/Population/Health
		Living together	Gender education; Peace education, , Citizenship and Human Rights Education; Religious Education
DOMAIN 4 Physical, Sportive and Artistic Education	SECTION 1 Physical and Sportive Education	Physical activities	
		Sporting activities	
	SECTION 2 Artistic Education	Plastic Arts	
		Musical Education	
		Scenic Arts	

The Basic Education curriculum consists of four domains for which basic general competencies were defined. Each domain is subdivided into sections which comprise specific activities. For each activity there is a specific basic competence associated, plus a series of criteria (based on which the teacher must perform the evaluation of learners) and stages (approximately 4 stages/levels by activities) which define the concepts the learner must integrate. Each stage/level comprises a series of training objectives with specific objectives and contents.

4 Competencies and Skills in the curriculum

4.1. Type of competencies and skills which can be found in the syllabuses

The 'Education to Science and Social Life' domain provides examples of some of the life and work skills that can be found in the Senegal new Basic Education curriculum.

Section 1: WORLD DISCOVERY

Geography

Learning objective:

Investigating the main activities of human beings

• agriculture techniques

• farming techniques

• fishing techniques

Scientific and Technology Initiation (IST)

Learning objectives:

• Manipulate a technology tool

  • Usage of the Malgache oven, improved oven ('foyers améliorés')/improved oven

  • simple domestic tools: meter, thermometer, domestic iron, watch, radio telephone

• Produce technology tools

  • Energy sources: battery, oil, gasoline, gas, etc.

Section 2: SUSTAINABLE DEVELOPMENT EDUCATION

Living in one's environment

Learning objective:

• Manage water

  • purification : decantation, filtering and disinfection

• Apply hygiene measures

  • corporal hygiene

  • sanitary equipment

• Eat healthy

  • aliments hygiene (i.e. cooking)

• Protect against Malaria

  • causes: punctures of infected mosquito, stagnant water…

  • manifestations: headaches, fever…

• Protect against AIDS

  • causes: tattooing, injection, circumcision…

  • advice: do not touch blood with naked hands…

Living together

Learning objectives:
• To respect the other
  • moral respect of the dignity and the physical integrity, and respect of the other
• To respect of differences
  • freedom of expression, of opinions, choice, action, etc
  • ethnic groups, culture, religion, brotherhood, race, caste, etc

4.2. Sample Subject - Living together (Sustainable Development Education)
Living together (Sustainable Development Education) in CE1-CE2:

Basic competency:
To integrate basic concepts and simple techniques in situations of analysing situations/problems and suggesting solutions adapted to their environment, population and specific health issues

Assessment Criteria:
• Relevance: The solution suggested is appropriate to the situation/problem
• Feasibility: The solution suggested is realistic and relevant taking into consideration resources and contexts
• Accuracy: The results of the analysis are exact

Stages for CE1:
STAGE 1 (detailed): To integrate basic concepts and simple techniques in situations of analysing and suggesting solutions for problems of hygiene, nutrition and combating parasites in their environment.

Table 43: Unit Outline - Senegal			
Learning objectives	Specific objectives	Contents	Duration
Manage water	Supplying drinking water	• sources of drinking water (tap, drilling, well); use of clean utensils - protection of water (drawing up, transport and storage) • purification: decantation, filtering and chlorination	2 courses of 30 mn each one
	Use water rationally	• economy of water: the necessary one, the tap which runs, canary with tap, description of the escapes of the drains, recovery of water valves, ablutions with the foot of a plant	1 course of 30 mn
Apply hygiene measures	Apply individual and collective hygiene rules	• hygiene: keeping the body clean;, clean clothing, classes, schools, houses, health facilities (toilets) • collection, conditioning and evacuation of waste water	2 courses of 30 mn each one
	To apply simple techniques of evacuation of waste water		
Eat healthy	…	• food and the environment • food function • food balance and food imbalance (excess, deprives) • food hygiene (keeping food germ-free, cooking, conservation, maturity)	3 courses of 30 mn each one
	To identify food imbalances and their causes		
Protect against parasites and Malaria	Identify parasites in the environment and contamination sources	• parasites and parasitizes in the environment (intestinal worms, worms of Guinea, bilharzias, etc) • malaria • contaminated water, soiled or badly cooked food • getting rid of parasites	1 course of 30 mn
			1 course of 30 mn
	Apply measures of prevention and treatment		1 course of 30 mn
Integration Activities			90 mn

INTEGRATION ACTIVITIES:

Integration situation:

• Context: Problems of hygiene, nutrition or parasitizes prevail in your environment.

• Instructions: Propose an appropriate solution to each identified problem your environment

STAGE 2 (detailed in curriculum documents, but no detailed in this analysis): To integrate simple techniques in analysing and suggesting solutions for situations/problems adapted to their environment

Stages for CE2:

STAGE 3 (detailed in curriculum documents, but no detailed in this analysis): To integrate basic concepts and simple techniques in analysing and suggesting solutions for situations/problems concerning malaria and AIDS in their environment.

STAGE 4 (detailed in curriculum documents but no detailed in this analysis)): To integrate basic concepts and simple techniques in analysing and suggesting solutions for situations/problems adapted to their environment and population caracteristics

The curriculum does not present any detailed methodology for each stage. It only mentions integration situations which should be considered in students' examination.

5 Summary

There is evidence in the Senegal basic education curriculum (six years of primary education) regarding competencies and skills development related to life and work. However, the approach to competencies for life and work remains mostly at a theoretical level and is associated predominantly with traditional occupations and life situations.

4.3 Developed Countries (Other Regions Studies)

Other regions study A – Australia/New South Males (NSW)

> **Features of the Basic Education Curriculum of Australia, NSW:**
> - In practical terms, eleven years of basic education (K + 10)
> - Basic education curriculum designed in five stages (Grades K-2 then four 2 year stages)
> - Outcomes based curriculum in all grades
> - Focus on the development of competencies and skills through:
>   - a balance of knowledge, skills, values and attitudes in all syllabuses
>   - the inclusion of a wide range of practical, work-related syllabuses as elective subjects
>   - the requirement that students demonstrate achievement of outcomes
> - For government school students, a coordinated, 'School to Work' programme with curricular and extra-curricular components

1 Context

1.1 Introduction

Australia is a federal democracy consisting of six states (Western Australia, South Australia, Victoria, New South Wales, Queensland and Tasmania) and two territories (Northern Territory and the Australian Capital Territory). The most populous state is New South Wales with approximately 33% of the nation's 21 million people.

Significant challenges for education and training in Australia include distance education, indigenous education and an increasing demand for skilled labour.

1.2 Responsibility for Curriculum[31]

The Australian Constitution assigns responsibility for education to the states and territories. There is no government agency for school curriculum at the national level, although various attempts have been made over time to encourage a move towards a national curriculum, but these have been resisted by states and territories.

Although there is no national curriculum, there are a number of high level agreements and declarations in place that act as a national education framework to ensure consistency in approach across the country. For example *The Adelaide Declaration on National Goals for Schooling in the Twenty-first Century*[32] was signed by all Ministers of Education in 1999. With regard to the development of competencies and skills for learning, life and work, the Declaration includes the following among eight national goals:

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31 Some significant changes are currently under way with the recent creation of a National Curriculum Board (Barry McGaw, Chair) mandated to take steps towards the development of a national curriculum in Asutralia.

32 The full text of the Declaration is available at:
http://www.dest.gov.au/sectors/school_education/policy_initiatives_reviews/national_goals_for_schooling_in_the_twenty_first_century.htm

Schooling should develop fully the talents and capacities of all students. In particular, when students leave school, they should:

1.1 have the capacity for, and skills in, analysis and problem solving and the ability to communicate ideas and information, to plan and organise activities, and to collaborate with others.

1.2 have qualities of self-confidence, optimism, high self-esteem, and a commitment to personal excellence as a basis for their potential life roles as family, community and workforce members.

1.4 be active and informed citizens with an understanding and appreciation of Australia's system of government and civic life.

1.5 have employment-related skills and an understanding of the work environment, career options and pathways as a foundation for, and positive attitudes towards, vocational education and training, further education, employment and life-long learning.

1.6 be confident, creative and productive users of new technologies, particularly information and communication technologies, and understand the impact of those technologies on society.

With regard to curriculum, the Declaration expects that all students will have

• participated in programmes of vocational learning during the compulsory years and have had access to vocational education and training programmes as part of their senior secondary studies.

• participated in programmes and activities which foster and develop enterprise skills, including those skills which will allow them maximum flexibility and adaptability in the future.

In addition to this Declaration, various meetings and consultations among state and territory Ministers of Education and curriculum development authorities occur on a regular basis.

2 The State of New South Wales (NSW)

2.1 Educational context

Most students (between 65 and 70%) in NSW attend one of the approximately 2240 government schools, constituting a total enrolment of approximately 740,000 students. The remaining 30 to 35 % of students attend a range of private schools.

To acknowledge the different rates of individual child development and provide more flexibility to schools, the curriculum is structured in stages rather than individual years. The stages are:

Stage 1   Grades Kindergarten, Years 1 and 2
Stage 2   Years 3 and 4
Stage 3   Years 5 and 6
Stage 4   Years 7 and 8
Stage 5   Years 9 and 10
Stage 6   Years 11 and 12.

While these stages constitute curriculum divisions, schools generally operate as primary (Stages 1 to 3) and secondary schools (Stages 4 to 6). Secondary schools generally have junior and senior divisions catering for Stages 4-5 and Stage 6 respectively. There also exist a significant number of senior colleges which deliver Stage 6 curriculum only.

The term 'basic education' is not widely used. By legislation in NSW, students must attend school from the age of 6 years until they reach the age of 14 years and 9 months. In reality, a very high proportion of students complete Stage 5 representing eleven years of schooling (K + 10).

For the purposes of consistency and comparability in this Study, Stages 1 to 5 are referred to as 'basic education'.

2.2 Curriculum Context

2.2.1 Responsibility for Curriculum Development

NSW has a curriculum agency (the NSW Board of Studies) established by stature and independent of the private and government school systems. The main functions of the Board of Studies (BOS) are to

• Develop curriculum for all accredited government and private schools

• Manage assessment and examination systems and

• Issue qualifications (the NSW School Certificate at the completion of Year 10 and the NSW Higher School Certificate at the completion of Grade 12).

While the BOS is intentionally independent of the systems that operate schools, it has developed processes for extensive consultation with school systems, principals, teachers and other stakeholder groups during all phases of the curriculum cycle.

2.2.2 Structure of the 'basic education' curriculum

The curriculum in NSW is based on six Key Learning Areas (KLAs) for Years K to 6 and eight KLAs for Grades 7 to 12. Each KLA in K-6 contains one syllabus which consolidates the relevant learning into one document. All students study all these syllabuses, although each syllabus is flexible giving teachers the opportunity to customise learning activities to the needs of students and to local contexts.

The K-6 Curriculum (with time allocation expressed as a %) comprises:

KLA	Time
English	25-35%
Mathematics	20%
Science and Technology	6-10%
Personal Development, Health and Physical Education	6-10%
Human Society and its Environment	6-10%
Creative and Practical Arts	6-10%

Up to 20% of time is available for additional activities determined by each school.

In most cases, KLAs for Years 7 to 10 contain a number of subject syllabuses. For the purposes of this Study and in the interests of comparability with other systems and countries, information and discussion regarding NSW will be confined to subjects.

The Basic Education curriculum in NSW consists of a combination of compulsory or core subjects, supplemented as students move into secondary school by elective subjects. These elective subjects are available to students according to the resources available within individual schools.

In most schools, students would fulfil the requirements by requiring students to undertake 3.5 to 4 hours in each of English, Mathematics, Science and Social Sciences, with students being offered a range of electives in years 9 and 10. Normally students would choose three electives and study each for approximately 2.5 to 3 hours per week. Remaining time in the school week might be devoted to organised sport or other school-based activities.

The full list of subjects developed by the BOS and available for study in Years 7 to 10 are listed in Table X.

Table 44 : List of Basic Education Subjects available for study – Australia, NSW[33]		
Type	Subject	Applicable to years
Core	English	K-10
	Mathematics	K-10
	Geography	K-10
	History	K-10
	Physical Development, Health and Physical Education	K-10
	Technology (Mandatory)	7-8
	Visual and Performing Arts	K-10
Elective	Aboriginal Languages	K-10
	Aboriginal Studies	7-10
	Agricultural Technology	7-10
	Arabic	K-10
	Chinese	K-10
	Classical Greek	K-10
	Commerce	7-10
	Dance	7-10
	Design and Technology	7-10
	Drama	7-10
	Food Technology	7-10
	French	K-10
	German	K-10
	Graphics Technology	7-10
	Hebrew	K-10
	Indonesian	K-10
	Industrial Technology	7-10
	Information and Software Technology	7-10
	Italian	K-10
	Japanese	K-10

33 This table is one representation of the subjects available for study in basic education in NSW, but does not necessarily explain all regulations regarding student selection of subjects. For this level of detail, readers should go to http://www.boardofstudies.nsw.edu.au/manuals/pdf_doc/ace_manual.pdf . It should also be noted that the majority of languages are taught in Schools of Community Languages.

	Korean	K-10
	Latin	K-10
	Modern Greek	K-10
	Music	K-10
	Photographic and Digital Media	7-10
	Russian	7-10
	Spanish	7-10
	Textiles Technology	7-10
	Turkish	K-10
	Vietnamese	K-10
	Visual Design	7-10
	Visual Arts	7-10
	Work Education	7-10
Content Endorsed[34]	Marine and Aquaculture Technology	7-10
	Physical Activity and Sports Studies	7-10

It is clear from this structure that a range of opportunities are available to students to undertake study that will give them work-related competencies and skills. For example, the emphasis on technology subjects (with specialties in Agriculture, Design, Food, Graphics, Industrial, Information and Software, Textiles and Marine and Aquaculture) indicates an emphasis on practical, work-related competencies and skills.

3 Approaches to the Development of Competencies and Skills in NSW
The NSW education system takes a number of approaches to the development of competencies and skills for learning, life and work during the years of Basic Education through formal and non-formal curriculum-related activities. However, the curriculum for Grades K to 10 is designed to be general in nature. Therefore, while many subjects in the formal curriculum make reference to specific industries or professions as a context for understanding syllabus content, professional or industry specific training is not a available to students until Years 11 and 12.

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34 *A Content Endorsed course is a course for which the content has been endorsed by the BOS but significant level of flexibility and discretion remains with schools regarding implementation.*

3.1 Principles Underlying Formal Basic Education Curriculum

All subject syllabuses for basic education in NSW must be consistent with the K-10 Curriculum Framework (published March 2002). To describe the purpose for learning in the Basic Education years, the BOS requires that students be provided with opportunities that

• engage and challenge all students to maximise their individual talents and capabilities for lifelong learning
• enable all students to develop positive self-concepts and their capacity to establish and maintain safe, healthy and rewarding lives
• prepare all students for effective and responsible participation in their society, taking account of moral, ethical and spiritual considerations
• encourage and enable all students to enjoy learning, and to be self-motivated, reflective, competent learners who will be able to take part in further study, work or training
• promote a fair and just society that values diversity
• promote continuity and coherence of learning and facilitate transition between primary and secondary schooling.

Within this framework and with specific regard to the development of competencies and skills as defined for this Study, this framework requires syllabuses to be consistent with the following Broad Learning Outcomes:

Students will:
• understand, develop and communicate ideas and information
• access, analyse, evaluate and use information from a variety of sources
• work collaboratively with others to achieve individual and collective broad learning outcomes
• understand and appreciate the physical, biological and technological world and make responsible and informed decisions about it
• understand and appreciate diverse social, cultural, linguistic, political, geographical and historical contexts and participate as active and informed citizens
• understand and apply a variety of analytical, creative and management techniques to solve problems and to meet needs and opportunities
• be productive, creative, discriminating and confident in the development and use of a range of technologies, understanding the implications of technology for society and the environment
• understand the work environment and have the knowledge, skills and understanding to evaluate potential career options and pathways

3.2 Outcomes-based syllabuses

All NSW syllabuses are expressed in terms of outcomes - what students are expected to know and be able to do at the completion of each subject and each stage within each subject. This approach of itself encourages a practical, competencies and skills based approach to teaching as students are expected to demonstrate what they have learned.

Example 1 Science (Core)

Course Description

Science develops students' knowledge, understanding and skills to explain and make sense of the biological, physical and technological world, enabling them to make informed choices and responsible decisions as individuals and part of the community.

The syllabus addresses the domains of knowledge, skills, values and attitudes and prescribes broad Objectives and Learning Outcomes for each domain. These are then elaborated in greater detail in the content section of the syllabus. A sample of broad Objectives and Learning Outcomes is contained in Table 45.

Table 45: Sample of broad objectives and learning outcomes from the Syllabus in Science – Australia, NSW	
Objective:	Students will develop skills in working scientifically through: • planning investigations • conducting investigations • communicating information and understanding • developing scientific thinking and problem-solving techniques • working individually and in teams.

Stage 4 Outcomes	Stage 5 Outcomes
A student:	A student:
4.13 clarifies the purpose of an investigation and, with guidance, produces a plan to investigate a problem	5.13 identifies a problem and independently produces an appropriate investigation plan
4.14 follows a sequence of instructions to undertake a first-hand investigation	5.14 undertakes first-hand investigations independently with safety and competence
4.15 uses given criteria to gather first-hand data	5.15 gathers first-hand data accurately
4.16 accesses information from identified secondary sources	5.16 accesses information from a wide variety of secondary sources
4.17 evaluates the relevance of data and information	5.17 explains trends, patterns and relationships in data and/or information from a variety of sources
4.18 with guidance, presents information to an audience to achieve a particular purpose	5.18 selects and uses appropriate forms of communication to present information to an audience
4.19 draws conclusions based on information available	5.19 uses critical thinking skills in evaluating information and drawing conclusions
4.20 uses an identified strategy to solve problems	5.20 selects and uses appropriate strategies to solve problems
4.21 uses creativity and imagination to suggest plausible solutions to familiar problems	5.21 uses creativity and imagination in the analysis of problems and the development of possible solutions
4.22 undertakes a variety of individual and team tasks with guidance	5.22 plans, implements and evaluates the effectiveness of a variety of tasks independently and as a team member

Although a core subject and what might traditionally be considered an academic subject, this syllabus is clearly focused on the development of competencies and skills as defined in this Study and demonstrates the consistency of approach to this issue in NSW syllabuses.

Example 2 Industrial Technology (elective)
Course Description
Industrial Technology develops students' knowledge and understanding of materials and processes in a range of technologies. They develop knowledge and skills relating to the selection, use and application of materials, tools, machines and processes through the planning and production of quality practical projects.

Students may undertake one or two courses in Industrial Technology and may elect to study one of eleven focus areas in each course. These focus areas are based on a range of technologies of industrial and domestic significance. These include studies in:
• Automotive
• Building and Construction
• Ceramics Electronics
• Engineering
• Farm Maintenance
• Leather
• Metal
• Multimedia/Photography
• Polymers
• Timber

Objectives and Learning Outcomes
A range of broad objectives and learning outcomes are specified for the end of Years 8 and 10, and are then made more specific within particular options and topics. A sample of these broad statements is contained in Table 46.

Table 46: Sample of broad objectives and learning outcomes from the Syllabus in Industrial Technology - Australia, NSW		
Objectives	**Stage 4 (Year 8) Outcomes**	**Stage 5 (Year 10) Outcomes**
Students will develop:	A student:	A student:
knowledge, skills and an appreciation of quality in the design and production of practical projects	4.2.1 applies a design process in the modification of projects 4.2.2 identifies and uses a range of hand and machine tools in different technological environments 4.2.3 makes quality projects to completion within set limitations	5.2.1 applies design principles in the modification, development and production of projects 5.2.2 identifies, selects and competently uses a range of hand and machine tools, equipment and processes to produce quality practical projects
knowledge and understanding of the role of traditional, current, new and emerging technologies in industry and their impact on society and the environment	4.7.1 identifies a range of technologies 4.7.2 recognises the impact of technology on society and the environment 4.7.3 global issues in relation to the use of technology	5.7.1 describes, analyses and uses a range of current, new and emerging technologies and their various applications 5.7.2 describes, analyses and uses a range of current, new and emerging technologies and their various applications

Example 3 Work Education (Elective)

Course Description
Work Education provides students with opportunities to develop knowledge, understanding and skills regarding the world of work including an awareness of work readiness and employer expectations, the roles and purpose of a range of sectors including education, training and employment organisations and an appreciation of the role of lifelong learning in planning and managing pathways.

Content
The core content of Work Education is arranged in two parts:

Core Part 1 - Preparing Futures	**Core Part 2 - Working Communities**
topics:	*topics:*
• Transition Planning	• Workplace Rights and Responsibilities
• What is Work?	• Exploring Post-school Pathways
• Introduction to Workplace Safety	• Technology and Communication
• Enterprise Initiatives	• Partnerships in the Community

Objectives and Learning Outcomes

A range of broad objectives and learning outcomes are specified for the end of Years 8 and 10, and are then made more specific within particular options and topics. A sample of these broad statements is contained in Table 47.

Table 47: Sample of broad objectives and learning outcomes from the Syllabus in Work Education – Australia, NSW		
Objectives	**Stage 4 (Year 8) Outcomes**	**Stage 5 (Year 10) Outcomes**
Students will develop know-ledge and understanding of:	A student:	A student:
the world of work	4.1 describes different types of work and employment options	5.1 identifies and interprets employment-trends and changes in the nature of work
	4.2 recognises appropriate workplace behaviour in a range of work envi-ronments	5.2 identifies and analyses current work-place issues
the roles and relationships of diverse sectors within the local and the wider Australian community	4.3 identifies a range of sectors within their local community	5.3 defines and assesses the roles and responsibilities of diverse organisa-tions within the community
	4.4 identifies the range of organisations within their local community	5.4 examines and evaluates the relations-hips between diverse organisations in the community
	4.5 identifies the roles and responsibili-ties of individuals within the local community in a range of contexts	5.5 evaluates and articulates the roles and responsibilities of individuals within the community in a range of contexts
the roles of education, employment and training systems in planning and managing life transitions	4.6 identifies a range of education, employment and training organisa-tions	5.6 identifies and articulates the purpose and roles of education, employment and training organisations
	4.7 identifies personal goals and values to develop pathway plans	5.7 constructs and communicates perso-nal goals and values using knowledge of the education, training and employment systems

4 Other Programmes

In addition to the wide range of opportunities to acquire learning, life and work-related competencies and skills afforded students as part of the formal syllabuses, government school students also participate in a programme entitled School to Work: Creating Future Pathways . The stated vision for this programme is for all Year 9 -12 students in NSW Government schools with a secondary enrolment to:
• be enterprising and capable citizens, well prepared for creating their own future pathways
• take on personal leadership and responsibility for planning and self-managing their career transitions to construct a fulfilling and productive life
• develop the skills and confidence to become independent, self-aware, resourceful and critically alert to the choices and opportunities available as they move through and beyond school.

The programme draws together a range of activities and resources (including parent and community resources) into four key result areas for students. These Key Result Areas and outcomes for students are described in Table 48.

Table 48: Outcomes for students of the Programme School to Work: Creating Future Pathways - Australia, NSW	
Key Result Areas	**Students will:**
Planning transition pathways	• develop flexible career plans that support a range of career and training options • have the ability to self-manage their career and transition planning • confidently access career support services
Exploring future careers	• have easy access to relevant, up-to-date career information and support • use electronic-based technologies to support their career and transition planning • experience a variety of learning opportunities in authentic / simulated work environments.
Strengthening Student Outcomes Through Vocational Learning	• articulate the relevance of their curriculum learning to personal growth and future careers • value and demonstrate enterprise and employment-related skills through school and community based activities • have access to a range of work-related courses • create and use opportunities to develop skills and attributes to apply to life experiences
Building Connections and Networks	• identify and make use of a range of formal and informal support agencies and networks in the local and wider community • value and learn from quality community and workplace learning opportunities • value and build personal and peer networks to support career and transition planning

5 Summary and Conclusion

The NSW curriculum has adopted a strong focus on the development of competencies and skills related to learning, life and work, and this approach is consistently reflected in its curriculum framework, syllabuses and other programmes. This is demonstrated by the number of work and employment-related subjects available to students as elective courses, as well as the emphasis placed in syllabuses on the achievement of specific competencies and skills in all subjects.

The outcomes based nature of the syllabuses encourages the demonstration by students of the achievement of these outcomes.

The School to Work Programme consolidates a range of life, study and work-related experiences for students into a single, coordinated programme for government school students.

Other regions study B - United Kingdom (England)

Features of the Basic Education Curriculum of England:

- Little reference to Basic Education, instead 'Compulsory Education' is being used extensively (age range 5 - 16)

- The curriculum is structured into core and elective subjects and defined according to several Key Stages of the curriculum

- Emphasis is put on cross-cutting issues and on balancing theoretical and practical (hands-on) outcomes

- Curriculum is developed by the Qualification and Curriculum Authority (QCA) based on taking into consideration a National Qualifications Framework, and following comprehensive consultative processes

- The curriculum contains 'suggested minimum' requirements in terms of learning content, methodologies and outcomes

- Overall life-related competencies are emphasised throughout the compulsory education curriculum and specific work-relevant 'carrier subjects' are being introduced as electives in Key Stage 4 (end of compulsory education)

1 Context

1.1 Introduction - Basic Education

In England and Wales, there is little if any reference to 'basic education'. Instead, the following precise definition of 'compulsory education' applies:

'...most local education authorities have a policy of accepting children into school at the beginning of the term during which the child becomes five. However, the child is not obliged to attend school until the beginning of the term following their fifth birthday...All young people can leave school on the last Friday in June of the school year if they reach the age of 16 before the first day of the following (September) term. This is the end of compulsory education.'

1.2 Responsibility for Curriculum

Curriculum in England is developed by the Qualifications and Curriculum Authority which also has responsibility for regulating the public examination system and maintaining the country's qualifications framework. The National Qualifications Framework enables the QCA 'to accredit qualifications at appropriate levels to meet the needs of employers and learners'.

The QCA describes its role in curriculum as[38]

'QCA is committed to developing a modern, world-class curriculum that will inspire and challenge all learners and prepare them for the future. Our responsibilities are to:
• Engage with strategic partners, young people, parents and wider curriculum stakeholders
• Build the evidence base for a future world-class curriculum
• Promote a world-class future curriculum
• Deliver projects (subject, phase and themes) commissioned by the Department for Children, Schools and Families(DCSF)
• Modify national curriculum assessment arrangements
• Deploy subject expertise across QCA and NAA
• Deploy subject expertise across QCA on the 11 - 19 reform programme
• Review the curriculum at Key Stage 3.'

2 Curriculum Context
2.1 Curriculum Structure
The curriculum for compulsory education in England is organised in four 'Key Stages', with each Key Stage being equivalent to ages and grades as follows:

	Key stage 1	Key stage 2	Key stage 3	Key stage 4
Age	5-7	7-11	11-14	14-16
Year groups	1-2	3-6	7-9	10-11

Because the age of compulsory school enrolment is to age sixteen, it would be expected that all students complete all Key Stages.

2.2 Subjects

The following table describes the distribution of subjects across the Key Stages.

Table 49: Distribution of subjects across Key Stages - England				
	Key stage 1	Key stage 2	Key stage 3	Key stage 4
English	■	■	■	■
Mathematics	■	■	■	●
Science	■	■	■	●
Design and technology	■	■	■	●
Information and communication technology	■	■	■	■
History	■	■	■	
Geography	■	■	■	
Modern foreign languages			■	●
Art and design	■	■	■	
Music	■	■	■	
Physical education	■	■	■	●
Citizenship			◢	◢
■ Statutory from August 2000 ● Statutory from August 2001 ◢ Statutory from August 2002				

The documentation of curriculum also includes Programmes of Study which set out what students should be taught and attainment targets which describe the standards students are expected to achieve.

In addition to subjects, there is an expectation of two hours per week of physical education in addition to the requirements of the National Curriculum, and clear requirements regarding a number of cross-cutting themes:
• spiritual, moral, social and cultural development
• six key skills which 'help learners to improve their learning and performance in education, work and life'.
  The key skills are:
  • Communication
  • Application of number
  • Information technology
  • Working with others
  • Improving own learning and performance
  • Problem solving
  • thinking skills

- Information-processing skills
- Reasoning skills
- Enquiry skills
- Creative thinking skills
- Evaluation skills
- financial capability
- enterprise education
- sustainable development

While there are no clear 'carrier subjects' for competencies and skills in the curriculum, the existence of the cross curriculum competencies listed above are a clear illustration of the QCA's commitment to the development of competencies and skills for learning, life and work. The following descriptors further clarify this approach:

'Information technology
The key skill of information technology includes the ability to use a range of information sources and ICT tools to find, analyse, interpret, evaluate and present information for a range of purposes. Skills include the ability to make critical and informed judgments about when and how to use ICT for maximum benefit in accessing information, in solving problems or for expressive work. The ability to use ICT information sources includes enquiry and decision-making skills, as well as information-processing and creative thinking skills and the ability to review, modify and evaluate work with ICT. Opportunities for developing this key skill are provided explicitly through the subject of ICT and through pupils' use of ICT across the curriculum.

Working with others
The key skill of working with others includes the ability to contribute to small-group and whole-class discussion, and to work with others to meet a challenge. If pupils are to work with others they must develop social skills and a growing awareness and understanding of others' needs. All subjects provide opportunities for pupils to cooperate and work effectively with others in formal and informal settings, to appreciate the experience of others and consider different perspectives, and to benefit from what others think, say and do.

Improving own learning and performance
The key skill of improving own learning and performance involves pupils reflecting on and critically evaluating their work and what they have learnt, and identifying ways to improve their learning and performance. They need to be able to identify the purposes of learning, to reflect on the processes of learning, to assess progress in learning, to identify obstacles or problems in learning and to plan ways to improve learning. All subjects provide opportunities for pupils to review their work and discuss ways to improve their learning.

Problem solving
The key skill of problem solving involves pupils developing the skills and strategies that will help them to solve the problems they face in learning and in life. Problem solving includes the skills of identifying and understanding a problem, planning ways to solve a problem, monitoring progress in tackling a problem and reviewing solutions to problems. All subjects provide pupils with opportunities to respond to the challenge of problems and to plan, test, modify and review the progress needed to achieve particular outcomes.'

3 Subject Curricula

Each subject curriculum document contains detailed statements of objectives, and the related schemes of work describe specific learning outcomes.

For Design and Technology Key Stage 3, for example, the schemes of work outline a wide range of units, each of which describes a range of competencies and skills that can be developed. The unit 08bii: Designing for clients - Focus: resistant materials contains the following sample of competency and skill focused learning outcomes:

Section 7: Focused practical tasks (FPTs) - 2 Children:
• make a working circuit

Section 8: Focused practical tasks (FPTs) - 3 Children:
• produce a graphic message or image

Section 12: Focused practical tasks (FPTs) - 7 Children:
• use CAD software and follow instructions to set up a computer-controlled machine
• use machinery safely to make a simple item, eg a template
• explain why it might be appropriate to use CAD/CAM rather than hand-tools

In Key Stage 4, students are introduced more specifically to work-related content, competencies and skills. The following sample of objectives included in Work-related Learning:
• Students learn about the way business enterprises operate, working roles and conditions, and rights and responsibilities in the workplace.

Suggested minimum
• Students have at least two curriculum activities that develop their understanding of business and work.

Through this provision students can:
• outline the main types of business enterprises and the key roles within each
• give examples of employers' and employees' rights and responsibilities at work, particularly in relation to equality of opportunity, respect for diversity and health and safety
• demonstrate a basic knowledge and understanding of a range of economic concepts
• describe some ways that working conditions changed during the last century and give some reasons for the changes.

4 New Secondary Curriculum

New Programmes of Study will be implemented from Grade 7 in September 2008. The documentation for this curriculum makes very clear and specific reference to the need to develop competencies and skills for learning, life and work. For example, the 'Skills' section of the documentation contains the following introduction:

To be well equipped for their future, young people need to develop essential skills for learning, life and employment.

As well as the skills that relate to learning in specific subjects, there are other more generic skills essential to life and work. There is widespread consensus that skills such as self-management, problem solving, teamwork and effective communication are important components in a curriculum that seeks to prepare young people for the future.

These skills are captured in a new framework for personal, learning and thinking skills, developed in consultation with employers, parents, schools, students and the wider public. The development of these skills is essential if young people are to become successful learners, confident individuals and responsible citizens. [39]

The competencies and skills have been developed to be applied across the curriculum. The specific skill areas are listed as

- Functional skills (defined as 'those core elements of English, mathematics and ICT that provide an individual with the essential knowledge, skills and understanding that will enable them to operate confidently, effectively and independently in life and at work.')
- Personal, learning and thinking skills (PLTS) (defined as 'the qualities and skills needed for success in learning and life.). These skills have been developed as a framework which includes 'social and emotional aspects of learning, employability, responsible citizenship, enquiry skills and creativity, self-direction and independent study, reflection on learning (learning to learn and assessment for learning).'

5 Summary

Any analysis of the curriculum developed and managed by the QCA would indicate that there is a clear and unequivocal commitment to the development in students of a strategically focused set of competencies and skills related to learning, life and work. The curriculum puts this commitment into effect through a range of approaches, including

- An outcomes approach to curriculum design which explains clearly to teachers the student outcomes expected from each subject in each Key Stage. These are expressed as abilities and capacities that students would be expected to acquire and be able to demonstrate
- The development of 'carrier subjects', in particular Work-related learning (electives) for Key Stage 4 in connection with the National Qualifications Framework
- The development and application of a clear framework of life and work-related competencies and skills that apply across the curriculum and is emphasised also in the context of special programmes, such as extra-curricular activities.

Conclusions and recommendations

5.1 Conclusions from a comparative perspective: main issues and lessons learned

This Study has been able to provide only a snapshot of the extent to which current basic education curricula in African countries address the development of competencies and skills for life and work. Complex curriculum analysis is a complex process involving far more than a review of documents. However, this Study was able to develop and apply an analytical framework to the written curricula of ten African countries -four presented as case studies and six as reference studies. These have been set against a background of two approaches taken by countries, systems or regions outside Africa (Australia/NSW and UK/England).

As discussed in the introduction, and further on in the context of analysing the written curriculum of different countries, some main questions underpinning the research were as follows:

• What changes and trends in today's (and tomorrow's) world are being considered important with regard to the need to adjust the curriculum to new opportunities and challenges as to equip learners with the knowledge, skills, values and attitudes they need to integrate successfully (adult) life and the world of work?

• What can be learned from the written curriculum with regard to education/curricular responses to new challenges and opportunities: e.g. what curriculum models/concepts are being promoted and why; how, and how well is the curriculum organised; what, in the curriculum, can be deemed as supporting the development of life and work competencies in students (e.g. competency-based approaches; 'carrier subjects', specific teaching and learning content and methods linking theory and practice, and assessment strategies; local curricula developed with the support of community stakeholders); how well is the curriculum written, how explicit and transparent; is the curriculum available and useful to stakeholders?

• What are main comparative aspects and lessons learned: what is common and what is different among the curricula of the countries analysed?

• In most of the countries studied, the research documented a clear shift (at least at the intentional, declarative level) from a more traditional, content- and objectives-driven curriculum to a curriculum development model privileging a competency or outcomes based approach. As it is well known, the preference for different curriculum 'models' (content-driven; objectives-driven; competency-driven) has important consequences with regard to the selection of different 'curriculum organisers' (i.e. subjects; broad learning areas; learning objectives associated to testing and examination; general, overarching and specific competencies; themes/topics and project work). It has also an impact on the choice of teaching and learning methodologies, and on assessment strategies. For instance, a content-driven curriculum would be rather associated with methods such as lecturing, or an objectives-driven curriculum with external testing focusing on cognitive skills and knowledge dimensions.

In real life, however, despite a theoretical and declarative preference of decisions makers and curriculum specialists for one or the other of such curriculum models, these are often interwoven and can work together quite efficiently. This results, for instance, in competency-based curriculum models with learning areas and subjects being still seen as main organisers of the curriculum while emphasis is put nevertheless on the cross-cutting development of different types of key competencies. Among the countries studied, Mali is the only one, who, in adopting explicitly a 'competency-based approach' tends to replace subjects, as curriculum organisers, with 'learning units' in a quite complicated curriculum discourse which may though prove difficult to read for teachers.

The choice of a 'competency based curriculum model' by all countries analysed (except Kenya, for which no explicit curriculum model could be defined, though the model in use seem to be more a content-driven one) signalises that countries do consider it as an appropriate response, in education/curriculum terms, to the new developments in our today's (and tomorrow's) world (i.e. 'outcome-based curriculum' - South Africa; 'broad learning outcomes/attainment targets' - Botswana; 'competency- based curriculum' - Mali). Countries seem to realize increasingly that the end result of learning should not be knowledge per se, but competencies relevant to life and work for which knowledge (in conjunction with values, attitudes and skills) plays an instrumental role. They ought though to be equally aware of running the risk of overemphasising end results in the detriment of learning inputs and processes: while it is important to be aware of a final destination, it is equally important to choose a proper and cost-efficient itinerary, and to make sure that all needed resources are on board, and are fairly transparent and available to those embarked on the journey.

In policy and curriculum documents attempts are being made to explain the need for an increased focus on competencies in connection with current and foreseeable developments at national, regional and international level. However, the degree of specification and the relevance of such analyses vary greatly across countries.

As curricular responses to the need of emphasizing the development of life and work-related competencies in students, most countries analysed tend to privilege solutions such as : defining learner profiles at different education stages and lists of competencies envisaged (i.e. 'qualifications'); 'carrier subjects' with a practical scope; flexible ways of time allocation allowing for locally defined curricula and an emphasis on competency-development; learner-focused and interactive pedagogies, as well as a cross-cutting pursuit of competencies; assessment strategies transcending the sheer evaluation of memorized information, which is compatible with trends noticed in developed countries, such as Australia and UK. It is though worth mentioning that only in the two developed countries analysed qualifications in the curriculum (i.e. types and degrees of acquisitions at a certain education stage/level) are being strongly associated with a 'National Qualification Framework' as a basis for cohesive approaches bringing together schooling, social issues and the world of work.

With some exceptions again (i.e. Botswana, South Africa), it is only in the curriculum of developed countries where one can find a more explicit emphasis on implementation issues and quality assurance. While developed countries, and some of the Sub-Saharan countries analysed (i.e. South Africa, Botswana, Mauritius, Angola) tend to emphasis continuity between primary and lower secondary education (i.e. by reinforcing the presence of 'carrier-subjects' in both stages, and introducing additional life and work-related learning experiences in lower secondary thus building on, and expanding acquisitions in primary education) in especially Francophone countries subjects that are more closely linked with life and work in primary education tend to be stopped in lower secondary, and replaced by subjects of a more academic nature.

While all countries seek for a closer relationship between theory and practice, Anglophone and Portuguese speaking countries seem to succeed better in the way they formulate in their curriculum practically-oriented content, activities/processes and outcomes. In the case of the Francophone countries, while the intent of linking theory and practice in learning is clearly expressed in curriculum documents, the way the learning content, activities/processes and outcomes are defined pertains still to a rather theoretical paradigm. This may be explained by the powerful pressure of the so-called 'objectives-based curriculum model' widely used in Francophone countries which led to overemphasising knowledge- and cognitive- related outputs and the careful definition of detailed cognitive learning objectives as a basis for examination and testing. As stated in the context of country analyses, even in countries explicitly mentioning a competency-based approach (Senegal; Mali; Congo; Burundi - where both objectives and competencies are being emphasised) the wording used to define such competencies is almost exhaustively of a cognitive nature ('to describe', 'to list', 'to explain') with little emphasis on action-oriented formulations.

Despite the many remaining challenges to be confronted now and in the future, it is worth mentioning that countries have made, in general, a tremendous effort to modernize their curriculum in line with new needs in life and the world of work, as stated in the summary below:

1. *Curriculum changes as responses to needs in the society, economy and labour markets.* While overall changes in today's globalised world, such as increased interdependencies between local and global contexts, are more often mentioned in curriculum documents, there is generally little reference in them to the specific needs of labour markets and little flexibility in curriculum to acknowledge changeable labour market trends (i.e. changes and new needs/opportunities/challenges triggered by the 'knowledge-based economy' and the global mobility). Although it is entirely understandable that countries with large rural populations would focus on Agriculture as a school subject or Learning Area, there also needs to be recognition that entrepreneurial small business skills or 'niche' ICT competencies and skills might also be in demand in the near future. Systems should ensure that curricula accommodate the development of such specialised subjects or that generic skills in the general curriculum can be readily adapted by students to take advantage of opportunities presented in the labour market.

2. *Curriculum reforms introducing competency-based approaches.* With some noticeable exceptions (i.e. Kenya) all the other Sub-Saharan countries analysed have carried out or are currently carrying out profound structural and education content and methods-related (curriculum) reforms with a view to foster outcomes-based approaches and develop useful competencies in learners. Processes of education structure and curriculum reforms are usually being part of a broader national strategy to achieve education for all (EFA) or reduce/alleviate poverty or promote literacy and numeracy. It is nevertheless also evident that again, with some exceptions (i.e. South Africa, Botswana) these reforms are not strongly/explicitly connected with national economic strategies and future societal and economic prospects.

Unsurprisingly, the issue of developing competencies and skills through basic education curricula has received varying degrees of attention in the ten Sub-Saharan countries analysed. In some countries, it is clear that this issue has been the subject of intense interest among curriculum developers. Although adopting different models and formats for syllabuses, these curricula are outcomes-focused and illustrate a clearly-articulated vision to create a knowledgeable and skilled citizenry and workforce.

In other countries, however, the issue of developing competencies and skills has received scant attention in curriculum documents. This may be for a variety of reasons, including: lack of capacity in curriculum authorities to tackle this difficult assignment; or lack of critical impetus and initiative, or lack of appropriate economic and social contexts triggering a movement towards competency-based approaches in curriculum development and learning. It is beyond the terms of reference of this Study to analyse why this might be, but the distance between the extremes in the extent to which this issue is being tackled is considerable.

3. *Participation of stakeholders and local curricula.* There is little reference in any of the documents studied to the potential of curriculum developed at the local level (except in Angola, Mozambique, Mauritius/ZEP and Botswana). All curriculum is centrally developed with little apparent flexibility or delegation to the local level. One possible strategy to take advantage of any local industry investment and local employment opportunities is to allow schools to develop local curriculum. To monitor these systems and processes, schools might need to meet certain centrally set standards in its curriculum documentation or even for curriculum developed by schools to require endorsement by the central curriculum authority. However it is done, the advantages of enabling local curriculum development to take advantage of local labour market opportunities are considerable.

4. S*pecial curriculum solutions: 'carrier-subjects', cross-cutting approaches and flexibility.* The study noted the introduction into a number of national curricula of what might be referred to as 'carrier-subjects' - subjects developed with the specific purpose of ensuring life and work-related competencies and skills are incorporated into the curriculum. The development of Economic and Management Science and Life Orientation syllabuses in South Africa, Education for Work in Angola and Initiation to Production and Cooperative Projects in Congo are examples of this 'carrier-subject' strategy. Cross-cutting aspects and dimensions are also considered, at least as an intention of the official/written curriculum. It is however crucial that these new carrier-subjects and cross-cutting approaches benefit of appropriate teaching and learning materials, and that teachers are able to teach them effectively.

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5. *Teaching and learning strategies.* Although exceptions were noted, there is generally insufficient attention given to teaching and assessment methodology. It is acknowledged that the Study did not have the capacity to examine all support documents and strategies that might be in place in different countries. In general, however, the tendency in syllabus documents to state outcomes without providing appropriate methodology is like proposing a journey's destination without detailing an itinerary - getting to the destination can be inefficient, uncomfortable, repetitive and lead to the usage of totally inappropriate methods of transport. Teachers need advice and guidance in teaching and assessment strategies that will be effective in achieving those outcomes.

6. *Assessment and evaluation of learning outcomes.* Most national curricula studied devote quite an important space to assessment and evaluation issues focusing on progressive assessment that is able to motivate students and develop competencies for life and work. Statements of assessment and evaluation are though usually quite vague and general which makes it difficult for teacher to translate principles into daily practice appropriately. National (external) testing in some counties represents also a problem for it is usually focused on memorisation and reproduction of pre-fabricated knowledge. There are though some recent encouraging developments (i.e. Mauritius) to reinforce the weight of classroom based and formative assessment in the context of examinations with a strong selection purpose.

7. *Professional training in lower secondary education.* In some of the countries studied pre-vocation/professional forms of training were introduced at the lower secondary level with a view to permit early insertion of the young into active life and the world of work. In some other countries professional aspects are tackled only as part of general information packages with regard to the world of work, and in conjunction with the orientation of students towards different carrier paths in compliance with societal needs and opportunities, as well as with personal interests, talents and skills.

8. *Life, business and Work Ethics.* While ethical aspects are being tackled more extensively in all ten Sub-Saharan countries studied (with a focus also on national priorities, such as LTLT or HIV/AIDS) business and work ethics are only discussed in few of the countries studied and benefit in general of only superficial attention.

9. *Gender issues.* The authors have not found strong evidence of a gender-sensitive approach in the development of competencies for life and work in the national curricula studied. While in some countries gender equality is mentioned as a principle, as well as shifts in the modern economy and labour markets that have gender implications (i.e. Mozambique, Angola, Mauritius) this does not translate into curriculum aspects in an explicit and transparent way.

10. *Theory into action:* how curriculum discourses can become successful daily-life practice. The Study noted that some curricula, while developed with the intention of being outcomes-based and focused on competencies and skills, do not realise that intention at a detailed, technical level. In some cases this seems to have resulted in curricula in which students are simply expected to 'list' or 'describe' rather than to 'demonstrate' or 'make' - in other words the specific outcomes are knowledge based rather than competency or skills based. In other cases, this seems to have resulted in curricula that are more complex than necessary (i.e. Mali - with no explicit reference to other curriculum organisers than 'competencies', difficult to read and showing misunderstanding of and confusion about fundamental curriculum concepts (i.e. learning objectives are being mixed with learning outcomes and also with learning content treated merely as information students should acquire). It should be remembered that first and foremost syllabuses are documents for teachers and textbook/material developers, and must be clear and helpful to them in doing their job. Effective curriculum development requires good intentions as well as the technical capacity to develop structures and syllabuses that put these good intentions into practice. Sophisticated curricula (and sometimes too complicated and confusing documents) do not necessarily engender and guide quality practices in an effective way. Difficult -to-understand curricula determine that quite often important changes in curriculum and learning remain at a declarative level while in practice teachers implement their old 'routines' pretending they are innovative.

5.2 Recommendations

5.2.1 Education Structure: nature and scope of Lower Secondary Education as part of Basic Education

The term 'basic education' appears very infrequently in formal legislation and curriculum-related documents of the countries reviewed as part of this Study. When it is used, its meaning is not clear. Is it a term defining a minimum number of years to be spent in school? Is it a term describing the minimum levels of knowledge and skills to be achieved by every student?

Most often, 'basic education' appears to equate with 'compulsory' or 'obligatory' years of schooling. This is most commonly a primary + lower secondary model consisting of 6/7 years + 3/4 years in various combinations. The lower secondary component is most frequently the locus of more specific life and work-related competencies and skills. However, in some countries studied (i.e. especially Francophone countries) life and work-related subjects present in primary education tend to be replaced in lower secondary by subjects of a more general/theoretical nature.

Some forms of pre-vocational training are also present in some of the countries studied (i.e. Mauritius) but they address rather low achievers instead of being designed as an alternative for those willing to engage in VET after primary education. In developed countries, as a rule, TVET forms of schooling are provided after the end of basic/compulsory education (situated around 15/16 years of age). With some exceptions (i.e. Germany) developed countries have also opted increasingly for comprehensive basic/compulsory education meaning that no early streaming of learners in compliance with their school results and capacities is being undertaken until quite late (after Grade 8, 9 or 10). In the framework of comprehensive schooling and national curricula/standards/guidelines differentiation of learning by addressing individual needs, talents, interests and learning styles is though made possible.

African Sub-Saharan countries are in the need to define more clearly and also more harmoniously what is understood by basic education, and what is the scope and nature of lower secondary education: is it still part of a common, comprehensive education stage for all, is it going to be differentiated in streams, why, how and what for? Although it is not part of the scope of the present Study, the issue of examinations and certifications is also worth mentioning. With such an important variety of education structures, it is imaginable that the mutual recognition of diplomas and qualifications might be a quite difficult matter. A more cohesive and harmonious definition of education structures, especially at the lower secondary level, accompanied by appropriate curriculum and assessment solutions may support in the future better mobility and integration of those in need to travel from one country to the other.

Recommendation 1
That any structural model developed for lower secondary schooling should:

a. take into account the need to define carefully the nature and scope of basic/compulsory education, not just in terms of number of years of schooling, but also in terms of qualifications students acquire. The nature and scope of lower secondary education ought to be in line with a broad future vision of both the overall societal context and the education system in an increasingly interdependent world, with local and global aspects interacting in dynamic, and sometimes also tense ways.

b. build secondary education on developments and achievements in primary education, while expanding in lower secondary schools the horizon of students, and opening new pathways to further studies or the successful integration of life and the world of work;

c. adopt context-specific solutions (i.e. pre-vocational schools) while keeping the system flexible and transparent: students should be able to (re)integrate lower secondary schools based on open, fair and flexible forms of accession/admission, and participation of all students in comprehensive forms of lower secondary schooling should be sought for as much as possible;

d. seek for solutions to provide free-of-charge education at lower secondary level as much as possible;

e. integrate modalities of counselling and orientations for students to make informed decisions with regard to their life and professional choices.

5.2.2 Curriculum Models and Construction

As was to be expected, the Study found a range of models currently adopted by African countries to incorporate learning, life and work-related competencies and skills into the curriculum. In a number of cases (such as Life Orientation in South Africa, Business Studies in Botswana and Agriculture in a number of countries) competencies and skills were concentrated into specific subject syllabuses. In another case (Mali), competencies and skills are used as 'curriculum organisers' or as major structural dimensions of the syllabuses (at least at the declarative level).

In yet other cases, competencies and skills are 'infused' into a number of subjects, and in some cases into all subjects, as cross-cutting objectives, issues and dimensions. In some cases, there is a combination of these approaches. In some of the countries studied national/core curriculum prescriptions are combined with locally-defined curriculum provisions based on some degrees of school autonomy and flexibility of the curriculum and time allocation (i.e. Mauritius - flexible curriculum for the ZEP schools; Mozambique - 20% of the syllabus content defined locally; more flexible time allocation in primary education - Botswana; structuring of the curriculum in core, foundations and elective subjects - UK/England).

It is critical that countries seeking to enhance the development of competencies and skills adopt an approach that best suits their own context, taking into account societal developments, the needs of the labour market and economic prospects, the professional skills of teachers and the available resources.

The Study has shown that a number of different approaches to incorporating competencies and skills into the curriculum have been adopted in countries in Sub-Saharan Africa.

Among the approaches successfully adopted include:

1 'Carrier subject' approach - subjects developed with the specific purpose of teaching competencies and skills related to learning, life and work and benefiting usually of a similar amount of time across countries, also comparable to developed countries (i.e. Personal development, Work Education and Technology, as elective subject - Australia/NSW; Personal development and Initiation to Production and Cooperative Projects - Congo; Moral and Civic Education and Education for work - Angola; Value Education and Economy/ Business Studies - Mauritius; Life Skills - Burundi; Moral and Civic Education and Social and Work education - Mozambique; Agriculture, Health and HIV Aids education in most countries);

2 Cross-curriculum approach - ensuring that many if not all subjects are 'infused' with competencies and skills that ensure students can apply knowledge to real life or simulated situations;

3 The development pf learner profiles associated with key (generic) competencies to be addressed across the curriculum, such as communication, social, motor, emotional, thinking, labour skills.

These approaches all have value and should be considered when addressing the issue of incorporating competencies and skills into the basic education curriculum.

Recommendation 2

That when authorities seek to enhance the competencies and skills learning outcomes in syllabuses, they adopt a curriculum design model and approach that is most relevant to their individual contexts and is also easy to read and to be translated into daily school practice, meaning:

a. that choices for a competency-based approach for curriculum development and implementation should be accompanied by a careful selection of 'curriculum organisers'. Competency-based approaches can work quite well in the context of structuring the curriculum based on learning areas and subjects on condition that the selection and organisation of learning experiences is student friendly, relevant and meaningful (i.e. linking theory and practice in a way that makes sense to student's background and experiences);

b. that whatever solutions are reckoned important to develop life and work-related competencies in students, general statements of intention are complemented by appropriate technical solutions in the way curricula are designed, written and presented to the public: too complicated or too vague documents ought to be avoided, and clear, simple documents, with relevant guidance and concrete examples for teachers should be privileged;

c. that curriculum provisions allow for the integration of locally-defined contexts, problems and solutions based on the involvement of stakeholders and in line with nationally-defined quality standards;

5.2.3 Support for Curriculum Implementation

Traditional curriculum generally tends to list knowledge in organised topics that students are expected to remember and repeat in an end of year exam. A more balanced curriculum, with appropriate emphasis on student outcomes in a range of domains (knowledge, skills, values and attitudes), generally requires more professional input from teachers to interpret and adapt to the needs of classes, individuals and local circumstances.

In other words, more contemporary curriculum, with an appropriate focus on competencies and skills, generally requires more support for teachers. This support might take the form of revised teacher preparation courses, in-service training, networks created among teachers and support documents which provide model teaching units or activities or teaching resources.

In the area of assessment, teachers need professional development and support in moving away from traditional pen and paper tests to more reliably and accurately assess the extent to which a student has achieved a competency or skill. They themselves need a completely new set of assessment competencies.

One frequently used and highly appropriate source of advice in these areas is the syllabus. Syllabuses should at least include statements about teaching and assessment methodology that match the requirement to develop practical and observable competencies and skills in students.

Recommendation 3

That curriculum documents (i.e. Curriculum Framework; Syllabuses; Teacher Guides) contain explicit, simple, concrete and useful guidance for teachers with regard to teaching and learning methodologies and assessment procedures and tools, that is:

a. in addition to stating learning objectives, outcomes and content items, they ought to empower teachers with conceptual and methodological elements that help them organise their teaching practice effectively (i.e. 'schemes of work' - UK-England). Concrete suggestions for practical activities should accompany statements with regard to conceptual learning and how to differentiate learning while observing common quality standards;

b. to advance, in compliance with different purposes, relevant assessment procedures and tools allowing not only to evaluate (measure) cognitive aspects, but also other achievements pertaining to the model of the 'whole development of a person';

c. to make teachers aware of, and empower them to deal with new, emerging issues, such as new 'carrier subjects' they were not trained for in pre-service TET (i.e. Life skills; Personal development; Civic and Moral education; Health Education/HIV and AIDS; Environment Education) or cross-cutting issues, such as the development of generic/key competencies (i.e. communication, emotional, social, work competencies);

d. to make teachers aware of possibilities to link school and out-of-school activities in a meaningful way, and guide them with regard to efficient ways of doing so.

5.2.4 Curriculum processes

The identification and elaboration of specific competencies cannot be done in isolation from the society and the economy. Attention should be paid to the needs of families, communities, the society more generally and the economy. Careful analysis of societal trends and labour markets should be undertaken with a particular view to new roles individuals may play in their families or communities, and emerging industries and employment opportunities.

To achieve this objective, processes of consultation with the full range of stakeholders should be undertaken, including
• Parents and students
• Teachers and principals
• Industry and large enterprise representatives
• Community representatives
• Universities
• Relevant government departments.

Recommendation 4

That, when revising curriculum, consultation occurs with community stakeholders, such as members of the business community, other government agencies and departments, parents, students, the TVET and university sectors and local communities based on which:

a. comprehensive and cohesive lists of desirable key/generic and specific competencies are defined as a result of consensus building processes implying negotiations and meaningful compromises;

b. tensions and dilemmas accompanying processes of selection and organisation of relevant life and work-related competencies (i.e. tensions between local and global; traditional and new) are tackled openly and constructively;

c. public awareness with regard to education changes is enhanced, and ownership is created engendering public support to curriculum making and implementation.

The successful curriculum revision already completed by a number of African countries and described in this report presents clear opportunities. There are also countries that have addressed the issue with less success, but have no doubt gathered very valuable experience and expertise. There are clear opportunities for all countries to learn from those experiences.

5.2.5 Competency-based approaches and quality assurance

As stated in many international analysis (see among others, UNESCO GMR2005: The Quality Imperative) the quality of education and the overall social and economic development of societies depends not only on the quantitative investment in education. Although very important, the level of education investments (in terms of absolute and relative amounts/percentages) ought to be supplemented by efficiency: what is that funds and resources are being used for, why, and with what efforts and what results?

While all education systems, especially in developing societies, such as the Sub-Saharan countries are called upon to make special efforts to ensure fair access to education and an equitable distribution of education services, it is nevertheless important to stress that equity concerns should always be accompanied by quality concerns. The adequate development of competencies for life and work through appropriate curriculum provisions inspiring meaningful teaching and learning activities may constitute a good solution for tackling equity and quality issues altogether by taking into account local contexts and broader societal and economic developments.

The documents consulted offer an impressive picture of conceptual/intellectual efforts made to enhance the potential of the written curriculum with regard to the skill formation for life and work. There is however little reference in such documents to monitoring and evaluation processes with regard to curriculum implementation, and even less information with regard to processes of quality assurance in the case of the curriculum itself.

Recommendation 5

That strong elements of quality assurance be attached to all phases of curriculum development and implementation in order to make sure that:

a. The curriculum is being developed in compliance with national and international quality standards and effective practices, and based on explicit and clear quality criteria;

b. The overall education policy and the curriculum are being developed by taking into account relevant local, national and international comparative education data and other relevant and reliable results of valid (professional) education research;

c. The curriculum is truly providing the expected links between reform-oriented policy statements (i.e. education aims) and the technicalities of curriculum making (for instance, if policy statements require that students should be able to apply their knowledge and skills independently and creatively, then real possibilities should be given in the curriculum, teaching and learning strategies and assessment that such applications are indeed carried out, and valued accordingly);

d. Problems and issues with regard to curriculum design, making and implementation are being timely identified and addressed;

e. Remedial strategies are based on clear diagnoses and realistic action plans.

In some of the countries studied the scaling up of comprehensive curriculum changes meant to promote life and work-related competencies was preceded by pilot testing of different components of the curriculum system, such as, new Curriculum Frameworks or new syllabuses for carrier subjects or new emerging cross-cutting dimensions (i.e. peace education, family education, HIV and AIDS education, work education). Pilot testing may be, among other, one possible strategy to enhance quality aspects in the cases of curriculum change processes.

5.2.6 Capacity Development

There is a need to ensure that there exists sufficient capacity within the system to develop modern curriculum adopting efficient practices from Africa and elsewhere. In addressing curriculum capacity needs, attention should be given to

• needs analysis
• curriculum policy making
• consensus building
• curriculum design and development
• curriculum implementation, monitoring and evaluation.

Recommendation 6
That education systems take a strategic approach to capacity development, ensuring targeted training and other measures to address gaps in the capacity available (i.e. how to cope with gender issues; how to develop local and optional curricula; how to integrate entrepreneurial education; how to integrate business and work ethics, how to present real examples of the today's world of work; how to make a competency-based approach manageable).

5.2.7 Learning from one another from both successes and failures

As shown by analyses in both the case of Sub-Saharan countries and other reference countries (Australia/NDW; UK/England) a series of interesting experiences could be identified in terms of how to integrate effectively skills development for life and work in Basic Education (primary and lower secondary). Examples were also given of how to forge public consensus and cater for quality assurance in a meaningful and cost-effective way. This is to say that countries have much to learn from one another, and that learning can be based on both successful and less successful experiences.

There also exists the opportunity to look outside Africa to good practices elsewhere for information and inspiration. No one would suggest that programmes from other, socially and economically dissimilar regions be adopted without question by an African country. However, all true educators look to learn from each other and the possibilities offered by, for example, the School to Work Programme in New South Wales, Australia (described in Section 4.3 of this Study), could trigger very useful ideas for work-related curricular and extra curricular programmes.

Recommendation 7

That processes be put in place to learn from effective practice and best effort that has already occurred in Africa and other parts of the world, through, for example:

a. sharing results of international research (such as the present Study) with education stakeholders in the context of national and regional events such as conferences, workshops or other forms of professional development;

b. sharing results of international research (such as the present Study) with education stakeholders in the context of national and regional events such as conferences, workshops or other forms of professional;

c. conducting cooperative activities in developing the capacities of curriculum developers

d. developing shared approaches to the development of curriculum

e. frameworks that can then be customised to the needs and circumstances of individual countries (i.e. cross-national models of curriculum structuring and time allocation; or common models of defining generic and specialized competencies);.

f. sharing approaches to and programmes in teacher support and professional development.

While no ready-made solutions should be translated uncritically from one context to the other, many experiences tend to prove though the benefits of national, regional and international sharing and working together in broader or smaller professional communities. The issue of developing competencies for life and work through the curriculum has to be tackled from the broader perspective of the missions and roles schools ought to embrace in today's and tomorrow's world. Not everybody may be convinced that schooling should be closer connected to life and work - instead, as many still think, school should first of all be a place of cultural transmission and knowledge acquisition. Tensions and dilemmas with regard to the mission and scope of formal education are not new, and they will probably never be solved in a satisfactory way to everybody. However, sound political and professional dialogue in education and on education issues may constitute a wise and effective way to ensure that informed decisions are taken timely and in compliance with real developments and needs.

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Annex A – Analytical Framework and Research Questions

The following core research questions were formulated at the commencement of this Study and remained important themes in the organisation of the research outcomes:

1 What is the nature of the relationship between the curriculum on one hand, and life and work on the other?

1.1 Can relationships between education and life, and the world of work be identified in basic education curricula (primary and lower secondary education) in African development countries (and what kind of…)?
Expected/anticipated findings:
• Statements about such links in Curriculum Frameworks; Syllabuses and other curriculum and education policy documents (i.e. National Plans to fight against poverty; National EFA plans);
• Curriculum Innovation engendered by societal changes, and changes in the labour market

1.2 Do basic education curricula address opportunities and challenges of today's world?
Expected/anticipated findings:
• Statements in Curriculum documents 'Rationales' about changes in today's world that impact curriculum development and implementation (and learning);
• Statements on the changed nature of learning in modern societies
• Curriculum Innovation engendered by societal changes, and changes in the labour market

1.3 Do basic education curricula take into account the needs of, and developments in the social context and labour market in African developing countries?
Expected/anticipated findings:
• Statements in Curriculum documents 'Rationales' about changes in today's world of work that impact curriculum development and implementation (and learning);
• Statements on the changed nature of learning and work in modern societies
• Curriculum Innovation engendered by changes in the labour market

1.4 What are ways and options to address the issue of skills formation for life and work through the curriculum?
Expected/anticipated findings:
• Presence/Mentioning of learning outcomes/competencies in the curriculum (key competencies and sub-competencies);
• Specific learning areas and subjects to address the formation of competencies for life and work
• Cross-curriculum approaches
• Assessment elements
• Teacher education and training-related issues
• Project work/links formal-non-formal

2 Are there relevant links between formal and non-formal education?

Expected/anticipated findings:

• Examples of good practices

• Possible elements/aspects impacting on education policies

3 Are there important partnerships of schools with local communities and other stakeholders?

Expected/anticipated findings:

• Are such cases mentioned in policy and curriculum documents?

• Public awareness of the need for such partnerships

4 What are innovative practices to capitalize on?

Expected/anticipated findings:

• Examples of 'good practices' and criteria to define them as 'good practices' (i.e. interest of stakeholders to support participatory curriculum development processes ; economic growth; lower rates of unemployment; enhanced entrepreneurial spirit)

5 What are recommendations for improving preparation for life and work in African developing countries?

Expected/anticipated outcomes:

• To be explicit about prospects in societal development and the world of work (need for a vision…);

• To be explicit about (broad/key-) competencies envisaged; privilege broad development of key competencies instead of narrowing down learners' chances to adjust to changes;

• To introduce/reinforce (if necessary) specific learning areas/subjects focusing on competencies development for life and work ('carrier subjects');

• To reinforce cross-cutting objectives and approaches, as to enhance the cohesiveness of the education curriculum - i.e. pre-vocational elements (to have a holistic approach);

• To reinforce (international and regional) exchanges and partnerships (especially with stakeholders in communities)

Annex B - Glossary

TERM	EXPLANATION	EQUIVALENT TERMS
Assessment	The process of gathering information and making judgements about a student's achievement or performance	
Assessment methodology	The strategies and activities employed, normally by teachers (internal assessment) or by specialized agencies (external assessment), to gauge a student's achievement or performance	
Basic Education	The years of schooling considered necessary to reach a minimum standard of learning. The composition of 'basic education' varies across countries and regions but would generally include primary education and lower secondary education, normally therefore consisting of a minimum of eight or nine years.	Compulsory education
Carrier subject	A subject that is, based on its scope and construction, more prone to contribute to the achievement of certain education goals, and develop certain competencies in students (i.e. Work Education or Technology; Personal Development; Life skills; Social studies)	
Competency	A broad capacity to apply knowledge, skills, attitudes and values in independent, practical and meaningful ways	Competence
Cross-cutting issues	Important curriculum content that does not belong to one subject or learning area exclusively, but which is best taught and learned in a number of subjects. Common examples include peace education, communication skills and HIV/AIDS education.	Cross-cutting themes
Curriculum	The aggregate of subjects, learning areas and courses of study available in an education system. The term normally applies to the 'formal' or 'intended' curriculum, but can also include the 'unintended' or 'hidden' curriculum.	Curricula (pl.)
Curriculum Framework	A set of policies, regulations, directions and guidelines that govern the development of syllabuses and other curriculum documents.	
Curriculum policy	Formal decisions made by government or education authorities that have a direct or significant bearing on the development of curriculum. These decisions are normally recorded in official government documents.	
Curriculum structure	The way in which the curriculum of any system is organised, including the subjects or learning areas, when they must be studied and the 'pattern' in which they must be studied. The curriculum may be composed, for example, of core and elective subjects studied with some variation between grades.	
Extra-curricular activities	Structured learning activities that take place outside the context of formal subjects or learning areas. In some systems, these might include work experience or organised sport.	

TERM	EXPLANATION	EQUIVALENT TERMS
Key competencies	Competencies considered by the education and training system to be important in the learning of every student and significant contributors to the lives of every member of society. The Key Competencies most relevant to Basic Education might be referred to as 'basic competencies'.	Generic, transversal or overarching competencies
Learning area	A broad category of learning, often grouping traditionally discrete but related subjects. Examples include General Science (containing elements of Physics, Chemistry, Biology, Geology and perhaps other sciences) and Social Studies (containing elements of History, Geography and other related subjects).	
Learning Area Statement	A document describing the learning objectives, learning outcomes and content related to a broad learning area. These statements might also provide guidance about its implementation including relevant teaching and assessment methodologies.	Syllabus
Learning content	The topics, themes, beliefs, behaviours, concepts and facts, often grouped within each subject or learning area under knowledge, skills, values and attitudes, that are expected to be learned and form the basis of teaching and learning.	Content
Learning objectives	Statements describing the intentions of syllabuses or learning area statements	Objectives
Learning outcomes	Statements describing what students should know, believe, values and be able to do when they complete their school education. Outcomes should be expressed in a range of domains, including knowledge, understanding, skills and competencies, values and attitudes.	Outcomes
Life skills	Skills which provide the learners with the capacity to undertake tasks or processes related to their day to day lives.	
Lower secondary education	The first cycle of secondary education, normally of three or four years duration	
Non-formal education	Education which takes place outside the formal school environment and outside the formal school curriculum, and does not usually provide a socially-recognised certificate or diploma (though at present non-formal acquisitions are acknowledged in some countries even in the form of formal diplomas).	
Post-primary education	All the periods / cycles / years of education occurring after the primary phase of schooling	
Primary education	The first period or cycle of education, normally of four, or six or seven (sometimes eight) years duration and often including a reception or kindergarten year.	

TERM	EXPLANATION	EQUIVALENT TERMS
Secondary education	The second period or cycle of schooling, often divided into lower and upper phases.	
Service-based learning	Learning that occurs as a result of students' engagement in the structured provision of some service, normally to the local or broader community	
Skill	The capacity to apply knowledge to perform a particular task to a consistent standard.	
Standard	1. A decision, requirement or regulation that is expected to be implemented or applied. 2. The level of achievement or performance that is expected from students if they are to be awarded particular results.	
Subject	A discrete learning discipline (such as Mathematics or History).	
Syllabus	A document describing the learning objectives, learning outcomes and content related to a specific subject. Modern syllabuses also provide guidance on its implementation including relevant teaching and assessment methodologies.	Learning Area Statement
Time allocation	The amount of time in the school year or week assigned to teaching and learning in a specific subject or learning area.	

Annex C – Overview of Education Structure in the Perspective Countries

COUNTRY	EDUCATION STRUCTURE	COMMENTS
ANGOLA	3 PRIMARY + 4 LOWER SECONDARY TO BE CHANGED WITH 6 PRIMARY + 3 LOWER SECONDARY + 3/4 UPPER SECONDARY	Education in structure in transition from 4+4+4 to 6+3+3/4, thus basic education will comprise of nine years. Eleven years of basic education (K+10)
AUSTRALIA/NSW	K-2 + 2 + 2 + 2 + 2 + UPPER SECONDARY	Key stage 1 (K, 1-2) Key stage 2 (3-4) Key stage 3 (5-6) Key stage 4 (7-8) Key stage 5 (9-10) Key stage 6 (11-12)
BOTSWANA	7 PRIMARY + 3 LOWER SECONDARY	Ten years of Basic Education. Lower primary (Standards 1-4). Upper primary (Standards 5-7). Junior secondary (Form 1,2,3/Standards 8,9,10)
BURUNDI	6 PRIMARY + 4 LOWER SECONDARY	Six years of basic education (primary education)
CONGO	6 PRIMARY + 4 LOWER SECONDARY	Ten years of basic education. Cycle of basic acquisitions. CP (Preparatory classes 1 and2). CE1 - Elementary class. Cycle of consolidation. CE 2 - Elementary Class. CM 1 - Middle class. CM2 - Middle class
KENYA	3 LOWER PRIMARY + 5 UPPER PRIMARY	Eight years of basic education. Lower primary (Standards 1-3). Upper primary (Standards 4-8)
MALI	6 PRIMARY + 3 LOWER SECONDARY	Nine years of basic education. Level 1 - Initiation stage (1st and 2nd Grade). Level 2 - Aptitude stage (3rd and 4rth Grade). Level 3 - Consolidation (5ft and 6th Grade). Level 4 Orientation (Grades 7,8,9)

COUNTRY	EDUCATION STRUCTURE	COMMENTS
MAURITIUS	6 PRIMARY + 5 SECONDARY EDUCATION/CSC + 2 UPPER SECONDARY/CHSC	No special reference to basic education (covers theoretically primary education) Primary - Standards I-VI Stage I - St. I-II Stage II - St. III-IV Stage III- St. V-VI Secondary Education/Cambridge School Certificate (CSC) - Forms VII-XI Pre-vocational stream (Levels I-III) Secondary Education/Cambridge higher School Certificate (CHSC) - Forms XII-XIII
MOZAMBIQUE	7 PRIMARY + 3 LOWER SECONDARY	Seven years of basic education Cycle 1 - Grades 1 and 2 Cycle 2 - Grades 3,4,5 Cycle 3 - Grades 6 and 7 Lower secondary - Grades 8,9,10 Upper secondary - Second cycle, Grades 11 and 12
SENEGAL	6 PRIMARY	Six years of basic education CI - Introduction CP - Preparatory course CE1 - Elementary course, First year CE2 - Elementary course, Second year CM1 - Middle course, First year CM2 - Middle course, Second year
SOUTH AFRICA	R (RECEPTION YEAR) + 9	Ten years of basic education (R + 6 primary + 3 lower secondary) FOUNDATION PHASE (R-3) INTERMEDIATE GRADES (4-6) SENIOR GRADES (7-9)
UNITED KING-DOM/ENGLAND	FOUR KEY STAGES OF COMPULSORY EDUCATION	Compulsory education (age range 5-16) Key stage 1 (1-2) Key stage 2 (3-6) Key stage 3 (7-9) Key stage 4 (10-11)

Abbreviations

ADEA	L'Association pour le développement de l'ducation en Afrique [Association for the Development of Education in Africa]
BMZ	German Federal Ministry for Economic Cooperation and Development [Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung]
BOS	Board of Studies (NSW/Australia)
DeSeCo	Definition and selection of competencies: theoretical and conceptual foundations (OECD study)
EFA	Education for All
GDP	Gross Domestic Product
GER	Gross Enrolment Ratios
GIR	Gross Intake Rates
GNP	Gross National Product
GP	General Paper Course (Mauritius)
GPI	Genuine Progress Indicator
GTZ	German Development Cooperation (GTZ)
HRE	Human Rights Education
IBE	UNESCO's International Bureau of Education (Geneva)
ILO	International Labour Organization
INIDE	National Institute for Education Research and Development (Angola) [Instituto Nacional de Investigação e Desenvolvimento da Educação]
ISCED	International Standard Classification of Education (UNESCO)
KLA	Key Learning Areas (Australia/New South Wales - NSW)
LAS	Learning Area Statements (South Africa)
LTLT	Learning to Live Together
NSW	New South Wales (Australia)
OECD	Organisation for Economic Cooperation and Development
OLOs	Overarching Learning Outcomes (Mauritius)
PISA	OECD Programme for International Student Assessment
QCA	Qualifications and Curriculum Authority (England and Wales)
SQA	Scottish Qualifications Authority
STI	Sexually-Transmitted Infections
STD	Sexually-Transmitted Diseases
TVET	Technical and Vocational Education and Training
UNDP	United Nations Development Fund
UNICEF	United Nations Children's Fund
ZEP	Zone d'ducation Prioritaire (Mauritius) [Priority Areas of Education]
WB	World Bank

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