



The Republic of Sierra Leone

**Ministry of Basic and Senior
Secondary Education**

**National Curriculum Framework for
Senior Secondary Education**



Foreword

The newly-elected Government that took office in 2018 has now made impressive strides in actualizing its manifesto flagship policy of Free Quality School Education (FQSE) for all our young citizens. My Ministry is acutely aware of quality as the key dimension that is pivotal to meaningful and sustainable change which is inherent in the promise of this policy. Expansion and upgrading of learning environments in schools, provision of textbooks and other teaching and learning materials, enactment of teacher development policies, enhanced terms of employment for teachers, and promotion of equity policies for learners such as “radical inclusion”; are examples of measures taken in support of the quality dimension of education.

Whilst such progressive measures mark important developments, what is at the heart of education quality is programming or curriculum development. It is through the curriculum that government expresses its vision and key priorities for human capital development, and it is the curriculum that reflects the changing hopes and aspirations of learners, parents, and their communities. It is also through the curriculum that we ensure what our students learn is rooted in the realities of our national development scenario as well as being aligned with the latest knowledge developments in a 21st Century world. The curriculum also shapes how students learn, so they can not only remember and reproduce, but can also understand and engage with knowledge and practices through critical thinking, self-expression, creativity, and emotional intelligence. Most of all the curriculum determines why students learn, so they come to focus not only on self-development and achievement of their own potential, but also on improving lives and livelihoods in their communities as well as contributing to national development.

For such reasons, I am grateful that we already have a national curriculum framework for basic education and allied syllabuses that are now being rolled out into our schools. Following this achievement, we have now developed the *National Curriculum Framework for Senior Secondary Education* as contained in this document. I highly commend this framework to all students, teachers, school managers, parents, employers, governance bodies, and education partners. It provided a platform for developing up to 76 subject syllabuses (up from 39 subjects currently). Besides number of subjects, the new curriculum uses a transformative structure and orientation for senior secondary education. Schools can now offer up to 5 streams in which students can specialize. Each stream has 3 sets of subjects from which students can choose within certain rules. There are core subjects that reflect pure knowledge of a stream, applied subjects that deal with instrumental use of stream knowledge to address practical issues, and everyday subjects that provide the basics on stream knowledge to enhance learner profiles.

As Minister, I am also proud that this exercise has been a wholly Sierra Leonean effort. I thank my Chief Education Officer Dr. Yatta Kanu (and staff) for giving oversight and quality assurance to the exercise, as a curriculum expert herself. We are very grateful to the consulting firm Redi4Change (SL) Ltd., and its Managing Director Dr. Cream Wright for successfully executing this challenging assignment with patience, diligence, and exemplary expertise on Sierra Leone. This exercise used a core team of 50 subject experts from universities, teacher colleges and schools. A further 150 senior subject teachers and school heads were involved in the syllabus writing workshops. We thank them all profoundly, as well as the parents, employers, youths, and citizens who provided frank opinions on what they want from our SS schools.

Finally, the nation is grateful to our education partners who provided ideas, opinions, examples, and technical support in diverse ways for this exercise. We thank the United Kingdom's Foreign Commonwealth & Development Office (UK-FCDO) in particular for funding the exercise through Mott MacDonald (SL) Ltd., as part of its support to MBSSE. The culmination of such efforts and investments is an exciting senior secondary curriculum. If it is implemented properly, this new curriculum will transform education quality in Sierra Leone quite profoundly. So, I urge you to join us as we move forward to implement the curriculum.



Dr. David M. Sengeh
Minister of Education
Ministry of Basic & Senior Secondary Education (MBSSE)

General Introduction

When a nation decides to revise its school curriculum or to develop a completely new one, there will be opportunities to take up as well as challenges to contend with. So it is that for Sierra Leone, which has not had a national curriculum for decades, the decision to embark on curriculum development has yielded promising developments with the potential to transform the quality of our education system and the lives of all young people in the country. First it was the new Basic Education Curriculum with a National Framework and subject syllabuses. Now we have the new National Curriculum Framework for Senior Secondary Education for which 76 subject syllabuses have been drafted. As Chief Education Officer and Professional Head of the Ministry of Basic & Senior Secondary Education (MBSSE) I wish to highlight some of the key elements that make this new curriculum exciting and transformative for our education system.

First, the new curriculum offers choice and flexibility to learners in what subjects they can study. Instead of just 3 SSS streams (Arts, Science, & Commercial), learners can now choose to specialize in one of 5 new and well-defined SSS streams, based on interests, capabilities, and aspirations. These streams are: “Sciences & Technologies”, “Mathematics & Numeracies”, “Languages & Literatures”, “Social & Cultural Studies”, and “Economics, Business, & Entrepreneurship”. Each stream offers 3 sets of subjects to choose from without being restricted to a specialist stream. There are simple rules to guide choices across streams, all 76 subjects will be examinable at WASSCE, and we will provide guidance counselling to help learners’ make sensible choices.

Second, the new curriculum structure offers choice and flexibility to schools in what streams and subjects they can offer to students. Schools must offer subjects in at least 3 streams depending on their capabilities (staffing, infrastructure, facilities, supplies, etc.). Minimum requirements will be specified so that schools do not provide mediocre education by offering streams/subjects they are not capable of implementing. But all schools can also strive for excellence by offering those streams/subjects for which they can provide quality learning to the students.

Third, the new curriculum breaks the obsession with WASSCE as the sole purpose of education at senior secondary level. The focus is on preparing learners for a rapidly changing job market and making them into enlightened citizens, as well as getting them to pass WASSCE. Learners have more opportunities to pass WASSCE given the increased number of subjects and the types of subjects that cater for a wide range of interests and aspirations. There will be less anxiety in taking the same old restrictive types of subjects for a pass in WASSCE or for entry to university.

Fourth, the new curriculum has a focus on learning that goes beyond rote, or “remembering and reproducing”. All subject syllabuses emphasize learning outcomes that concern understanding, interpreting, creating, applying knowledge, critical thinking, and other 21st century skills. This means that WASSCE exam papers will be less about memorizing and more about genuine learning in various dimensions. The new curriculum prepares learners for passing this new type of exam that will test for learning across diverse competencies rather than just memorization.

Fifth, implementation of the new curriculum will be based on a resource-intensive model that ensures regular and massive support to teachers and schools with a wide array of teaching and learning materials (TLMs). This will entail a central clearing house or repository for producing and disseminating high quality instructional materials (HQIMs) and other forms of teaching & learning materials, including e-learning resources provided on tablets or through smart phones. As you go through this framework you will discover more of the unique features and exciting advantages that the new curriculum offers to help transform our education system into a high-quality model.

As exciting and promising as the new curriculum is, there are challenges that could derail progress if we do not identify and tackle them. The most significant challenge is the usual resistance to change. Even though people believe there is much wrong with the existing system they may be reluctant to embrace change for various reasons. Some have a vested interest in the status quo, others feel they may not be able to cope with the new dispensation, whilst yet others suspect whatever is new will put them at a disadvantage. We are all keen to transform education in Sierra Leone and build a better future for our adolescents and youths in senior secondary schools. Let us work together and tackle problems as they arise in good faith for national development.

A handwritten signature in black ink, appearing to read 'Yatta Kanu', with a horizontal line underneath and a small double quote mark at the end.

Dr. Yatta Kanu
Chief Education Officer (CEO)
Ministry of Basic & Senior Secondary Education (MBSSE)

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Executive Summary

A curriculum is an expression of a nation's vision and priorities for human capital development. It is also a reflection of the interests, needs, and aspirations of learners, parents, communities, employers and key stakeholders. Such defining elements are usually hedged in by considerations of the economic, social, and cultural realities that make the curriculum relevant. They should also be anchored in worthwhile knowledge for credibility of the curriculum. In addition, grappling with the context, current status, and trends in the school system makes for an effective and efficient curriculum. The present curriculum development exercise for senior secondary schools (SSS) is designed to be transformative in terms of the dimensions outlined in this Executive Summary.

Human Capital Development (HCD): The new curriculum framework and its subject syllabuses enhance the contribution of education to human capital development (HCD). They complement and sustain Government policies and strategies for HCD as illustrated by a couple of examples.

Government policy & strategy on food security (and employment) involve investing in Youth Farms (land, tractors, etc.); and investing in the fishing industry with infrastructure, equipment, and loans/grants.
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<i>The new curriculum has subjects dealing with the food chain from production, preservation, and processing, to packaging, storage, marketing, consumption & nutrition; as well as economics, environment and sustainability. The curriculum also has subjects dealing with competencies in managing micro-small-medium enterprises. In these ways successive cohorts of SSS leavers can contribute to food security and youth employment in ways that are sustainable and complementary to the progressive policies & strategies of government</i>
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Government policy & strategy on sexual assault and gender-based violence (deterrent to HCD) involve strictly enforced laws and punitive measures, as well as a zero-tolerance campaign (Hands-off our Girls) against GBV.
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<i>Subjects in the new curriculum deal with asymmetric power relations, gender & sexuality, relationships & rights, management of risky behaviors, safety, protection, etc. Subjects like Adolescent Health & Life Skills, as well as Social Studies & Civics can equip successive cohorts of SSS leavers to deal with GBV challenges.</i>
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Credible Knowledge Foundations: The credibility of the new curriculum is rooted in adherence to concepts and principles in the theory of knowledge (epistemology). This is what shapes the form, structure, and content of the new curriculum. Currently, there is mainly ad-hoc selection of subjects that are loosely packaged into 3 streams labelled: Science, Arts, and Commercial. In contrast, the new curriculum proposes a total of 5 senior secondary streams based on defensible forms of knowledge with unique concepts, principles, and “truth tests” aligned to epistemology. The new senior secondary streams are: **Sciences & Technologies; Mathematics & Numeracy; Social & Cultural Studies; Languages & Literatures; Economics, Business, and Entrepreneurship Studies.**

The rationale and process for developing these new streams are well articulated in various sections of this curriculum framework document.

Multi-Purpose Senior Secondary Education: At present, the focus of senior secondary education is singularly on passing WASSCE and entering university. The new curriculum is transformative in terms of its emphasis on multiple purposes for senior secondary education. The new focus is not only on WASSCE and university entry but also on broad competencies for a changing employment market, as well as knowledge and skills for becoming enlightened citizens of the 21st century. In principle this should reduce obsessive concerns with memorizing and reproducing materials for WASSCE. Instead, emphasis would now be on understanding and applying knowledge and skills. Paradoxically, this change in focus could also improve success rates in WASSCE given the different approach to testing and examinations which is implied in the new curriculum.

An Equitable Menu of Subjects in Specialist Streams: There is currently a hierarchy of subjects with so-called “academic” subjects being treated as superior to other subjects. This will not be the case with the new curriculum, since each of the new 5 streams carries equal value and learners can freely choose any one as the “specialist stream” that is appropriate for them. This choice will depend on the interests, career aspirations, aptitude and competencies of the learner; and it is hoped that learners will have some guidance & counselling for this purpose.

Proposed Form & Structure of SSS for the New Curriculum

SSS	3 YEARS OF POST-BASIC EDUCATION (GENERAL/ACADEMIC)				
	SSS 1		SSS 2		SSS 3
	SENIOR SECONDARY SCHOOLING OFFERS UP TO FIVE (5) SPECIALIST STREAMS				
	Sciences & Technologies Stream	Languages & Literatures Stream	Mathematics & Numeracy Stream	Social & Cultural Studies Stream	Economics, Business and Entrepreneurship Stream
	3 SETS OF SUBJECTS ARE GENERATED FOR EACH SPECIALIST STREAM				
SUBJECTS	CORE SUBJECTS		APPLIED SUBJECTS		EVERYDAY SUBJECTS

Quality & Diversity of Subjects: Each specialist stream has 3 sets of subjects that enhance quality and create a balanced/holistic senior secondary education. **Core subjects** represent “theoretical” knowledge that defines specialization. Learners must study several core subjects to become a specialist in a given stream. **Applied subjects** are “instrumental” and are concerned with applying theoretical knowledge to real world concerns. Learners must study a few applied subjects so they can relate “book knowledge” to key concerns. **Everyday subjects** reflect normative competencies for SSS education. Learners must study everyday subjects to become enlightened 21st century citizens. E.g. in Sciences & Technologies stream: Biology, Chemistry, or Computer Science, are Core Subjects, with theoretical knowledge that defines specialization in this stream; but Health Science, or Environmental Science, are Applied Subjects that use theory (Biology, Chemistry, etc.) to address health or environment issues; whilst Computer Literacy or Adolescent Health & Life Skills are Everyday Subjects that provide general competencies we would expect in learners who have completed 12 years of quality schooling in 21st century Sierra Leone.

The full picture – Chart of Streams and Related Sets of Subjects

SSS Streams	Core Subjects in Stream	Applied Subjects in Stream	Everyday Subjects in Stream
Sciences & Technologies	(1) Integrated Science (2) Biology (3) Chemistry (4) Computer Science (5) Agricultural Science (6) ICT (7) Robotics (8) Physics (Later)	(1) Environmental Science (2) Health Science (3) Food Security (4) Engineering Science (5) Physical Health Education (6) Genetics & Bio-Engineering	(1) Adolescent Health & Life Skills (2) Computer Literacy (3) Popular Science
Mathematics & Numeracy	(1) Fundamentals of Mathematics (2) Further Mathematics (3) Statistics & Probability (4) Calculus	(1) Mathematics for Business and Enterprise (2) Mathematics Applications for Coding (3) Mathematics for STEAMM (4) Computer Mathematics (5) Maths for other Disciplines	(1) Introductory Statistics & Probability (2) Functional Mathematics
Economics, Business & Entrepreneurial Studies	(1) Principles of Economics (2) Entrepreneurship (3) Principles of Accounting (4) Business Management Studies	(1) Principles of Marketing (2) Business Accounting (3) Clerical Office Duties (4) Insurance Management (5) Business Economics	(1) Business & Society (2) Customer Relations Management (3) Micro/Small/Medium Enterprise Mgmt. (4) Business Ethics

	(5) Principles of Commerce		
Languages & Literatures	(1) English Language (2) African Literature (3) English Literature (4) French as a Foreign Language (5) Sierra Leone Literature (6) Sierra Leone Languages (Mende, Kathemne, Hulimba, Krio)	(1) Creative Writing (2) Business English (3) French for Tourism (4) Technical Writing (5) English for STEAMM (6) French for Business and Marketing (7) Language for Special Needs Education (Later)	(1) Everyday Basic French (2) Popular Literature Appreciation (3) Arabic Language (4) Fula
Social & Cultural Studies	(1) History of Sierra Leone (2) African History (3) Geography (4) Music (5) Dance + Drama Studies (6) Politics & Governance (7) Social Studies & Civics (8) Religious & Moral Education (RME)	(1) Geography & Environment (2) Music as Applied Subject (3) Entertainment Industry (4) Derivatives of Religious & Moral Education	(1) Dance Performance and Appreciation (2) Mining Industry & The Environment (3) Fishing Industry & The Environment (4) Tourism & Conservation (5) Living with Religious & Moral Education

Equity, Inclusion, and Choice for Learners: The new curriculum proposes a total of 5 streams for senior secondary schools. Unlike the current 3 streams of Science, Arts, and Commercial, these are not just “labelled containers” for different subjects. The new streams have a strong pedigree. They have been logically derived from contemporary theory of knowledge and reflect the latest credible thinking on human knowledge that is relevant to a country like Sierra Leone. In principle, these streams are equally valuable in what they offer and it is up to learners to choose which stream they want to specialize in at senior secondary level. Such choice will depend on the learner’s interests, aspirations, aptitude, and competencies; as well as guidance and counselling that may be provided. This development facilitates **equity** in areas of study. It ends the issue of some streams or subject areas being superior to others; or of learners being relegated to areas of study that are deemed to be for those who are not bright students!

In addition, the new curriculum offers a rich and diversified menu of 76 subjects that have been systematically generated and packaged to facilitate choice and inclusion for all learners. There are **Core Subjects** with “academic” knowledge that enables any learner to become a specialist in the stream that they choose. There are **Applied Subjects** that allow learners to harness/apply academic knowledge from different areas to study/address areas of real-world concern. Then there are **Everyday Subjects** that enable learners to pursue pet interests or gain competency in areas that are essential for successful living as an enlightened 21st century citizen.

Given this transformative array of streams and subjects, the new curriculum has recommended a **“Choice Template”** to guide learners in selecting subjects to study within their specialist stream as well as from other streams. The focus is on enabling all learners to select, pursue, and succeed in areas of study and in subjects that align with their interests, aspirations, and capabilities.

“Choice Template” to Guide Learners in Selection of Subjects

From The Specialist Stream	Core Subjects	Applied Subjects	Everyday Subjects
<i>Choice of Subjects Allowed</i>	Minimum = 3 Maximum = 4	Minimum = 1 Maximum = 2	NOT ALLOWED
From Other Streams	Core Subjects	Applied Subjects	Everyday Subjects
<i>Choice of Subjects Allowed</i>	NOT ALLOWED	Minimum = 1 Maximum = 2	Minimum = 1 Maximum = 2

This facilitates **“radical inclusion”** at senior secondary level. All learners can choose subjects they are keen to study and successfully pursue senior secondary education with enthusiasm. Learners will no longer be “forced” to study subjects they are not keen on. For “requirement subjects” like Mathematics or English the new curriculum offers customized versions in line with the interests and aspirations of learners. So, Mathematics for Business & Enterprise, STEAMM Mathematics, Business English, English for STEAMM; are all customized versions of “requirement subjects” that should appeal to learners who aspire to be in business and enterprise or in engineering, science, agriculture, medicine, mining, etc. It is critical that tertiary institutions accept these versions as appropriate for the “requirement subjects” that determine entry to various university courses.

A Resource-Intensive Approach: The transformative nature of the new SSS curriculum requires a resource-intensive approach for implementation. This is a shift from the standard practice of providing prescribed textbooks, supplementary materials and equipment/supplies to implement the curriculum. The new curriculum requires creative use of local resources as well as ready access to the latest resources from multiple sources. It is strongly recommended that a **“Resource Repository”** be part of the curriculum implementation strategy. This needs specialists to design, produce, trial, collect, review, and disseminate resources like: video clips, SMS texts, pamphlets, web links, articles, posters, books, etc. NGOs and partner agencies are good sources for expertise and resource materials. Teachers and learners across the country will need support to access a wide variety of resources through computers, tablets, mobile phones, radio, training workshops, and other channels that are becoming widely available in the country.

Opportunities for Institutional Excellence: Senior secondary excellence in Sierra Leone is based on performance at WASSCE, as well as history, ethos, and reputation. The hierarchy or list of schools with a reputation for excellence has not changed much over the decades, although new contenders have recently been topping the pass list for WASSCE. But the main threat to senior secondary excellence comes from the systemic dilution of standards, exam malpractice stories, and lack of diversity to cater for changing interests and aspiration. As such, “Shadow Schooling” is growing in Sierra Leone. Private teaching syndicates/institutions mushroom across the country, claiming to cater for learners who are not well-served by the formal school system. This may be the case, but shadow schooling tends to drill learners in “memorize & reproduce” for WASSCE. These shadow entities are unregulated, may have unqualified staff, and sometimes offer access to dubious qualifications from little-known accrediting bodies. Most of these entities exploit the obsession of learners with gaining qualifications such as WASSCE or equivalent alternatives. It is not clear that they offer value for money in most cases. In addition, shadow entities are increasingly linked to escalating examination malpractices in the education system.

The new SSS curriculum reduces the need for shadow entities by enabling schools to offer a wide range of subjects that serve learners in any specialist area they wish to study. It also enables schools to gain excellence if they concentrate on streams for which they can provide quality and exam success. Guidelines for schools and districts to offer subject streams are shown below.

<p style="text-align: center;">All Senior Secondary Schools in Sierra Leone</p>	<p><i>All senior secondary schools must offer at least 3 discipline-based streams drawn from the set of 5 streams proposed for the senior secondary curriculum.</i></p> <p>An SSS may offer up to maximum of 5 streams, if it has the capacity to do so, and meets official criteria set for offering each of the streams.</p> <p><i>Decisions on how many streams (and which streams) a school can offer, must be based on staffing, facilities, equipment, and track-record of competence.</i></p>
<p style="text-align: center;">All 16 Administrative Districts in Sierra Leone</p>	<p>Each district should have all 5 streams in some form in their schools. Learners should not move outside a district to access a specialist stream or key subject. This may require special support to enable selected schools to offer streams or subjects that may not otherwise be available within the district.</p>

Modern & Development-Oriented Competencies: The new curriculum seeks to educate learners for tomorrow’s world and enable them to acquire 21st century competencies, despite constraints. A curriculum is broadly about shared forms of knowledge and understanding accumulated by humans and their societies over time, but this does not mean that the modern school should be “held hostage” to the past. In developing countries like Sierra Leone, modern senior secondary schools must not remain trapped by syllabuses that do not change. They cannot stick with archaic subjects/topics just because passes in these are required for university entry. There will of course be standards to adhere to and foundational elements of knowledge that are

perennial, but it is essential that beyond such imperatives, modern senior secondary schools in Sierra Leone must:

- Equip learners to understand and be able to address the contemporary challenges that face Sierra Leone and Africa, as well as the world and humanity in general;
- Introduce cutting-edge knowledge and skills to reflect the progress that humans and societies have made in creating tools to deal with the evolving reality of our world in all its complexity;
- Make use of latest pedagogies that reflect research findings on how we learn at the different stages of the human life cycle, and in different social/cultural contexts;
- Inspire learners to be patriotic, envisage future national development gains, and understand the positive contributions they could make to the development process in Sierra Leone;

In support of the modern senior secondary school in Sierra Leone, the new curriculum avoids a deficit-based model that worries about impediments to change. It uses an assets-based model that embraces opportunities and possibilities for development. Subjects such as Robotics, Music, Genetics & Bio-Engineering, Dance & Drama, Computer Literacy, Entrepreneurship, are included in the new curriculum even though they are likely to encounter staffing and resource challenges.

The stance taken in this curriculum development exercise is that barriers and obstacles can be overcome and should not be allowed to thwart carefully designed innovations and much-needed transformations to the national curriculum and education system. As such the exercise does not ignore or trivialize obstacles and barriers, but analyses them with a view to developing solutions. All challenges and constraints associated with the new curriculum are therefore reviewed and addressed in a comprehensive “Implementation Strategy” that is designed to be action-oriented.

1. Introduction & Overview of Current SSS Education

Mainstream schooling in Sierra Leone is structured as: 1 year of pre-primary or early childhood education (ECE); 6 years of primary schooling; 3 years of junior secondary schooling (JSS); and 3 years of senior secondary schooling (SSS). The nation has enacted policies that entitle every child to 9 years of basic education (primary & JSS) as a right. This right is curtailed by a lack of JSS places and related rationing that requires learners to pass the National Primary School Examination (NPSE) to access limited JSS places. Similarly, learners must pass the Basic Education Certificate Examination (BECE) to progress from JSS to SSS. Those who fail are “relegated” to seeking places in TVET institutions. At the end of SSS, learners must pass the West African Senior Secondary Certificate Examination (WASSCE) for entry to tertiary institutions or general employment; whilst TVET institutions are expected to prepare students for jobs in specific occupational fields.

Summary of Current Model of Mainstream Schooling in Sierra Leone

Pre-Primary	Primary School						Jnr Sec. (JSS)			Snr. Sec. (SSS)		
1 year of ECE	6 Years Primary Leading to NPSE Exams						3 Yrs. Jnr Secondary Leading to BECE Exam			3 Yrs. Snr Secondary Leading to WASSCE		
Pre-Schools	P.1	P.2	P.3	P.4	P.5	P.6	JSS 1	JSS 2	JSS 3	SSS 1	SSS 2	SSS 3
Official Age	6	7	8	9	10	11	12	13	14	15	16	17
2019 Enrolled	1,770,368 (50.62% girls)						451,685 (50.07% girls)			305,085 (48.41% girls)		
Transitions	Must Pass NPSE to Enter JSS						Pass BECE to Enter SSS			Pass WASSCE for UNIV		

Despite a rights-based policy on schooling, transition rates between education levels remained sluggish until the introduction of Free Quality School Education (FQSE) by a new government in 2018. This galvanized efforts to cope with an enrolment surge as well as to enhance education quality and learning achievement across the system. Investments are being made in pre-primary education to enable learners start school at the right age (and ready to learn); thereby reducing the proportion of over-aged learners in schools, for minimal repetition and a smooth cohort flow.

Government has also invested in an updated national curriculum framework for basic education, as well as revised subject syllabuses. But Sierra Leone has not had a national senior secondary curriculum for several decades now. Schools and teachers simply use subject syllabuses from WASSCE as their guide to teaching and learning at senior secondary level. As such, SSS education has more to do with passing WASSCE than with addressing national development priorities or dealing with the aspirations of learners, parents, communities, employers, or other stakeholders.

It is against this background that the Ministry of Basic and Senior Secondary Education (MBSSE) commissioned the present curriculum development exercise for senior secondary education. As there is no existing SSS curriculum to be updated, the exercise needs a comprehensive framework to serve as a foundation, a reference point, and a guardrail for developing the new SSS curriculum and its accompanying subject syllabuses. In this exercise, it is essential to define the purpose of the SSS curriculum by deducing what key stakeholders expect of senior secondary schools as part of the education system in Sierra Leone. The curriculum provides the means for addressing such expectations and for achieving goals/objectives set for this level of education. So, In developing the curriculum, decisions have to be made on: what counts as worthwhile knowledge for our purpose; how such knowledge can best be structured and organized at the SSS level of education; as well as how and why various types of knowledge should be offered to (or selected by) various categories of learners. Such issues are what should be addressed by the curriculum framework.

The current senior secondary schools are part of an education system that has evolved from being restrictive, elitist, and privileged; to becoming open, democratic, and egalitarian, in line with rights-based education policies. But this current model is still haunted by vestiges of elitism from the past. Despite diversification efforts, the purpose of SSS education continues to focus almost exclusively on preparation for university studies. In principle senior secondary is supposed to prepare learners for enlightened citizenship and general employment, as much as for higher education. In practice however, the system simply caters for “winners” who move up, rather than “losers” who exit school without advancing to the final level. This attitude continues to determine the form, structure, and content of the academic subjects offered in senior secondary schools.

Transformation in Model of Schooling in Sierra Leone

Early Restrictive/Elitist/Privileged Model of Schooling in Sierra Leone													
Infants		Primary (Standards)					Secondary (Forms)					6 th Form	
1	2	1	2	3	4	5	1	2	3	4	5	Lower 6	Upper 6
Foundation Years		Primary Education Leading to Common/Selective Entrance Exam					Secondary Education: GCE "O" Level Forms 4 & 5 Streams (Arts, Science)					GCE "A" Level 2 or 3 Streams	
Current Open/Democratic/Inclusive Model of Schooling in Sierra Leone													
Pre-School		Primary School					Jnr Sec. (JSS)			Snr. Sec. (SSS)			
1 Year of Pre-Primary		6 Years Primary Leading to NPSE Exams					3 Yrs. Jnr Secondary Leads to BECE Exam			3 Yrs. Snr Secondary Leads to WASSCE			
ECE.1		P.1	P.2	P.3	P.4	P.5	P.6	JSS 1	JSS 2	JSS 3	SSS 1	SSS 2	SSS 3

In the early elitist model, most children did not start school, or ended schooling prematurely. For this majority the system was silent on the purpose of schooling. They may find jobs in line with their level of schooling or take "Tech/Voc" courses to gain skills for employment. In the current inclusive model, almost all children get to start school and the free quality school education policy increasingly facilitates 9 years of schooling (primary and JSS) as a right for all learners.

Despite such positive developments, senior secondary schools are affected by hangovers from the old model. For instance, most still share facilities with JSS schools due to the old 5-year secondary cycle, even though SSS operates as a separate entity. So, a small percentage of senior secondary schools exist as stand-alone institutions with their own facilities, whilst most co-habit facilities with junior secondary schools. However, more JSS facilities are being constructed to cater for learners completing primary school, in line with the right to 9 years of basic education. As JSS expansion continues, existing facilities can be used exclusively as senior secondary schools. This will affect the scope and viability of a new senior secondary curriculum.

1.1. Senior Secondary Number Profiles

The Annual Schools Census (ASC) Report indicates that there are a total of 623 senior secondary schools in Sierra Leone (in 2019), and the main profiles of these schools are as shown below:

ADMINISTRATIVE REGION	NUMBER OF SENIOR SECONDARY SCHOOLS BY GENDER			
	Mixed	Girls	Boys	Total
Eastern Region	96	6	3	105
North Western Region	80	5	0	85
Northern Region	87	2	1	90
Southern Region	82	6	7	95
Western Region	232	11	5	248

ADMINISTRATIVE REGION	SENIOR SECONDARY SCHOOL ENROLMENT BY GENDER			
	Mixed	Girls	Boys	Total
Eastern Region	55,128	2,721	3,165	61,015
North Western Region	32,852	803	0	33,655
Northern Region	41,600	1,936	983	47,519
Southern Region	31,873	3,005	4,848	39,726
Western Region	108,190	8,349	6,631	123,170

ADMINISTRATIVE REGION	SENIOR SECONDARY SCHOOL ENROLMENT BY GRADE			
	SSS 1	SSS 2	SSS 3	SSS 3SP
Eastern Region	8,784	8,311	7,804	6,063
North Western Region	6,659	5,838	4,919	1,790
Northern Region	7,704	6,963	6,065	4,224
Southern Region	7,067	6,432	4,893	3,046
Western Region	16,343	17,383	16,264	10,837

1.2. *Current Senior Secondary Orientation & Focus*

The stance of this framework is that basic education is a **right** enshrined in the constitution, but post-basic education is an **opportunity** secured after the BECE examination. Learners complete their 9 years of basic education around 15-years-of-age, when they are too young in principle to participate in the workforce. So, these young adolescents should have access to various forms of post-basic education. As one of these options, senior secondary is the main option to which most learners aspire after the BECE examination. This reinforces the focus of senior secondary schools on university entry through study of prescribed “academic subjects” that meet the requirements.

Learners who do not pass the BECE may continue their education through various technical and vocational courses. These TVET institutions differ from senior secondary schools in terms of their purpose, focus, orientation, and assumed destination of their graduates. But there is a perennial problem in that TVET courses are simply considered as poor substitutes, intended for those who fail the BECE examination. This does not enable JSS leavers to make genuine or sensible choices.

The purpose of schooling is not clear for learners who fail BECE and the stakes are much higher for those who may not pass WASSCE even after repeated attempts. There has been a push to tinker with the system by adding subjects that may be helpful to these learners. The pressure has come from students who are interested in subjects like Business Studies, Banking, Book Keeping, Commerce, Clerical Duties, etc.; as these are in demand for private sector jobs. These ad-hoc additions of subjects means that Sierra Leoneans can currently offer 39 subjects at WASSCE, including subjects not related to university entry. So, even those who do not go to university can achieve credits in subjects that give them a chance to secure a rewarding job. But there are still no clear answers to what is the purpose of senior secondary schooling for those who do not gain credits for university. The country once indulged in extending SSS to 4 years, ostensibly so more learners can pass WASSCE. Beyond this futility, there have not been efforts to address this concern through systematic (re)designing of the form and structure of subjects offered at SSS.

1.3. *Current Senior Secondary Structure & Content*

The structure and content of senior secondary education is heavily skewed towards 3 years of academic studies for passing subjects that qualify learners for university courses. There are still no clear answers to what is the purpose of senior secondary schooling for those (over 70%) who do not gain credits for university. To date there has not been a systematic effort to address this concern with proper design of the form and structure of subjects available at senior secondary. The new curriculum must address this issue by crafting a multi-purpose approach to what senior secondary education in Sierra Leone is supposed to facilitate in terms of learners’ achievements and meeting the aspirations of other stakeholders.

2. Purpose of the SSS Curriculum Framework

In general, the purpose of a curriculum framework is to identify, analyze, and use the priority concerns of stakeholders as a platform for taking decisions and making recommendations to guide the curriculum development process. So, a framework guides, recommends, and specifies, the processes through which various disciplines, subjects, topics, themes, pedagogies, resources, learning assessment methods, and evaluation strategies are harnessed to form a new curriculum. In this case, a well-designed framework should facilitate processes that reflect equity, quality, and resilience in enabling us to determine key features of the new senior secondary curriculum.

2.1. Exploratory Highlights on Purpose of the Framework

The issue of what should be the general purpose and broad goals of senior secondary education will depend on a series of exploratory points relating to national development priorities and the concerns of interest groups (learners, parents, teachers, Tertiary Institutions, employers, etc.). Some of these exploratory points are highlighted below:

- What counts as “worthwhile knowledge” for quality teaching & learning in senior secondary schools, based on theory of knowledge (epistemology) and pedagogy considerations, as well as the goals and objectives set by Government for the education system in Sierra Leone.
- How such worthwhile knowledge should best be structured and organized in the form of credible and WAEC-examinable school subjects that can be successfully implemented over the 3-year period of senior secondary education, and across schools in all 16 districts.
- What should be the pattern or arrangement that governs how subjects in the curriculum can be offered by senior secondary schools and districts, chosen by various learners, and assessed for learning outcomes; so that all learners can derive optimum benefits from the curriculum
- How to build knowledge links in the curriculum so that what is learned in SSS not only caters for entry to university, but also aligns with workplace needs, has relevance for our national priorities, and serves the interests of learners as well as their parents and communities.
- What resources and practical measures should be put in place for senior secondary schools to deliver on the outcomes promised in the new curriculum. These are the practical measures that facilitate successful uptake and effectiveness in delivering the new curriculum.

- How to make the best use of available human and budgetary resources in efforts to achieve the learning outcomes specified in the new curriculum. This is about how to facilitate value for money or curriculum efficiency in senior secondary education.
- What policies, rules, regulations, and measures should be put in place to ensure that all SSS learners have a fair chance of benefiting equitably from the new curriculum. (Equity).
- How to build sustainability into the curriculum and its syllabuses, so it can continue to be implemented in a resilient manner over time and under changing conditions (emergencies).

2.2. Factors Influencing Purpose of the Curriculum Framework

In addition to the exploratory issues outlined above, there are concrete factors that influence the purpose of the curriculum framework. One of these is a contextual factor of the circumstances in which the new curriculum is being developed. The current scenario in senior secondary school (SSS) education offers an opportunity to develop such a curriculum from scratch, since there is no national curriculum in place already. So, the purpose of the exercise is not to adjust existing courses, or tweak subject content, or change pedagogy. The purpose is to make a new start that involves “first principles” thinking, and clarifying the assumptions that underlie key decisions and recommendations in developing the curriculum. This further justifies the need for a framework that provides a foundation and serves as a reference point or guardrail, to govern the processes involved in developing a new national curriculum for senior secondary education in Sierra Leone.

But this new curriculum is not being developed in a vacuum, so change management will be a factor influencing the purpose of the framework. Senior secondary education in Sierra Leone is currently dominated by the WASSCE examinations, and this dictates an existing pattern for offering school subjects. This scenario can pose important challenges for change management if the new curriculum seeks to transform what is already entrenched in the system. A critical task will be to review SSS in its existing form, structure, content, orientation, priorities, and practices; to understand what is at stake and how any resistance to a new curriculum can be addressed. An important purpose of the framework therefore is to provide the technical and political arguments that will enable decision makers to put across the case for a new SSS curriculum. In this way, the framework should help to establish a rationale and mandate for change, as part of an advocacy and communication strategy to convince stakeholders countrywide about the need for change.

Beyond these points, the most essential factors that have influenced this curriculum framework include: Government's national development concerns/priorities; interests, hopes & aspirations of adolescent learners in SSS; expectations of parents and communities; the expectations and requirements of employers; the entry requirements of tertiary institutions; the standards set for high-stakes examinations; and the epistemological imperatives for curriculum design. As such, the over-riding purpose of the curriculum framework is to determine how far a new curriculum for SSS can be designed, within current constraints, to deliver on desirable outcomes such as:

- Preparing learners to make key contributions as part of human capital development. Those completing SSS should be part of the transformative workforce that Sierra Leone will need, as the nation continues its new direction towards “knowledge-driven” development.
- Preparing learners for improved performance in the WASSCE examination and subsequent entry to the increasingly diversified and modern sets of tertiary institutions that now constitute higher education in Sierra Leone and abroad.
- Supporting learners to perform better at WASSCE by ensuring that most of the subjects they offer are from a specialist stream with well-designed subjects based on a coherent discipline.
- Helping learners do better at WASSCE by giving them options to offer applied subjects and everyday subjects, as well as their specialist core subjects.
- Providing a wide range of meaningful subjects for all learners to study and pass at WASSCE.
- Ensuring that at the end of SSS (after 12 years of schooling), learners become enlightened and informed citizens; capable of playing essential roles in their local communities and the wider Sierra Leone society, as well as in Africa and the world at large.
- Inspiring SSS students to participate effectively in the learning process by providing them with appropriate (less restrictive) choice of specialist subject areas that are aligned with their interests, talents, and aspirations for a better future.
- Ensuring that the new SSS curriculum is modern and development-oriented; whilst it also reflects the realities of life in Sierra Leone by being anchored in the national value system.
- Facilitating healthy competition amongst senior secondary schools as they embark on an upward trajectory of quality improvement for uptake of a transformative SSS curriculum

3.Guiding Principles for the Curriculum Design Process

The curriculum process invariably involves reaching sensible compromises and striking a judicious balance in making decisions that would result in successful development and implementation of a new curriculum. The specialists and practitioners involved in curriculum development need to follow an iterative process with appropriate checks and balances to ensure optimum outcomes. Against this background, the following are some of the broad guiding principles that are being recommended in this framework for subject specialists and practitioners to keep in mind during the iterative process of developing a new senior secondary curriculum for Sierra Leone:

Build greater relevance into the new senior secondary curriculum by constantly interrogating the issue of “who is this for?”. Steps should then be taken to adjust the orientation, form, structure, content, pedagogy, assessment, and other aspects of the curriculum as necessary; guided by answers to issues of who is the end-user or main beneficiary of the new curriculum. In this case the SSS curriculum is for adolescent learners (girls & boys) in an African nation with its development policies, plans, and priorities. These are learners who have in common completed 9 years basic education, but who also come from varied backgrounds in villages, towns, cities, and communities across 16 administrative districts in the country. They also hold a wide range of hopes and aspirations on what senior secondary education can lead to in their lives.

Improve effectiveness of the new senior secondary curriculum by checking on how it will be executed in practice to deliver on the expected learning outcomes specified for different subjects and for the 3-year SSS cycle. Effectiveness entails that delivery of learning outcomes promised in the curriculum should be achieved under conditions prevailing in schools across the country. We therefore need to take account of circumstances and conditions in different parts of the country, as well as the realities of what human and other resources are available (or can be mustered) for executing the curriculum across the senior secondary school system.

Enhance efficiency in the design & implementation of the new SSS curriculum through constant review of cost implications and potential benefits of strategies/measures relating to curriculum design and implementation in schools across 16 districts, and over the 3-year SSS cycle. If the new curriculum is not efficient in its design and implementation, it would also not be sustainable.

Facilitate equity in senior secondary education by opening up a wide range of possibilities in the new curriculum for all learners, regardless of background or personal circumstances. The focus should be on enabling all learners to select, pursue, and succeed in areas of study that align with their interests, aspirations and capabilities. This will be very much a continuation of the new MBSSE policy of “radical inclusion” as applied to senior secondary schooling.

Strengthen Sustainability of SSS curriculum by improving resilience, flexibility, cost-effectiveness and adaptability in the face of changing circumstances; especially in light of a growing frequency in emergencies (health and civil disorder) that are increasingly disruptive of normal schooling.

Adhere to coherence as a general principle, by avoiding fragmented listing of traditional subjects and topics as curriculum content. There must be an overarching rationale that defines categories of subjects into coherent sets and binds related topics into a well-defined and clearly understood learning package. Coherence ensures that the whole of a new curriculum is much more than just the sum of its parts. A curriculum is not simply a stringing together of subjects and topics!

Moderate the tyranny of traditional subjects. Currently subjects are imposed on learners as compulsory, because of external examinations and university requirements. Curriculum design must balance such requirements with the interests, needs, and aspirations of a wide range of learners who may or may not enter university. Learners must have the freedom to make choices of subjects they wish to study, keeping in mind the requirements of tertiary education, potential employment opportunities, and most of all aspirations for a future beyond the conventional. If adolescent learners are not allowed to dream of future possibilities in an increasingly complex and diversified world, then we are simply imposing archaic and traditional subjects on them in the name of a dominant high-stakes examination and related entry requirements for university.

Facilitate learner enthusiasm for senior secondary school by enhancing choice and putting a wide range of streams and subjects at the service of all learners. The focus should be on ensuring that what is on offer in SSS is in line with the varied preferences of learners as well as the growing diversity of tertiary education and the workplace. This approach should boost enthusiasm and provide powerful rationales for all learners to engage positively with schooling and the subjects they have freely chosen to study at the senior secondary level.

Ensure alignment with knowledge imperatives to make the new SSS curriculum as defensible as possible in technical and programmatic terms. This entails embracing/enforcing quality-assuring criteria in the knowledge sphere, like: worthwhileness, relevance, effectiveness, and efficiency in the design and implementation of the new senior secondary curriculum.

Establish standards for quality assurance to guide schools, principals, and teachers in the uptake and implementation of the curriculum. The quality of what is done in the curriculum must meet the academic and other standards set by various bodies such as: National Universities & Tertiary Institutions, Overseas Institutions; West African Examinations Council; Public & Private Sector Employers; etc. These are some of the gate keepers and destinations for learners who complete senior secondary education, so the curriculum should equip learners to deal with the standards they set for academic requirements, as well as other expectations.

Outline a credible implementation strategy to guide all entities that are involved in making the new curriculum gain traction and work successfully in the school system. The best-designed curriculum for senior secondary education in Sierra Leone will not be very useful unless it can be implemented effectively and efficiently. A credible implementation strategy is therefore being developed separately as one of the deliverables for this assignment.

4. Quality Challenges in Senior Secondary Education

It would be fool-hardy to embark on developing a transformative curriculum without reviewing and analyzing what is wrong and needs to be fixed in the current senior secondary school system. The focus of the review in this case is on quality and related factors that support or impede the learning process in senior secondary schools.

4.1. *Relevance in Current Senior Secondary Education*

After decades of policy drift and periodic tinkering with SSS subjects for WASSCE there is now clarity regarding priorities in education policy for Sierra Leone. This provides a basis for a more systematic, rational, and pragmatic curriculum development process that avoids the risk of SSS education being ossified into a set of traditional subjects and standard content. Moreover, it is not clear that subjects currently on offer have been designed to contribute to quality learning or discipline-based knowledge for the benefit of adolescent learners. It is also not clear that these subjects are designed to be in line with the vision and mission of MBSSE; or to meet the broader national development goals of the country. In practice, such traditional subjects and their classic content have simply become what learners believe (are told) they must pass at WASSCE to enter university or to hedge their bets on employment opportunities in an uncertain job market.

Current patterns of subject offerings for WASSCE may therefore not be relevant to the hopes and aspirations of learners, or their parents, and communities. Neither do these subject offerings fit in with the vision and mission of MBSSE, or the goals and priorities for which Government invests in education. It is not even clear how well the current pattern of subject offerings is aligned with standards for 21st century competencies. It is also not clear if the subjects and the pattern in which they are offered are congruent with “knowledge sets” for human capital development, or for functional/enlightened citizenship, through quality learning in an equitable school system.

4.2. *Effectiveness in Current Senior Secondary Education*

There is a serious and chronic learning crisis hiding in plain sight at senior secondary level in Sierra Leone. This is fully captured in the World Bank Human Development Index where the learning adjusted years of school is 4.9 out of an expected 9.6 years. Every year, WASSCE results are analyzed in terms of the best performing students, the best performing schools, and whether such results have improved or not year-to-year. It is right to celebrate best performers, but it is not “learning” in a general sense that is being celebrated. The principles of equity and inclusion dictate that the focus must be on **“learning for all”**, and the extent to which schools are delivering on learning outcomes

promised in the curriculum. How many students achieve passes in how many subjects? How many learners in different regions score credits that qualify them for tertiary education? How many learners gain results that enhance their employment prospects? These are some of the metrics by which we should assess effectiveness of the senior secondary schools in delivering on the promise of the curriculum and enhancing the potential of all learners.

Concern with the learning crisis now pervades education systems in African countries like Sierra Leone. It is critical in the early stages (as research indicates) that learners who have not mastered foundational skills (e.g. literacy and numeracy) cannot later cope with materials that require basic competencies. Studies show that even when systems make enrolment gains in senior secondary, many of these learners complete the SSS level without being able to perform simple primary school tasks! Hence some SSS and tertiary graduates perform below expectations in basis tasks.

Taking exams as proxy for learning, analysis of WASSCE results consistently indicates that learning is not taking place in Sierra Leone. In 2018 a total of 38 subjects were offered at WASSCE, but it was only in 5 of these subjects that numbers achieving a credit exceeded 40%. For each of the remaining **33 subjects, less than 40% of candidates were able to score a credit** or higher. This is a disturbing trend as indicated by analysis of WASSCE results over the period 2015 to 2020.

Administrative Regions	Percentage of Students Obtaining WASSCE Credits in any 5 Subjects					
	2015	2016	2017	2018	2019	2020
Eastern	6.29	18.29	13.29	9.90	4.55	2.43
Northern	10.78	9.42	9.42	7.48	3.83	3.31
Southern	5.22	9.44	9.44	2.54	1.22	0.93
Western	8.62	19.60	29.23	28.99	8.51	7.49

Whatever is being done currently at senior secondary level is not yielding the benefits of learning for all, which should be the top priority in a system that supports human capital development and values equity and inclusion. In short SSS is currently not effective in delivering learning. This makes it imperative that a new SSS curriculum must facilitate improvements in learning gains for all; rather than cater for celebrating the best students and best schools, as if they are ghosts from a bygone era of elitist education.

4.3. Efficiency in Current Senior Secondary Education

The fragmented pattern in which 38+ subjects are offered in SSS (and taken at WASCE) indicates lack of coherence and gross levels of inefficiency in the system. Consider that resources are invested in three years of school-level preparation, and additional resources are spent on conducting a high-stakes exam like WASSCE every year. Given such investments, it hardly makes sense to have a long list of subjects that are offered by a tiny number of candidates in some cases; and then having less than 30% of them able to score a credit or higher in most subjects.

The first problem is that fragmented stand-alone traditional subjects (or quasi-subjects) do not make for efficiency in the preparation and conduct of high-stakes exams like WASSCE. Whilst not wishing to deny choice to all candidates this is not the best way to facilitate learning and testing for the knowledge and skills available through these subjects. The second problem is that senior secondary may not be an appropriate home for some of these subjects in their traditional forms.

The problem is not with the number of subjects per se, but with the lack of coherence beyond clustering subjects as Arts, Science, or Commercial. If this fragmented and incoherent pattern of traditional subjects and quasi-subjects continues it can only produce a random ad-hoc list of what can be offered at WASCE, with inefficient investment in 3 years SSS preparation for subjects that are not linked to a coherent “learning package”. But this fragmented pattern may be valued as it enables some candidates to offer “something” at WASSCE. There are also sensitivities around subject hierarchies. A subject “makes it” when it gets offered at WASSCE, as distinct from simply being available in technical-vocational institutions.

So, there may be resistance to a transformative curriculum that upturns this fragmented pattern of subjects offered at WASSCE. Indeed, there are worthwhile competencies to be gained from taking these subjects, but it is inefficient and inappropriate to force them into a senior secondary system that is supposed to offer a general post-basic education leading to tertiary education or equipping learners with broad competencies for employment. As such, some of the subjects now offered at WASSCE may be more appropriately offered in technical-vocational institutions that are supposed to prepare learners for engaging in specific vocational areas. This does not exclude the possibility that elements of these subjects can be incorporated into broad discipline areas of senior secondary schools, such as the “Sciences & Technologies” stream.

4.4. Equity in Current Senior Secondary Education

Equity in its various forms is a top priority for government, and this is also reflected in the policy of **Radical Inclusion** by the education ministry (MBSSE) that seeks to ensure full participation in education for learners with all forms of disability or disadvantage in society. Whilst appropriate policies and good intentions are in place, current operations are lagging in facilitating equity. There is parity in access to senior secondary for girls and boys, so we can say there is gender equity in access to senior secondary. But the curriculum does not cater for the requirements of adolescent learners, particularly in the case of pubescent girls who are vulnerable to high rates of sexual and gender-based violence. So, gender equity within senior secondary is weak. Also, learners are not treated equitably over learning achievement. The subject patterns and teaching focus are skewed towards passing WASSCE exams. Learners do not have much choice in their studies as traditional subject patterns for WASSCE are imposed on them. Smart students are able to cope, and about 30-40 percent may gain some credit scores in WASSCE. But the only support provided for weak learners or for those not keen on the subject patterns on offer, is in the form of expensive private tuition (shadow schooling) that favors wealthier students. This raises serious equity questions about how learning is facilitated in senior secondary schools.

4.5. Sustainability in Current Senior Secondary Education

Sustainability is the capacity to be resilient over time and continue operating during changes in the implementation circumstances. Lessons learned during recent health pandemics suggest the education system can be resilient. On the other hand, the education system was almost fully destroyed during the 11-year civil war suffered by the country. This indicates that sustainability does not come easily and must be baked into the design of a new senior secondary curriculum.

5. Policy Eco-Systems & Imperatives for Change in SSS Education

The new senior secondary curriculum is being developed in a very positive policy climate, with a wide range of national and international policies that require quality performance in education to achieve their expected outcomes. It is therefore worth keeping in mind some of these policies that have profound implications for (and expectations of) senior secondary education.

5.1. Policies Relevant to Senior Secondary Education

In policy terms, education has been declared as the flagship of the current government in Sierra Leone, as envisioned in the Free Quality School Education (FQSE) policy and the more recent Radical Inclusion policy. Indeed, the Medium-Term National Development Plan (2019 – 2023) is subtitled “Education for Development” and proposes **“A New Direction for Improving People’s Lives through Education, Inclusive Growth, and Building a Resilient Economy”**. Similarly, the radical inclusion policy implies that all adolescents completing BECE should have an opportunity to choose what they study in continuing their general schooling at senior secondary, based on their main area of interest, their future aspirations, and the subjects they are passionate about. Clearly, a transformative senior secondary curriculum will be essential for translating laudable policies into concrete action for sustainable development. Quality education, especially at senior secondary level helps to realize the promise of these policies for broader national development.

Beyond national policies, Sierra Leone is a signatory to several international agreements that are dependent on a strong education system that delivers quality and learning achievement. These include the Sustainable Development Goals (SDGs), African Continental Free Trade Area (AfCFTA) and various agreements under the Economic Community of West African States, and the Mano River Union that links Sierra Leone with Liberia, Guinea, and Cote d’Ivoire. Most of these areas of policy agreement are replete with profound implications for the education of young people in the countries concerned. For instance, a recent publication argues that:

“The African Continental Free Trade Area offers many opportunities to young Africans, who face challenges including high unemployment, lack of decent jobs, barriers to entrepreneurship and inadequate promotion of youth-led businesses. Tackling these challenges will help Africa’s large and rapidly growing youth population realize its potential to generate significant economic benefits and contribute to the continent’s development.”

5.2. Understanding the Imperatives for Change

It has been argued that quality education can make a vital contribution to the change envisaged through a wide range of national policies and international policy agreements. In more specific terms, this implies a need to grapple with the pivotal challenges that will enable education to make its contribution to the changes that these policies aspire towards. Analysis of senior secondary education in Sierra Leone suggests that there are “imperatives for change” that must be addressed if education is to fulfill its potentially transformative role in national development.

Tackling the imperatives for change successfully will improve the prospects of facilitating quality education and learning achievement for all at the senior secondary level. This would involve such matters as: making subjects serve the interests of learners, rather than imposing traditional WASSCE subject patterns on all learners; orienting the curriculum to reflect priorities of various stakeholders, as well as the imperatives of knowledge; and making learning central to schooling.

5.3. Breaking a Vicious “Learning Crisis” Cycle

Breaking the vicious cycle that currently inhibits learning at all levels of education, culminating in quasi-functional senior secondary schools where memorization has largely replaced learning.

Flawed Foundations	Challenging Fundamentals	Skewed Values	“Shadow Schooling”
<p>Many SSS learners failed to master basic learning at primary & JSS levels. This flaw jeopardizes the foundation for learning in SSS years. So, “Coping” skills like memorizing and regurgitating content or model answers, and using learning drills become a substitute for learning & teaching. This creates a “vener of learning” to deal with the high-stakes WASSCE examination.</p>	<p>We cluster learners by age in class, or grade. But pace of learning is not homogenous for individuals in a class. So, fast learners gain, slow learners don’t get it, and the rest simply try to catch up. This is a serious challenge to “group learning” that is not fully grasped by most of the teachers in our senior secondary schools.</p>	<p>We tend to value what we can measure, but fail to measure what is of value. Enrolment, retention, or completion rates help us gauge the performance of schools. But we have very few metrics by which we track learning, besides using high-stakes exams. So, the learners just memorize to pass these exams. Hence <i>schooling</i> can no longer be equated with learning in our education system.</p>	<p>There is a strong focus on alternative tuition to pass the WASSCE exams. Such lessons or shadow schooling are offered by private syndicates and institutions that purport to do better at what schools are supposed to be doing. Students now rely more on “shadow” learning than on normal schools, to gain passes in high-stakes WASSCE examinations.</p>
<p>Many SSS Teachers are not fully competent to facilitate learning. Some know content, others are good with pedagogy, but most lack the full set of skills to deal with the realities of learning at SSS level. If they have not acquired the basics, SSS teachers cannot facilitate learning, due to flawed foundation skills.</p>	<p>Standard teaching to heterogenous groups results in learning gains for some students, and set-backs for others. It is wrong to treat this as normal. In all successful schools we expect that teachers will routinely facilitate learning gains for all. Most teachers are not yet equipped to do this at the SSS level.</p>	<p>Teaching to the test, drills on passing exams, preoccupy teachers. Exam results add value to the schools, win the appreciation of parents and build a good reputation. In worst cases schools tolerate cheating and malpractices by teachers/learners/parents just to secure/maintain the reputation of being seen as a “successful school”. This is fake success at any cost.</p>	<p>There is now a growing plethora of in-service courses that make up for what teachers should have acquired in pre-service courses. So, resources are invested in a remedial approach rather than professional growth & development to create a high- quality teacher workforce.</p>

5.4. Restoring a Multi-Purpose Focus to Senior Secondary

Despite the rhetoric of equity and an increasingly diverse set of students who pass BECE, senior secondary education in Sierra Leone remains implacably focused on teaching for WASSCE exams and preparing learners for entry to tertiary institutions. However, this blinkered single-purpose approach to senior secondary does not serve anyone well. The WASSCE results for 2015 to 2020 are dismal and indicate that in most regions of the country less than 10% of learners get credit scores in any 5 subjects; which is the baseline for university admission. A few schools do well and are celebrated every year for good performance at WASSCE, but most schools have little to show as credible results, and every year there are several schools with zero credits in WASSCE.

Meanwhile more than seventy percent of learners who complete senior secondary do not enter tertiary education because they have not scored the required credits at WASSCE. They have also not been prepared for broad occupational fields or general employment; neither have they had the right preparation to function as competent and enlightened citizens. The result is that many of those who fail WASSCE simply continue to retake the examination (as private candidates) since this is all that has been drilled into them as what matters in life for SSS learners.

Given these trends, the new SSS curriculum should be designed to steer senior secondary schools towards a multi-purpose focus that deals with: broad preparation for the world of work, based on subjects in their SSS specialist stream; cultivating the knowledge, skills, attitudes, and habits that lead to enlightened citizenry; and a shift from memorizing to genuine learning that involves understanding, applying, analyzing, critiquing, and creating, as well as remembering.

5.5. Enhancing Choices & Preferences for SSS Learners

An inevitable consequence of restoring a multi-purpose function to senior secondary education, beyond preparation for WASSCE is that a new curriculum would make a wider range of choices and options available to learners. This in turn should create a rich menu of core subjects as well as applied subjects and everyday subjects, that can generate greater enthusiasm for learning.

5.6. Treating Senior Secondary Education as Pivotal

Senior secondary is not just another level of the education system for teaching and learning. It is pivotal in several ways because it deals with learners at a critical stage of life (adolescence) and at the top of the pyramid of general schooling.

First, senior secondary is pivotal because it is the level at which priorities shift from education as a right, to education as an opportunity. Before SSS, learners have a **legal entitlement** to nine years quality schooling. This puts an obligation on schools to prescribe a curriculum that equips them for learning in post-basic institutions and/or functioning in society. At SSS, learners have an **earned opportunity** (via BECE) for 3 more years of quality schooling. The obligation of schools is to offer a curriculum that gives choice and allows learners to deep-dive into selected knowledge strands that lead to jobs or tertiary education; whilst also enabling them to sample a broader span of “knowledge sets” to become functional/enlightened citizens.

Second, it is at senior secondary that learners become of age to contemplate employment prospects and begin to make choices that will prepare them for the careers in which they are interested. Schools have an obligation to offer sets of subjects that are designed to interest and excite learners, as well as contribute to preparation for future careers. It is about putting worthwhile knowledge at the service of learners and their interests; rather than imposing the tyranny of traditional subjects on learners through high-stakes exams.

Third, good citizenship takes shape at SSS level, when learners begin to see role models and learn to channel their passions/emotions into positive endeavors. They also become more enlightened on citizenship matters by engaging in swathes of knowledge designed to excite interests, kindle passions, and cultivate competencies for daily living.

Fourth, it is at SSS that learners begin to make evidence-based judgements about right and wrong or good and bad; as part of a process of moral and ethical advancement that prepares them for performing in a chosen career and play their part in society generally.

Finally, senior secondary is pivotal to the realization of Government’s vision for political stability, national cohesion, and socio-economic development; especially its focus on human capital development and youth employment. So, there are several ways in which senior secondary serves as the most pivotal segment of the education system.

6. Key Concerns & Priorities Influencing the SSS Curriculum

To make senior secondary education relevant to national development, the new curriculum must take account of the vision, strategies, and measures for national development as expressed in various policies and plans, as well as outlined in a wide range of official government documents. The challenge then becomes assessing roles and expectations of senior secondary education in addressing and contributing to national development vision, strategies, and measures. Examples of some important concerns and priorities that have influenced this framework and its resulting guidance for design of the SSS curriculum are outlined briefly in this chapter.

6.1. National Development Challenges & Strategies

As already highlighted the medium-term national development plan is laser-focused on using education as a transformative force for development. This is reflected in the high priority given to human capital development as a driver for transforming sectors such as agriculture, fisheries, tourism, and mining. There is strong interest in attracting foreign direct investment for growth in mining, infrastructure (roads, water, electricity), and IT mainstreaming, in addition to the priority sectors of agriculture, fisheries and tourism. Examples of the strategies being pursued by the government can briefly be outlined as follows:

In the agriculture sector major investments are being made in mechanization and large-scale farming, especially to secure self-sufficiency in the staple food (rice). This strategy envisages high growth of rice production as well as industrial processing for the local market and for export. In more specific terms, the government is investing in “youth employment” with 100-acre farms set aside in every chiefdom specifically for youths. The focus of these youth farms is on producing rice, with government providing tractors and power tillers, and supplying seed rice and fertilizers as well as other forms of subsidy.

In the fisheries sector, government is investing in building boats for a scheme that would help youths to be more productive in their fishing enterprise. Major investment is also being made in developing fishing infrastructure; such as wharves, cold rooms, smoking facilities and equipment, to make the fishing industry more efficient and sustainable, as well as more attractive to youths.

What seems common in the approach to these priority sectors (agriculture, fisheries, tourism, and mining) is a 3-pronged strategy of: providing government capital investment; attracting foreign direct investment; and facilitating training for related human capital development. This is intended to stimulate value-added growth in these industries, whilst generating employment for the population (especially youths).

6.2. *The Crisis in Youth Unemployment*

The population profile of Sierra Leone, like most African countries, is skewed toward youths. This is often treated as dividend that can help to drive development in the long term. But in the short term a large youth population poses a major employment problem for a country like Sierra Leone. It is one of the challenges that the current Government is trying to tackle through various policies, strategies and investments. The areas of major investment are agriculture, fisheries, and tourism; but it is not clear if occupations in these sectors will prove to be attractive to adolescent school leavers who complete senior secondary. There is also a chicken-and-egg situation in which it is argued that Sierra Leone lacks the human resources to fill the new jobs created; but that the country will only have the right caliber of personnel if the young can take up such jobs. One way of breaking this impasse is through proper analysis of the full span of knowledge and skills required to facilitate development in key areas of government investments. This will clarify how the young who complete senior secondary can play a constructive role in development and also gain meaningful employment with good prospects.

This approach is at the heart of human capital development because it creates a dynamic link between school learning and a wide range of jobs that have the potential to transform youth employment in Sierra Leone. Human capital development is not only about short-term fixes that boost food production towards self-sufficiency. In the long term HCD is most importantly about an understanding of food security in its totality, and a wide range of potential occupations which in turn can generate employment opportunities for youths. Food security is not just farming to produce more food. It also entails food storage to reduce post-harvest losses that are common in Africa; food preservation to ensure out-of-season availability and retain fit-for-consumption food; food processing to enhance quality and longevity; packaging to improve appearance; food marketing to boost consumption; and food nutrition to facilitate healthy diets. Every link in this chain of food security has the potential to generate employment for the population, and youth can take advantage of this in various ways. As a result of this type of analysis this framework has recommended that in addition to offering Agricultural Science as a core subject, Food Security should also be offered as an Applied Subject in the new senior secondary curriculum.

Another approach to dealing with youth unemployment is to take stock of occupational fields that are currently popular with young people in terms of their current passions and future career interests. Anecdotal evidence collected and reviewed for this framework assignment suggests that for many adolescents, employment preferences include: the entertainment industry; trade and commercial business in the private sector; tourism that involves hotels and travel; secure public sector jobs (civil service); and involvement in national or local politics (MPs & Councilors).

Whatever the approach, the challenge for education is to explore how a transformative senior secondary curriculum can help to bridge the gap between job aspirations of young school leavers and the Government's growth strategies. This must also take account of unfolding realities in a stagnating employment market with great potential for positive change. The main implication is that the new curriculum should broadly link disciplines and subjects studied with competencies required in existing and prospective areas of employment growth. The new curriculum should also kindle interests of SSS learners to engage in start-ups and self-employment ventures, taking advantage of government's seed funding to support small and medium enterprises (SMEs). This is where the study of "Applied Subjects" can prove transformative for youth employment.

6.3. Gender-Based Challenges in Human Capital Development

Sexual & Gender-Based Violence (SGBV) is currently a major problem in Sierra Leone that has led to enactment of laws with strong penalties for offenders and establishment of reporting centers linked to law enforcement. Allied to this major problem are the issues of teenage pregnancy and early marriage which are still prevalent in Sierra Leone. Teenage pregnancy and early marriage affect the health and basic rights of girls by compromising their education, skills development, social networks, and employment prospects. This in turn undermines their well-being and affects the health and well-being of their children, as well as curtailing their potential contribution to human capital development in Sierra Leone.

In 2017, Sierra Leone was estimated to have the 13th highest rate of teenage pregnancy globally, with 113 births per 1,000 adolescents, which was more than 10 times the rate in Europe. Also, a 2012 survey indicated that 30% of girls aged 15-19 were pregnant or had given birth, while 20% were already married. It has been argued that teenage pregnancy and early marriage are driven by low education, poverty, abuse, exploitation and cultural tradition. Current efforts to ease the burden on girls and ameliorate the lifetime damages associated with early pregnancy include the progressive policy of radical inclusion, which upholds the right of pregnant girls & young mothers to continue and complete their schooling. In general, good progress is being made in combatting factors that contribute to the high rate of teenage pregnancies in Sierra Leone. Some NGOs are promoting birth control and empowering girls, whilst others focus on addressing the asymmetric power relations between young girls and powerful males in society.

Against this background, the role of education at senior secondary level must include gender rights and empowerment of girls as well as sensitization of boys in their adolescent years. Work on comprehensive sexuality education or CSE is advocated by some NGO partners. This is being taken on-board the new curriculum in efforts to empower adolescent girls and boys to make evidence-based decisions about sexual debut and the risks of early pregnancy.

6.4. Challenging Economic & Socio-Political Trends

There has been welcome economic growth in Sierra Leone, prior to the COVID-19 pandemic, but there are prevailing economic and socio-political challenges that require a related response from the education sector. Some of these challenges are outlined briefly in relation to implications for the new senior secondary curriculum.

Sierra Leone suffers from a serious and worsening problem of food insecurity. A recent study concluded that the situation has worsened over the last decade, with an alarming 57 percent of the population now judged to be food insecure and vulnerable to shocks. This is being vigorously addressed by the current government but the challenge runs deep, especially (and ironically) for rural populations. The country has lapsed to a position in which it no longer produces enough food to feed the population, relying on imports for most of what is consumed. In the wake of a recent border closure by neighboring Guinea, the citizens of Sierra Leone experienced acute shortages (and price hikes) of basic vegetables that used to be grown in every backyard garden. Such problematic dependency is what the government is addressing with its new policies.

Another challenge is the growing trend of illegal migration (“Temple Run”) by youths in search of better job opportunities, especially in Europe. This is a direct consequence of high rates of unemployment amongst youths in Sierra Leone, but it is also a common trend in West African countries. It is anticipated that such challenges can be reduced through strong economic growth and more equitable distribution of opportunities and wealth in countries like Sierra Leone. There is some hope that a country like Sierra Leone can address these challenges successfully, and increase employment opportunities for youths in the process.

This optimism comes from the current extensive investment in infrastructure such as electricity, roads, housing, water, and sanitation. The government is implementing a major programme of electrification in towns and cities across the country, and extensive road construction continues to be a priority, as does housing for over-crowded cities. Several municipalities are also grappling with the challenges of supplying potable water to households.

Finally, the challenge of cultivating national coherence in support of peace and security lurks in the background amongst the concerns with contemporary economic development. Part of the efforts to address this challenge has involved introducing Civics as a subject in basic education. It is important that such a trend should be continued into senior secondary where the adolescent learners have an even greater influence in the cultivation of peace and security in the nation.

7. Aspirations & Expectations of Beneficiaries

An essential dimension of the new senior secondary curriculum is to address the hopes and aspirations of beneficiaries of these schools. What do these beneficiaries want and expect from education at this level? Why do so many continue to invest so much in this type of education? The potential answers to these sorts of questions have been gauged from local and international literature, augmented by simple surveys, interviews, and focus group discussions conducted as part of this SSS curriculum assignment.

7.1. *The Special Case of Adolescents as Beneficiaries*

The main beneficiaries of a new SSS curriculum are the adolescent girls and boys of Sierra Leone. A new curriculum should enable the majority of this group to complete SSS successfully and join the ranks of successful youths contributing to national development. Research in OECD nations for instance has established that “a country’s capacity to help young people to graduate from senior/upper secondary education is the most important factor for successful employment and to improve attainment levels in successive generations”.

In Sierra Leone as elsewhere, the main aspirations of those in SSS include successful employment, escaping poverty, becoming modern, and achieving a sense of liberation, as well as becoming engaged as respected participants in society and contributing to local or national development. These aspirations have been explored through literature search and brief surveys of cohorts of current and former SSS learners. Keeping in mind that adolescence is a special age-band in the life-cycle of human growth and development, the senior secondary curriculum should address challenges facing adolescent girls and boys in Sierra Leone.

Adolescence is defined as starting with the biological event of puberty and ending with the onset of a socially significant marker such as completing schooling, getting married, or becoming a parent. This means that in Sierra Leone adolescents can be defined as being typically aged between 10/11 years old and 19/20 years of age. Senior secondary schools are therefore populated mainly by adolescents at the upper segment of this age band. Adolescents are thus the dominant age group in SSS and would be the main beneficiaries of a new curriculum.

Also, adolescence is a period of profound changes in the lives of individuals, based mainly on the onset of puberty. It is during this phase that young people experience some of the most life-changing physical, social, emotional, psychological, cognitive and related experiences. These changes will be challenging and transformative for adolescents. They will become more aware of self and others (especially the opposite sex); as well as beginning to envisage the type of future they want for themselves, whilst also identifying and trying to emulate role models.

At this stage in life, adolescents also begin to test social, cultural, and economic boundaries within their families, local communities, and the wider society. It can therefore be a time when many adolescents begin to rebel against what they perceive as constraints on their lives. The types and levels of such rebellion can vary, but such behaviors require understanding and mentoring rather than further coercion or condemnation. This highlights an important role for senior secondary schools and much of their contribution will depend on the quality of the new curriculum.

The new curriculum should reflect an understanding of the developing mindsets of adolescents as they go through this critical life stage. It is a phase during which they will be required to make schooling choices relating to the knowledge streams and specific subjects they wish to pursue; as well as developing career aspirations that inspire them to engage positively with their studies.

7.2. Tertiary Institutions as Beneficiaries

All tertiary institutions rely on senior secondary schools to provide them with students for their courses, and there are difficulties in this area for institutions in Sierra Leone. Tertiary institutions complain that there are not enough students leaving senior secondary with adequate credits in the right subjects to enter available courses. Intake requirements are based on WASSCE results and tertiary institutions have not reviewed their intake requirements for a long time in view of changing trends in knowledge. They have also failed to critically examine what WASSCE results mean in practice, since Sierra Leone does not have a national senior secondary curriculum that can provide a basis for setting examinations for our learners.

Senior secondary leavers complain that some of the intake requirements of tertiary institutions are outdated and unreasonable. They question why a learner wishing to study engineering or medicine must score a credit in the same English Paper that is taken by learners who will study English as a major at university. Similarly, they suggest that the mathematics required for those wishing to study engineering should be different from that required by those doing medicine; but all these applicants need to score credits in the same mathematics paper taken by learners who will major in mathematics at college. These anomalies need to be reviewed urgently to help build a harmonized link between the senior secondary curriculum and the tertiary institution courses.

7.3. *Parents & Communities as Beneficiaries*

Learners who go on to senior secondary education have overcome the hurdles of the National Primary School Examination (NPSE) and the Basic Education Certificate Examination (BECE). This is a source of pride and expectations for many parents and communities. It therefore becomes disappointing when most of these students do not achieve the credits to enter tertiary education.

Parents who were interviewed admitted that their response to such failure is to invest in private lessons and get the learner to repeat the exam in the hope of passing next time. They also said that some parents (not them) indulged in dishonest practices like bribing teachers or officials to have examination papers or be told questions for learners to pass WASSCE.

8. Epistemological Imperatives for the Curriculum

The essential purpose and ultimate goal of schooling is to achieve learning outcomes that are in line with national goals, objectives, and expectations set for the education system. Knowledge in all its variations is at the heart of learning and it therefore needs to be understood and defined as the key input and building block for the curriculum.

8.1. *The Argument for Unique “Forms of Knowledge”*

At its purest, knowledge takes the form of clearly defined and well-structured **disciplines**, each with its unique concepts, special language, methodology (rules for “doing” the discipline) and ways of testing for truth. In this sense, disciplines have been described as self-contained and mutually irreducible forms of knowledge that are the cumulative heritage of what is unique in our efforts (as human beings) to “make knowledge” or understand and act on the world. It is also claimed that disciplines are the roots of other (less pure) forms of knowledge that we have developed through derivatives, inter-disciplinarity, and other deductions/combinations.

Early constructs of this thesis by liberal educators asserted that there are about 7 or 9 such pure forms of knowledge or disciplines that include mathematics, physical sciences, human sciences, history, religion, literature & fine arts, and philosophy & moral education. These constructs have long precedence going back to the ancient Greeks, who argued for education as pursuit of the seven liberal arts: grammar, rhetoric, dialectic, music, arithmetic, geometry, and astronomy. However, this approach to knowledge in education has also been heavily criticized on the basis of cultural bias, lack of dynamism to keep up with changes, and neglect of human emotions and desires that motivate learning to fulfill needs. After years of criticism modified versions of the forms of knowledge arguments have been restored to deal with knowledge for the curriculum. Proponents of this construct now leave open the possibility that the number of such disciplines could change, as human knowledge evolves over time and across cultures.

The purists have a point in that whenever we get lost in the morass of defining what counts as knowledge for the curriculum, it is disciplines that offer us a safe haven where we can find our bearings and make progress. Without disciplines there is the risk of chaos in which everything counts as knowledge and we lose our judgement criteria. However, disciplines can also be highly abstract and theoretical, limiting their practical application in the real world; or for dealing with routine matters in everyday life. This also limits their full application in the modern curriculum, especially for developing countries that expect education investments to yield human capital for socio-economic development and good citizenship; as well as for academic excellence.

8.2. A Pragmatic Approach to Forms of Knowledge

This framework adopts a modern curriculum development approach based on how knowledge is evolving over time and across cultures. It takes cognizance of disciplines as the “higher order” knowledge from which subjects for the curriculum can be logically derived. The approach is also pragmatic in defining such knowledge which we refer to as “parent disciplines” for the purpose of generating subjects, and selecting content for the SSS curriculum. As such, the approach is not confined to traditional subjects and their classic content, but also gives attention to new and emerging subjects that reflect: cultural changes (e.g. African Literature); knowledge mergers and combinations (inter-disciplinary); and deepening trends in knowledge (generative). The approach also acknowledges “common-sense” knowledge that can facilitate everyday functions or routine transactions. These versions of knowledge may play a part in supporting teaching and learning to achieve the varied goals of the curriculum.

Such factors also help to determine what differentiates senior secondary from other forms of post-basic education such as technical and vocational education or trade apprenticeships. Work on knowledge imperatives and trends has enabled us to critically analyze existing patterns of subject offerings, in a way that reiterates the case for developing a new SSS curriculum. The history of streaming at the senior secondary level has also been critically reviewed, and on this basis, we are proposing innovative and comprehensive patterns for offering to SSS learners varied sets of subjects packaged within well-defined discipline-based streams at the SSS level. These changes imply that for designing a new SSS curriculum in the Sierra Leone context we need to ensure that such a curriculum is relevant, modern, and progressive; but most of all that there is adherence to the aspects of knowledge that are imperative for the design and implementation of an effective and efficient school curriculum in the 21st century.

8.3. Forms of Knowledge as Parent Disciplines for the Curriculum

The main epistemological concern of the framework is to define and clarify what constitutes “worthwhile knowledge” for senior secondary education in Sierra Leone. In this regard, careful review and analysis of epistemological principles have enabled us to decide forms of knowledge and sets of subjects that properly belong to an SSS sector that seeks to offer a broad and general type of post-basic education. This is distinct from other post-basic education opportunities and institutions that seek to provide a more specialist type of education & training that relate to specific occupational fields and job categories. All post-basic institutions do offer “worthwhile knowledge” but this is necessarily aligned with their purpose, prescribed learning outcomes, and the envisaged “destinations” of their graduates. So, it is simply types of “worthwhile knowledge”; rather than superior/inferior knowledge in different institutions that offer post-basic education.

We also considered and addressed concerns with issues of how best to structure, organize, and offer these various forms of knowledge at the senior secondary level. The resulting conclusions and decisions have been used to shape the structure and form of knowledge recommended for the SSS curriculum. In essence our review and analysis have led us to postulate that the forms of knowledge adapted for the Sierra Leone context should be used as “parent disciplines” for the curriculum. These then become the main source from which subject sets are logically generated for the SSS curriculum. It has been further recommended that these forms of knowledge serve as “streams” within which subjects will be systematically packaged for schools to offer learners.

9. Designing Curriculum Structure & Form

Structure and form in a curriculum refer to the various ways in which knowledge can be selected, arranged, and packaged for implementation (learning & teaching) in the school system.

9.1. *Problems with Current Structure & Form in SSS Education*

Factors that have been reviewed and analyzed as a basis for recommending an appropriate structure and form for the new SSS curriculum include the following:

The existing structure and form or subject patterns at SSS level reflect an incoherent dumping of a range of subjects and quasi-subjects into three broad categories or streams of Arts, Science, and Commercial. There is little rationale/justification for some of these subjects, except that they can be offered at the WASSCE examination. In general, structure & form of knowledge in senior secondary schools reflect an exclusive focus on catering for WASSCE to meet entry requirements of tertiary institutions. Ironically, this reduces choice for learners to pursue what they are keen to study in line with their perceived needs, interests and aspirations as adolescents. It therefore stultifies their chances of succeeding at WASSCE!

There is a lack of balance between a defensible “discipline-based” approach to knowledge and the more ad hoc “subject-based” approach to knowledge that currently prevails in the schools. Moreover, the knowledge-demands of WASSCE as a high-stakes examination are not clearly linked to what can be considered as worthwhile knowledge for teaching and learning in the national school system. The schools simply teach whatever WASSCE tests, rather than specifying a credible set of learning outcomes for Sierra Leone that should be examined at WASSCE.

Inherent weaknesses in the current structure and form of knowledge in senior secondary schools have resulted in weak coherence, without a solid rationale for how the many subjects in the curriculum are clustered or packaged for teaching and learning. The structure and form also reflect a lack of balance between the breadth of subject content (range of topics) and the depth of subject content or quality of expected learning outcomes. The priority is on so-called academic knowledge, but the related learning outcomes are narrowly skewed to favor memorization for WASSCE. As such, SSS learners fail to grasp the essence of key disciplines, and how to apply them to practical problems or even in common-sense use for living everyday life. So, SSS graduates are criticized as “full of book knowledge” they can reproduce, but not useful in most other ways. Finally, the current structure and form of knowledge in senior secondary are not well-adjusted to the practicalities and realities of teacher competencies, facilities,

infrastructure, equipment, and other resources that are available in most senior secondary schools in the country.

9.2. *Improving Structure & Form in the SSS Curriculum*

Based on a review of these and related factors, this framework advocates that the structure of the new SSS curriculum should start with the highest forms of knowledge by way of disciplines that are: mutually irreducible; have unique concepts and operating rules or methodologies for “doing” the discipline; as well as special ways of determining “truths”. This is an idealistic starting point, but it is rooted in the theory of knowledge and offers a sound academic foundation for the quality of education that befits senior secondary schools. As such, all the subjects derived from these “parent disciplines” are fully defensible in terms of pedigree and technical credibility.

The framework further advocates that this ideal starting point should be modified to reflect a more realistic assessment of how knowledge has been evolving and what seems to be relevant for the Sierra Leone context. On this basis it is recommended that there should be a finite set of disciplines (parent disciplines) as the main source from which relevant sets of school subjects and related syllabuses can be generated for the new senior secondary curriculum. Based on a review of so-called pure forms of knowledge and taking account of changing trends in knowledge that relate to the context of a developing country like Sierra Leone, a finite set of 5 “parent disciplines” has been developed as a knowledge-base for the senior secondary curriculum. These 5 disciplines are described below and should serve as specialist streams in the senior secondary schools.

9.3. *Recommended Structure & Form for the SSS Curriculum*

The main implication of this proposed structure and form is that there will now be 5 coherent and well-defined specialist streams in the senior secondary schools. This pattern will replace the current situation that offers only 3 loosely-defined streams of Arts, Science, and Commercial; into which all manner of subjects and quasi-subjects are categorized. For the new SSS curriculum therefore, all subjects should be logically generated from the finite set of 5 “parent disciplines” that now make up the specialist streams in senior secondary.

These 5 disciplines have been formulated to reflect credible forms of knowledge that are most relevant and feasible for the Sierra Leone (and African) context. This does not avoid the current or traditional SSS subjects, but opens up the possibility for different types of subjects to be generated beyond the restrictive parameters of the traditional subjects. In addition, there is a perennial challenge with the current structure and form of knowledge in SSS, so that the subjects on offer are “theoretical” and heavily oriented to the requirements of WASSCE. As such, learners who complete SSS may be full of the “book knowledge” that is useful for WASSCE, but are often not able to apply knowledge in

employment fields, or even use knowledge to deal with routine functions and situations encountered in everyday life.

In general, those who pass WASSCE and go on to tertiary education, may feel they have been well served by such “book knowledge”. But for the majority who do not pass WASSCE this type of “book knowledge” does not serve them well in the broad field of employment or in everyday life. This is a major setback for human capital development in the country.

The proposal advanced in this framework means that for each of the 5 disciplines or SSS streams there should be 3 sets of subjects that reflect core knowledge, applied knowledge and everyday knowledge generated from the disciplines, as indicated below.

THE 5 “PARENT DISCIPLINES” (SSS Streams)	BRIEF DESCRIPTION OF THE 6 “PARENT DISCIPLINES”
Languages & Literatures	Brings together the study/practice of key elements of all languages and the literatures that they spawn. It is about how we do things – Speech Acts – with languages (express feelings, communicate ideas, give orders, describe situations, name things, present, etc.) as well as the varied pictures we paint with languages (stories, poems, essays, movies, biographies, etc.) that have come to be valued/archived as Literatures.
Mathematics & Numeracy	Provides fair grounding in Mathematics as a discipline but demystifies it with less focus on complexity & abstractions, and more on essential mathematical competencies and pragmatic numerical literacy.
Sciences & Technologies	This key discipline blends the fundamental elements (themes, topics, methods, etc.) of the sciences (physical sciences, life sciences, earth sciences,) with aspects of technologies that are now intertwined with the sciences. The focus is on relating these elements to pertinent challenges in the context of Sierra Leone, Africa, and the developing world. The discipline provides a fair grounding in the Sciences but with an embrace of a variety of relevant technologies, including: appropriate technology, ICT, green technology, etc.
Social & Cultural Studies	Covers the spectrum of knowledge on how (as human beings) we create, change, and function in societies; and how we continue to do so in new ways whilst retaining our institutions, cultures, and accumulated practices, as well as our diverse ways of living, working, and entertaining within and across our evolving societies and cultures.
Economics & Business Studies	This deals with the study of Economics as a discipline but orients it strongly towards commercial/business applications of fundamental principles, key concepts, and basic methodologies for doing Economics.

Furthermore, it is recommended that the perennial challenge described above can be addressed by ensuring that for each of the 5 disciplines or specialist streams, there should be 3 sets of key subjects generated to cater for 3 categories of knowledge as follows:

Core Subjects: these are subjects that reflect knowledge in its “pure form” for the stream. They enable learners to specialize in the stream through a proper understanding of the essentials of what we know in the discipline (content); and how we know what we know (methodology).

Applied Subjects: these are subjects that reflect the instrumental use of the discipline to deal with some practical field or area of concern. They enable learners to use knowledge and skills from various subjects to tackle important issues, concerns, and problems in the real world.

Everyday Subjects: these are subjects that reflect the growing importance of knowledge in daily situations and routine matters. They enable learners to pursue pet interests, become enlightened citizens and use knowledge to navigate/transact routine matters encountered in everyday life.

10. Generating Subjects & Syllabuses from Disciplines

An extensive review and analysis of the *Forms of Knowledge literature* has resulted in a finite (total 5) number of **Adapted Disciplines** being proposed as the most appropriate forms of knowledge for the Sierra Leone context. These disciplines serve as the source (parent discipline) from which all subjects should be generated for the curriculum. It has also been recommended that these parent disciplines should in effect be used as senior secondary Streams within which sets of subjects and their related syllabuses should be generated for the SSS curriculum.

10.1. Key Issues for SSS Streams & Subject Clusters

The practice of packaging subjects into streams within a school system has a checkered history in Sierra Leone and most developing countries, going back to the colonial period. Streaming, as the practice is known, was initially used to separate smart and able learners from those that are less able and not so smart. This was about “**separating wheat from chaff**” so that resources can be used efficiently to produce manpower without holding back smart learners. Streaming also entailed clustering certain subjects, designated as being for smart learners; whilst other subjects were mainly for less able students. Separating sets of subjects in this way reflected colonial notions of middle-class and working-class groups in society. Invariably, theoretical and academic subjects were for smart learners, who were presumably destined to join the ranks of the middle class in society. Practical and vocational subjects were for the less able learners destined to join the ranks of the working class. Such separation was treated as natural and fair in the colonial era. Unfortunately, the practice still haunts education systems in countries like Sierra Leone.

Over time, such practices were radically altered in the education systems of the former colonizing powers, so that what subjects were studied by learners became a matter of interests, aspirations, and proven aptitudes or competencies. Indeed, most developed countries currently practice an open system of secondary education in which learners have the opportunity to study a range of subjects selected from various clusters or streams. It is argued that this open system or elective model offers a liberal journey from schooling into the world of work. Meanwhile the developing countries like Sierra Leone continue to cluster practical and vocational subjects into streams and institutions earmarked for learners who are not academically gifted, or whose aptitudes point to success in practical subjects. Not surprisingly the mind-set of learners indicates that such subjects are intended for less able learners who are not smart enough to engage in “academic subjects” that lead to university education and prestigious or lucrative employment.

This framework recommends that in the new SSS curriculum, sets of subjects generated from the parent disciplines should be offered to learners through streams that allow choices on which discipline to specialize in. Choice should be based on the learners' interests, aspirations, and proven capabilities. To counter the ghosts of elitism, each of these streams will have a set of theoretically-oriented **Core Subjects** and a set of more utilitarian-oriented **Applied Subjects**, as well as a set of **Everyday Subjects** for learners not specializing in the stream concerned.

10.2. Generating Subjects for Discipline-Based Streams

As a result of the approach recommended for streaming in senior secondary schools the new SSS curriculum will package subjects in a matrix of discipline-based streams with clusters of subjects oriented towards being core, applied, or everyday versions of the discipline. These subjects are all generated from the parent disciplines that serve as streams for SSS education. This is a process that involves interrogating a discipline for its worthwhile knowledge elements, taking account of traditional subjects associated with the discipline, as well as imagining new or modified subjects that address concerns and priorities for senior secondary education in Sierra Leone. In the case of the “Sciences & Technologies” stream for instance, the process starts with brainstorming over broad themes or constituent parts of the discipline such as physical science, life science, digital technologies, analogue technologies, traditional technologies, etc. At the same time, traditional subjects associated with this discipline such as physics, chemistry, biology, computer science, ICT, and agricultural science were considered. Throughout the process attention is given to concerns and priorities in Sierra Leone that help to better define what is relevant and worthwhile for senior secondary education in Sierra Leone. It is through this intersection of knowledge analysis and needs assessment that appropriate sets of subjects were generated for the SSS curriculum.

10.3. Generating Syllabus Content for the Subjects

Syllabuses or subject content have been generated and recommended with consideration of key influencing factors such as traditional or familiar subjects, as well as innovative approaches that can yield relevant and effective content to address prevailing concerns that ought to be part of the senior secondary curriculum. So, the process of generating syllabuses involved modifications to traditional subjects as well as creative twists in emphasis or interpretation of what are the most effective ways of delivering quality learning for adolescents in the Sierra Leone context.

The syllabuses generated also took account of the fact that subjects in SSS should be structured in 3 packages of “core”, “applied”, and “everyday” subjects. A first package (core) should offer learners deep dives into a set of specialist/core subjects relating to the chosen stream or cluster. A second package (applied) should offer learners a grounding in the utilitarian or instrumental knowledge elements of the discipline. A final package

should offer learners useful engagement with the everyday knowledge that is essential for an enlightened citizenry.

Thoughtful application of these guidelines can be seen in the range of titles of subjects prescribed for the core, applied, and everyday versions of each discipline or stream. Equally, the syllabuses reflect efforts to differentiate core from applied or everyday subjects within each discipline. In addition, both the subject titles and syllabuses have been designed to be examinable at WASSCE and be relevant for entry to universities and tertiary institutions. In this regard, some of the subject titles are provisional and subject to change in the interest of making them sound as plausible subjects for the high-stakes WASSCE examinations.

10.4. A National Menu of Curriculum Streams & Subject Sets

SSS Streams	Core Subjects in Stream	Applied Subjects in Stream	Everyday Subjects in Stream
Sciences & Technologies	(9) Integrated Science (10)Biology (11)Chemistry (12)Computer Science (13)Agricultural Science (14)ICT (15)Robotics (16)Physics (Later)	(7) Environmental Science (8) Health Science (9) Food Security (10)Engineering Science (11)Physical Health Education (12)Genetics & Bio-Engineering	(4) Adolescent Health & Life Skills (5) Computer Literacy (6) Popular Science
Mathematics & Numeracy	(5) Fundamentals of Mathematics (6) Further Mathematics (7) Statistics & Probability (8) Calculus	(6) Mathematics for Business and Enterprise (7) Mathematics Applications for Coding (8) Mathematics for STEAMM (9) Computer Mathematics (10)Maths for other Disciplines	(3) Introductory Statistics & Probability (4) Functional Mathematics
Economics, Business & Entrepreneurial Studies	(6) Principles of Economics (7) Entrepreneurship (8) Principles of Accounting (9) Business Management Studies (10)Principles of Commerce	(6) Principles of Marketing (7) Business Accounting (8) Clerical Office Duties (9) Insurance Management (10)Business Economics	(5) Business & Society (6) Customer Relations Management (7) Micro/Small/Medium Enterprise Mgmt. (8) Business Ethics
Languages & Literatures	(7) English Language (8) African Literature (9) English Literature (10)French as a Foreign Language	(8) Creative Writing (9) Business English (10)French for Tourism (11)Technical Writing (12)English for STEAMM	(5) Everyday Basic French (6) Popular Literature Appreciation (7) Arabic Language

	<p>(11)Sierra Leone Literature</p> <p>(12)Sierra Leone Languages (Mende, Kathemne, Hulimba, Krio)</p>	<p>(13)French for Business and Marketing</p> <p>(14)Language for Special Needs Education (Later)</p>	<p>(8) Fula</p>
<p>Social & Cultural Studies</p>	<p>(9) History of Sierra Leone</p> <p>(10)African History</p> <p>(11)Geography</p> <p>(12)Music</p> <p>(13)Dance + Drama Studies</p> <p>(14)Politics & Governance</p> <p>(15)Social Studies & Civics</p> <p>(16)Religious & Moral Education (RME)</p>	<p>(5) Geography & Environment</p> <p>(6) Music as Applied Subject</p> <p>(7) Entertainment Industry</p> <p>(8) Derivatives of Religious & Moral Education</p>	<p>(6) Dance Performance and Appreciation</p> <p>(7) Mining Industry & The Environment</p> <p>(8) Fishing Industry & The Environment</p> <p>(9) Tourism & Conservation</p> <p>(10)Living with Religious & Moral Education</p>

11. Design of Curriculum Goals & Objectives

There are several sets of goals and objectives to be designed for the senior secondary curriculum. At the most general level we need to set goals and objectives for senior secondary in terms of what we expect for learners who have completed the 3-year cycle of education. Below this we should set goals and objectives that spell out what learners should achieve at the end of each year of the 3-year cycle (i.e. SS 1, SS 2, and SS 3). In addition, broad goals should be spelt out for each of the 5 disciplines that serve as streams for senior secondary schools. In the case of school subjects generated from the disciplines, there should be goals and objectives at the general level as well as for each topic/unit/theme through which a subject is taught in the SSS cycle.

Work on setting goals and objectives for the new SSS curriculum involved a consultative as well as a logical derivation process. Consultation was about taking account of stakeholder priorities and what is feasible for implementation of the new curriculum. Logical derivation was about using steps that would lead to sensible and defensible goals and objectives, using epistemological principles. On this basis, curriculum experts and subject specialists used a series of templates that were designed to generate and categorize goals and objectives for different aspects and levels of the curriculum as illustrated in a few examples shown in charts below.

11.1. Goals & Objectives for SSS Disciplines/Streams

Template with Examples of Broad Goals for the 5 Disciplines

5 Disciplines (SSS Streams)	Core Knowledge and Skills of the Discipline	Applied Knowledge & Skills of the Discipline	Everyday Knowledge & Skills of the Discipline
Sciences & Technologies	To initiate learners into the specialist world of sciences & technologies. The knowing & Doing processes/standards	To develop understanding of how science & technology can be used to understand & address real-world concerns	To develop abilities for using an understanding of science & technology in daily life
Mathematics & Numeracy	To develop understanding and proficiency in the use of mathematics (know-how).		To develop numerical skills & the competencies for coping with routines in daily life
Econs, Business & Entrepreneurship		To develop understanding & competencies in the use of economics for enterprise	
Languages and Literatures	To equip learners with key proficiencies in language & literature (use/appreciate)		
Social & Cultural studies			

11.2. Goals & Objectives for Some Senior Secondary Core Subjects

Template with Few Examples of Goals & Objectives for Core Subjects

Core Subjects in Various Streams	Goals & Objectives of Core Knowledge & Skills of the Subject
Biology	<p>Learners will be immersed in study of living things & interactions with the environment.</p> <p>Learners will understand and be able to cope with everyday problems such as food security, diseases, environmental management, and (mis)use of natural resources.</p> <p>Learners will be introduced to the two main branches (Botany & Zoology) through the study of diverse areas like bacteriology, Entomology (Study of Insects) Parasitology, Ecology and Genetics.</p>
Physics	<p>Learners will become familiar with the ways in which object and matter interact with natural entities such as space, time, forces and energy.</p> <p>Learners will understand the nature and properties of these natural entities.</p>

11.3. Goals & Objectives for a Senior Secondary Applied Subject

Template with an Example of Goals & Objectives for Applied Subjects

Applied Subjects in Various Streams	Goals & Objectives of the Subject as “Applied Knowledge” & Skills version of a Discipline
Food Security	<p>Learners will understand and be able to apply knowledge of the physical, chemical, and nutritive nature of different categories of food.</p> <p>Learners will develop an understanding of, and be able to use, methods of preservation, storage and processing of categories of food – inclusive of the technologies involved.</p> <p>Learners will develop a critical understanding of current methods utilized in packaging, marketing and distribution of various categories of food – including national systems.</p> <p>Learners will be able to explore and create strategies for accessing adequate nutritious foods at affordable prices, all year round.</p>

11.4. Goals & Objectives for Senior Secondary “Everyday Subjects”

Template with Examples of Goals & Objectives for Everyday Subjects

Everyday Subjects in Various Streams	Goals & Objectives of the Subject as “Everyday Knowledge” & Skills version of a Discipline
French for Tourism	

12. Guidelines for Uptake of the new SSS Curriculum

The practicalities of embedding a new SSS curriculum in the school system must be addressed within the current time constraints of: 40 minutes in a teaching period; 7 teaching periods in a school day, and 5 school days in a week. This has implications for the school time table that may have to cater for up to 5 streams, instead of the current 3 streams in SSS. The main implication is that adequate time must be allocated to enable learners to be well-grounded in the subjects they take within their specialist stream; as well as developing strong competencies in subjects they select outside of their specialist stream. This may require dedicated classrooms for specialist streams in addition to multi-purpose classrooms that can be used more flexibly. In any case, timetabling will need to be learner-centered with time allocation, classroom use, and teacher deployment all designed to address the efficient provision of opportunities for learning.

The process of embedding the new curriculum in schools must also take account of the number of teachers, their specialist qualifications, and the pattern of teacher deployment across the SSS network in the country. The TSC policy guidelines on recruitment & deployment of teachers may need to be adjusted to cater for what senior secondary schools need for successful uptake of this new curriculum. In addition, the following considerations will be most influential in determining successful uptake of a new senior secondary curriculum:

- (a) There must be clear rules and regulations that govern what schools can do in terms of the number/type of discipline-based streams they offer, and number of prescribed subjects they cater for within each stream. The rules and regulations should encourage healthy competition amongst schools as they strive to develop capacity to offer various streams/subjects; and also try to build a reputation for quality in what they offer.
- (b) Conversely, these rules and regulations should be realistic and must serve to deter schools from claiming or attempting to offer certain streams and subjects, if they clearly do not have the capacity and resources to do so.
- (c) District education offices (MBSSE/TSC) should monitor and support schools with the streams and subjects they offer, such that all the 5 discipline-based streams and their related subjects are available in some form within the district. Learners should not have to move out of a district to access a preferred stream or the specific subjects they want to study at SSS level.
- (d) All learners should be provided with a comprehensive and rich menu that enables them to specialize in one of the five discipline-based streams by choosing appropriate core and applied subjects within this specialist stream. The menu should also allow

learners to select additional applied subjects as well as everyday subjects from outside their specialist stream.

12.1. Streams & Subjects Offered at School and District Levels

Based on the national menu of discipline-based streams and related subjects, the recommended options for schools and districts to offer streams and subjects can be summarized as follows:

<p style="text-align: center;">All Senior Secondary Schools in Sierra Leone</p>	<p>All senior secondary schools must offer at least 3 discipline-based streams drawn from the set of 5 streams proposed for the senior secondary curriculum.</p> <p>A senior secondary school may offer more than 3 streams and up to the maximum of 5 streams, provided it has the capacity and meets the criteria officially set for schools to offer each stream.</p> <p>Decisions on how many streams (and which streams) a school can offer, should be must be based on capability criteria relating to staffing levels & quality, adequate facilities, appropriate equipment, and track-record of competence.</p>
<p style="text-align: center;">All 16 Administrative Districts in Sierra Leone</p>	<p>Each district should ensure that all 5 streams are available in some form in their schools. so that students do not have to move outside the district to access a specialist stream or key subject. This may require special support to enable selected schools to offer streams or subjects that may not otherwise be available within the district.</p>

To reiterate the points summarized above, all approved senior secondary schools in the country must offer at least 3 specialist streams from which learners can make a selection. These streams offered by schools should be drawn from the set of 5 disciplines-based streams that have been prescribed in the new senior secondary curriculum. These streams would replace the present restrictive streams of Arts, Science, and Commerce.

Beyond the minimal 3 streams, a senior secondary school may offer additional streams up to the proposed total of 5 discipline-based streams. Decisions on what streams and how many streams a school can offer should be based on the availability of teachers and other resources relating to subjects that are in the streams a school wishes to offer. Guidelines and criteria to support these decisions should be provided to school leaders by district education authorities (MBSSE/TSC).

In each of the 16 districts senior secondary schools must offer between them all proposed streams to provide comprehensive and full choice for learners within their district.

12.2. Streams Selected & Subjects Chosen by Learners

Upon successful completion of basic education (post-BECE) every learner should decide the specialist stream in which he/she will pursue senior secondary education. Within their selected stream, every learner should choose to study at least 3 (and not more than 4) core subjects from the set of core subjects offered in that stream by their senior secondary school. In addition, every learner should choose to study at least 1 (and not more than 2) applied subjects from the set of applied subjects offered in their selected stream by the school.

Furthermore, every learner should choose to study at least 1 (and not more than 2) subjects from the sets of applied subjects that are offered outside of their specialist stream and available in their senior secondary school. Finally, learners should choose to study at least 1 (and not more than 2) everyday subjects that are offered outside of their specialist stream in their school.

Applying these selection rules, it can be seen that the minimum number of subjects a learner can choose is 6 (six), and the maximum number of subjects that can be chosen is 10 (ten). Also, the ways in which a learner can choose subjects, depending on the total number of subjects he or she wishes to take will be determined by the possible permutations & combinations summarized in the following chart:

Permutations & Combinations of Subject Selection by SSS Learners, guided by interests/aspirations & Requirements	NUMBER OF SUBJECTS CHOSEN BY LEARNER FROM SCHOOL LISTS						
	Selected Specialist Stream			Other Available Streams			
	CORE	APPLIED	EVERYDAY	CORE	APPLIED	EVERYDAY	TOTAL
	3	1	N/A	N/A	1	1	6
	4	1	N/A	N/A	1	1	7
	3	2	N/A	N/A	1	1	7
	3	1	N/A	N/A	2	1	7
	3	1	N/A	N/A	1	2	7
	3	2	N/A	N/A	2	1	8
	3	2	N/A	N/A	1	2	8
	3	1	N/A	N/A	2	2	8
	4	2	N/A	N/A	1	1	8
	4	1	N/A	N/A	2	1	8
	4	1	N/A	N/A	1	2	8
	3	2	N/A	N/A	2	2	9
	4	2	N/A	N/A	1	2	9
	4	1	N/A	N/A	2	2	9
	4	2	N/A	N/A	2	1	9
	4	2	N/A	N/A	2	2	10
			N/A	N/A			
			N/A	N/A			

Learners wishing to take a **total of 6 subjects** have only 1 permutation and combination of subjects from their selected specialist stream and other available streams.

Learners wishing to take a **total of 7 subjects** have 4 permutations and combinations of subjects from their selected specialist stream and other available streams.

Learners wishing to take a **total of 8 subjects** have 6 permutations and combinations of subjects from their selected specialist stream and other available streams.

Learners wishing to take a **total of 9 subjects** have 4 permutations and combinations of subjects from their selected specialist stream and other available streams.

Learners wishing to take a **total of 10 subjects** have only 1 permutation and combination of subjects from their selected specialist stream and other available streams.

12.3. A Resource-Intensive Approach to Curriculum Uptake

An important recommendation is that this curriculum must be implemented using an intensive resource approach that supports schools and teachers with extensive support to ensure success. This is simply being flagged in the framework for information, but will be outlined and elaborated in detail as part of the Implementation Strategy document.

Subject specialists have worked intensively to prepare comprehensive lists of resources that will be required to teach the various subjects and topics in the new curriculum. In Mathematics & Numeracy for instance it is proposed that there will be a box of standard equipment, tools, and materials required for all schools offering this stream. This “Mathematics in a Box” set should be supplied to schools across the country. In addition to such physical resources all subjects will provide e-learning resources such as brief video clips, photos, charts, etc., over the phone. It is also recommended that there should be text books and supplementary materials developed by national subject specialists who can work with established publishers to deliver such products.

As part of the resource intensive approach, it is recommended that a Resource Clearing House should be established at headquarters and district levels, for quality assurance purposes. This can make use of existing facilities and administrative structures/services such as existing education radio which can also be used to disseminate audio resources for the new SSS curriculum.

13. Linkages with Destinations & Gate Keepers

The new senior secondary curriculum needs to be in harmony with anticipated destinations of the learners who complete SSS, as well as with the entities that serve as gate keepers to many of these destinations. This framework has taken account of this need and efforts have been made to do the necessary groundwork and help to address the associated challenges. The challenge that remains is centered on negotiations between top MBSSE officials and senior hierarchies of destination institutions and gate keeper entities. This section gives brief insights into what should be tackled in these negotiations, based on the curriculum framework and its recommendations for quality/standards in the subject syllabuses.

13.1. WASSCE and The West African Examinations Council

The West African Examinations Council, through its high-stakes examination (WASSCE), is clearly the pre-eminent gate keeper for most of the destinations that senior secondary school leavers will aspire to enter. The credit scores documented in the certificates issued by WAEC become the passports to entering universities and colleges, as well as general employment. Currently learners in Sierra Leone take WASSCE examinations that are not based on a national curriculum, because there has not been a national curriculum for senior secondary education in Sierra Leone.

The main point to be negotiated by MBSSE with WAEC therefore, is the acceptance by WAEC that all the subjects that are offered at senior secondary schools are eligible for examination and certification at WASSCE. This includes core subjects, applied subjects, and everyday subjects in all the 5 streams that are now in senior secondary schools. The second point that follows from this is that WASSCE examinations should be set on the basis of the new national curriculum and subject syllabuses for senior secondary education in Sierra Leone.

13.2. Pre-Service & In-Service Teacher Training Entities

Teacher training institutions receive students for their courses from senior secondary schools, but they also prepare teachers for senior secondary schools. Negotiations should ensure that the new SSS curriculum is at the heart of the work done in these training institutions. Just as critical is the need for the new SSS curriculum to be recognized and embraced by the entities that govern most teacher training institutions. These entities are the Tertiary Education Commission (TEC) and the Ministry of Technical & Higher Education (MTHE), which are in a position to ensure that the new curriculum is embedded in the courses offered at teacher training institutions. Currently these institutions do not have the school curriculum (basic or SSS) as part of their courses or curriculum. Indeed, most do not have a curriculum or clear standards for student assessment.

13.3. Universities & Tertiary Education Entities

In the case of universities and colleges, negotiations should focus on general entry requirements and acceptance of core, applied and everyday subjects for entry to specific courses.

14. Monitoring Evaluation and Learning (MEL)

There is a separate implementation strategy that highlights how the senior secondary curriculum will be rolled out, taken up by schools, and made to work efficiently. Proposed activities include:

Suggested Implementation Activities for SSS Curriculum

No	Activity Title	Brief Description of Activity
1	National Survey of Staffing Levels in SSS to help each school decide on which streams, and the number of subjects they can offer from the SSS curriculum.	Collect data from all SSS schools (or TSC). Compile database (spreadsheet) of SSS teachers by school, subject(s), qualifications, gender, age, and years of teaching experience. This database should be uploaded to the website(s) (MBSSE/TSC) and can be updated annually. This can be used as a tool to assess the capacity of senior secondary schools to offer a proposed number of streams and subjects in implementing the new SSS curriculum
	Regional Workshops on: roll out of SSS curriculum framework & syllabuses; how to restructure & organize schools to implement the new streams/subjects in the senior secondary curriculum.	Introduce, explain, clarify, and facilitate ownership of the new SSS curriculum. Design templates for schools to specify variables that influence what streams they have the capacity to offer, as well as how many streams/subjects they can deliver on, in terms of quality learning. The Workshops will be for school heads, subject leads, CPSS, subject associations, and DEOs (MBSSE & TSC). Provide participants with simple algorithms for decision making, to ensure a logical and objective process as well as credible outcomes. The agreed streams/subjects to be offered by each senior secondary school should be publicized annually for the information of learners, parents, communities, and other stakeholders.
3	National Consultative Seminar for Tertiary Educ. Institutions & Governing Bodies (TEC/MTHE) on the new SSS curriculum.	Introduce, explain, discuss, and invite responses/queries on all major issues in the new SSS curriculum. Focus to be on: entry requirements to tertiary institutions, adequate preparation (alignment with) tertiary education courses. Participants should include university staff who completed (March 2021) a course on Quality Assurance in Higher Education; as part of Assuring Quality Higher Education in Sierra Leone (AQHEd-SL) funded by FCDO under the SPHEIR project.
4	National Consultative Seminar for Education Partners Group. (Donors/INGOs/NGOs/CSOs)	Introduce, explain, discuss, and invite responses/queries on all major issues in the new SSS curriculum. Focus to be on: support required to successfully implement and regularly monitor performance with the new SSS curriculum; contribution of the curriculum to improved learning at SSS level and reduced unemployment in the youth population, as well as addressing SGBV and key adolescent issues.

5	National Consultative Seminar for Employers (public/private), Entrepreneurs & Investors, and parastatals, etc.	Introduce, explain, discuss, and invite responses/queries on all major issues in the new SSS curriculum. Focus to be on: links with broad employment opportunities; contribution to equitable growth; enhanced creativity & entrepreneurship; new attitudes to the world of work; appropriate values and behaviors; etc.
6	National Planning Meeting on Specifications & Guidelines for TLMs to implement the new SSS curriculum in schools.	Get teams that developed subject syllabuses for the new SSS curriculum to work on outlines of what should be in core text books and teachers guides for successful implementation of their subjects as part of the new curriculum. Engage teams in review of textbooks that are available or that are requested from publishers, to determine suitability (with adjustments) for the new SSS curriculum. Meeting recommends way forward to MBSSE: (a) Put out tenders for textbooks & teachers guides, (b) Request few selected publishers to modify existing books and guides, or (c) Engage local writers to prepare textbooks and teachers guides.
7	National Planning Meeting to Conceive, Design, & Establish a “National Repository” to create, collect & distribute quality TLMs as supplementary SSS resources (include e-learning) for various subjects in the new curriculum.	Establish mechanism to provide wide range of supplementary materials that will be required, especially for the Everyday Knowledge in various disciplines which is a new feature for the curriculum in Sierra Leone. This planning meeting will deal with an initial set of such materials and then decide on where to locate a national repository for on-going work (MBSSE/Private contract). Supplementary materials can be printed and distributed or saved on “thumb drives” for distribution to district offices where schools can get them printed as and when required.
8	Interactive Platform (website & cell phone) to respond to any questions & clarifications from teachers & learners on the new SSS curriculum.	Explore with DSTI the design/cost of an interactive platform that can be on a website as well as on cell phones. This should serve as a “single source” for all official information and clarification, to avoid rumors and fake news on issues relating to the new SSS curriculum. The Interactive Platform should be managed by MBSSE with a designated officer providing services. Accurate responses to requests for information/ clarification should be secured from reputable sources to avoid confusion or misrepresentation on SSS curriculum issues.
9	National Planning Meeting on Key Performance Indicators for implementation of the new SSS curriculum; and incorporate in the Education Sector Plan.	Integrate the SSS curriculum in the national sector planning process by setting key performance indicators (KPIs) with baseline values & annual targets linked to an implementation strategy and incorporated into the latest education sector plan. The meeting will involve key experts in design of KPIs and setting of annual targets as part of the national education sector planning process.
10	National Workshop to Develop Monitoring & Evaluation plans, as well as strategies to Learn Lessons	Engage M&E specialists to develop plans for routine monitoring of progress with implementing the SSS curriculum at the level of schools, districts and nationally. Strategies should also be formulated to do formative

	<p>from implementation of the new SSS curriculum.</p>	<p>evaluation after 2 years, as well as for summative evaluation after 4 or 5 years. These plans and strategies should also provide for learning lessons from implementing the curriculum.</p>

The implementation strategy can be used as a major tool for monitoring implementation of the new curriculum, as well as to do some formative evaluation that would enable adjustments and corrections to be made as the new curriculum takes hold (or not) in the education system. Provision should also be made for a summative evaluation of the new curriculum, which would include its impact on performance of learners at the WASSCE examination, their success in general employment, and the role they play as enlightened citizens.

Part of what is recommended is that key performance indicators should be developed to track progress with implementation of the senior secondary curriculum, and this should be part of the education sector plan as well as the dashboard that is envisaged for dealing with the continuous professional development (CPD) of teachers. What is critical for monitoring and evaluation is that important lessons are learned that will support adjustments to the SSS curriculum and prepare the education system for future exercises in curriculum development.

