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IDA/R2017-0100/1

April 11, 2017

Closing Date: Friday, April 28, 2017 at 6:00 p.m.

FROM: Vice President and Corporate Secretary

Guyana – Guyana Education Sector Improvement Project

Project Appraisal Document

Attached is the Project Appraisal Document regarding a proposed credit to Guyana for a Guyana Education Sector Improvement Project (IDA/R2017-0100), which is being processed on an absence-of-objection basis.

Distribution:
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The World Bank

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Report No: PAD2052

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 9.9 MILLION
(US$ 13.3 MILLION EQUIVALENT)

TO THE

CO-OPERATIVE REPUBLIC OF GUYANA

FOR A

GUYANA EDUCATION SECTOR IMPROVEMENT PROJECT

April 7, 2017

Education Global Practice
Latin America and the Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective February 13, 2017)

Currency Unit =	Guyanese Dollar
G$207 =	US$1

FISCAL YEAR
January 1 - December 31

ABBREVIATIONS AND ACRONYMS

CAAM-HP	Caribbean Accreditation Authority in Medicine and other Health Professions
CARICOM	Caribbean Community
CEN	Country Engagement Note
CSEC	Caribbean Secondary Education Certificate
CPCE	Cyril Potter College of Education
CSME	CARICOM Single Market and Economy
CTC	Core Technical Committee
CXC	Caribbean Examination Council
DA	Designated Account
DEOs	District Education Officers
EAMP	Environmental Assessment and Management Plan
ECE	Early Childhood Education
EFA-FTI	Education for All Fast Track Initiative Catalytic Trust Fund
ESP	Education Sector Plan
FHS	Faculty of Health Sciences
FM	Financial Management
FY	Fiscal Year
GDP	Gross Domestic Product
GECEP	Guyana Early Childhood Education Project
GER	Gross Enrollment Rate
GESIP	Guyana Education Support Improvement Project
GITEP	Guyana Improving Teacher Education Project
GoG	Government of Guyana
GRS	Grievance Redress Service
GSEIP	Guyana Secondary Education Improvement Project
HEIS	Hands-on Expanded Implementation Support
HSB	Health Sciences Building
ICR	Implementation Completion and Results Report

ICT	Information and Communications Technologies
IDA	International Development Association
IFRs	Interim Financial Reports
IPF	Investment Project Financing
IPP	Indigenous Peoples Plan
IRI	Intermediate Results Indicator
LAC	Latin America and the Caribbean Region
LCDS	Low Carbon Development Strategy
M&E	Monitoring and Evaluation
MOCCs	Massive Open Online Courses
MOE	Ministry of Education
MOF	Ministry of Finance
NCD	Non-Communicable Diseases
NCERD	National Center for Education Resource Development
NPF	New Procurement Framework
NPTAB	National Procurement and Tender Administration Board
OP	Operational Policy
OP/BP	Operations Policy/Bank Procedure
PAHO	Pan-American Health Organization
PDO	Project Development Objective
PIU	Project Implementation Unit
Red.Os	Regional Education Officers
SABER	Systems Approach for Better Education Results
SPDs	Standard Procurement Documents
SSC	Subject-Specific Committee
STEP	Systematic Tracking and Exchanges in Procurement
UG	University of Guyana
UG FHS	University of Guyana Faculty of Health Sciences
UGSTSP	UG Science and Technology Support Project
UNICEF	United Nations International Children's Emergency Fund
WB	World Bank
WFME	World Federation for Medical Education
WHO	World Health Organization

Regional Vice President:	Jorge Familiar
Country Director:	Tahseen Sayed
Senior Global Practice Director:	Jaime Saavedra
Practice Manager:	Reema Nayar
Task Team Leader(s):	Hongyu Yang and Shawn Powers

BASIC INFORMATION

Is this a regionally tagged project?	Country(ies)	Lending Instrument
No		Investment Project Financing

[ ] Situations of Urgent Need of Assistance or Capacity Constraints

[ ] Financial Intermediaries

[ ] Series of Projects

Approval Date	Closing Date	Environmental Assessment Category
28-Apr-2017	30-Apr-2023	B - Partial Assessment

Bank/IFC Collaboration
No

Proposed Development Objective(s)

The objectives of the Project are to: (i) improve teaching practices and student achievement in mathematics at the primary level in selected schools; and (ii) strengthen the teaching capacity and improve the learning environment of the UG FHS.

Components

Component Name	Cost (US$, millions)
Component 1: Integrated Curriculum Reform.	5.36
Component 2: Strengthening the Teaching Capacity and Improving the Learning Environment for the University of Guyana Faculty of Health Sciences.	6.91
Component 3: Project Implementation Support.	1.06

Organizations

Borrower : Co-operative Republic of Guyana

Implementing Agency : Ministry of Education

[✔] Counterpart Funding	[ ] IBRD	[✔] IDA Credit [ ] Crisis Response Window [ ] Regional Projects Window	[ ] IDA Grant [ ] Crisis Response Window [ ] Regional Projects Window	[ ] Trust Funds	[ ] Parallel Financing

Total Project Cost:	Total Financing:	Financing Gap:
14.03	14.03	0.00
	Of Which Bank Financing (IBRD/IDA):	
	13.33	

Financing (in US$, millions)

Financing Source	Amount
Borrower	0.70
IDA-60090	13.33
Total	**14.03**

Expected Disbursements (in US$, millions)

Fiscal Year	2017	2018	2019	2020	2021	2022
Annual	0.00	0.89	1.43	2.59	4.34	4.08
Cumulative	0.00	0.89	2.32	4.91	9.25	13.33

INSTITUTIONAL DATA

Practice Area (Lead)

Education

Contributing Practice Areas

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

Gender Tag

Does the project plan to undertake any of the following?

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF

Yes

b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment

Yes

c. Include Indicators in results framework to monitor outcomes from actions identified in (b)

Yes

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Low
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Moderate
6. Fiduciary	Moderate
7. Environment and Social	Moderate
8. Stakeholders	Substantial
9. Other	
10. Overall	Moderate

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✔] No

Does the project require any waivers of Bank policies?

[ ] Yes [✔] No

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	✔	
Natural Habitats OP/BP 4.04		✔
Forests OP/BP 4.36		✔
Pest Management OP 4.09	✔	
Physical Cultural Resources OP/BP 4.11		✔
Indigenous Peoples OP/BP 4.10	✔	
Involuntary Resettlement OP/BP 4.12		✔
Safety of Dams OP/BP 4.37		✔
Projects on International Waterways OP/BP 7.50		✔
Projects in Disputed Areas OP/BP 7.60		✔

Legal Covenants

Financing Source	Sections and Description
	Schedule 2, Section 1, A.2 (Project Staff) The Government shall maintain at all times during Project implementation, professional staff in adequate numbers and with terms of reference, qualifications and functions acceptable to the Association and set forth in the Operational Manual, to perform all functions related to the Project, including a Project coordinator, a procurement officer, a financial management officer, a part-time engineer when needed, a monitoring and evaluation officer, a part-time environmental safeguards officer, and a part-time social development

	officer.
Financing Source	Sections and Description Schedule 2, Section 1, A.3 (Steering Committee) The Government shall establish within thirty (30) days of the date of signature of the Financing Agreement and thereafter operate, and maintain throughout the implementation of the Project, a committee (the Steering Committee) to be chaired by the MOE to provide policy guidance and coordination of Project activities, with functions, responsibilities and composition, including representatives of MOF, NCERD, UG and CPCE, all acceptable to the Association.
Financing Source	Sections and Description Schedule 2, Section 1, B (Subsidiary Agreement) To facilitate the carrying out of Component 2 of the Project, and prior to carrying out of any activity under said part of the Project, the Government shall enter into an agreement (the Subsidiary Agreement) with the UG, under terms and conditions acceptable to the Association.
Financing Source	Sections and Description Schedule 2, Section 1, C (Operational Manual) The Government shall adopt, and thereafter carry out the Project in accordance with the provisions of, a manual (the Operational Manual) acceptable to the Association.

Conditions

Financing Source	Type	Description
	Disbursement	Schedule 2, Section IV, B.1.a) Retroactive Financing For payments made prior to the date of this Agreement, except that withdrawals up to an aggregate amount not to exceed SDR 90,000 may be made for payments made prior to this date but on or after February 13, 2017, for Eligible Expenditures.

Financing Source	Type	Description
	Disbursement	Schedule 2, Section IV, B.1.b) No withdrawal shall be made for payments for Eligible Expenses under Category (2) unless the Subsidiary Agreement has been signed by the Government and the University of Guyana in a manner acceptable to the Association.

PROJECT TEAM

Bank Staff

Name	Role	Specialization	Unit
Hongyu Yang	Team Leader(ADM Responsible)	Senior Education Specialist	GED04
Shawn Michael Powers	Team Leader	Economist	GED04
Zoila Catherine Abreu Rojas	Procurement Specialist(ADM Responsible)	Procurement Specialist	GGO04
David I	Financial Management Specialist	Senior Finance Specialist	GGO22
Gabriela Grinsteins	Counsel	Legal	LEGLE
Jacqueline Beatriz Veloz Lockward	Counsel	Legal	LEGLE
M. Yaa Pokua Afriyie Oppong	Safeguards Specialist	Senior Social Development Specialist	GSU04
Maria Elena Paz Gutzalenko	Team Member	Program Assistant	GED04
Silvia Guallar Artal	Team Member	Analyst	GED04
Tatiana Cristina O. de Abreu Souza	Team Member	Finance Officer	WFALA
Ximena Rosio Herbas Ramirez	Environmental Specialist	Senior Environment Specialist	GEN04

Extended Team

Name	Title	Organization	Location
Carmel Roofe-Bowen	Curriculum Consultant		Jamaica
Ian Marfleet	Architect		Trinidad and Tobago

Shonell Robinson	Financial Management Consultant	WorldBank	Jamaica
Yuebo Li	Consultant	Worldbank	United States

CO-OPERATIVE REPUBLIC OF GUYANA
GUYANA EDUCATION SECTOR IMPROVEMENT PROJECT

TABLE OF CONTENTS

I. STRATEGIC CONTEXT

A. Country Context

1. Guyana is a small, sparsely populated country in South America with 765,000 inhabitants. The country has one of the lowest Gross Domestic Products (GDP) per capita in the Latin America and Caribbean (LAC) region. Despite overall declining poverty trends, poverty remains entrenched amongst certain geographic and ethnic lines. In 2016, Guyana's GDP per capita was US$4,000[1]. It is the seventh lowest GDP per capita in the LAC region. The economy is heavily dependent upon natural resources, agriculture, and remittances. Thus, it is vulnerable to adverse weather conditions, commodity price fluctuations, and economic conditions in migrant destination countries. Economic diversification beyond natural resources and agriculture remain a challenge. Sugar, gold, bauxite, shrimp, timber and rice represented over 80 percent of the country's exports in 2014. Remittances were equivalent to approximately 11 percent of GDP, mainly sent from the diaspora communities in the United States and Canada.

2. Despite ten consecutive years of growth, ensuring sustainable medium- to longer-term growth while increasing shared prosperity remains a serious challenge. Booming investments, favorable terms of trade, increased resource mobilization and debt relief strengthened macroeconomic performance, resulted in a 4.6 percent average annual growth during 2005-14. Continued fiscal prudence is needed to ensure debt sustainability and expand public investment to help reduce poverty and relieve infrastructure bottlenecks. From 1992 to 2006, moderate and extreme poverty figures declined from 43.2 percent and 28.7 percent, respectively to 36.1 percent and 18.6 percent[2]. The poverty reduction gains were related to consistent economic growth during this period. Based on 2006 data, rural poverty in Guyana reached nearly 74 percent. The Amerindian population suffers from the highest poverty rates, nearly 78 percent, and includes one-third of the country's extreme poor. The last household survey was conducted in 2006; the absence of more recent data limits a more accurate determination of poverty rates. Education levels correlated highly with poverty status. The 2006 data show that 41 percent of households with no or incomplete primary education were poor, while primary graduates were less likely to be poor. The significant expansion of education and GDP since 2006 may have helped reduce poverty.

3. In line with the Government's "Vision 2020: The Good Life in a Green Economy" policy[3], a highly educated and skilled workforce is a prerequisite to continued diversification of the economy and harnessing of the country's vast natural and mineral resources in a way that supports sustained growth. Therefore, the priority in the education sector is to raise learning outcomes to prepare students for

[1] Building Diversified, Green Economy: Delivering the Good Life to All Guyanese, Appendix I of the BUGET November 26th, 2016. Per capita GDP (US$) at 2006 Base, Guyana Bureau of Statistics.
[2] Guyana Country Engagement Note, (Report No. 94017-GY, discussed on May 3, 2016).
[3] The new Government has prepared a medium-term strategic framework, entitled Vision 2020: The Good Life in a Green Economy. A cross-cutting theme in *Vision 2020* is poverty reduction, targeting the most vulnerable groups, such as Amerindian groups and those living in hinterland areas. Expansion of quality education to hinterland areas and the poor would make a significant contribution to poverty reduction.

obtaining knowledge and skills needed for the labor market[4]. Equipping all secondary school graduates with universal basic skills would also help reduce coastal/hinterland and ethnic income disparities by promoting inclusive growth through increased participation of the poor in the labor market. In addition, inclusive growth, made possible through universal achievement of basic skills, has the potential to help address issues of poverty. Tertiary education, especially in areas of health, science and technology, is widely recognized as another key generator of development and economic growth.

4. Guyana is one of the most vulnerable countries to global climate change. Parts of the country, which are the main agricultural regions, are low-lying, with some coastal areas below mean sea-level and with a high percentage of the population and critical infrastructure located along the coast. Rising sea levels threaten to accelerate coastal erosion, increase flood risk, and lead to permanent loss of land in some areas. These adverse developments would be exacerbated by any increase in the destructiveness of tropical storms, the impacts of which will be greater because of rising sea levels, even without increases in storm intensity.

B. Sectoral and Institutional Context

5. Guyana's education sector has made remarkable progress in the last fifteen years and continues to be a priority for government investment. Guyana has achieved near-universal primary education enrollment, and secondary education is also expanding rapidly. In the 2015-16 school year, there were 26,213 students enrolled in nursery, as Early Childhood Education (ECE) is known in Guyana; 81,575 in primary school; and 67,281 students in secondary school. At the secondary level, a majority (34,239) of students are female, reflecting "male underachievement" commonly attributed to labor-market opportunities and social norms unfavorable to adolescent boys remaining in school. The recovery of the sector from severe underfinancing in the 1970s through the early 1990s has been maintained, and in recent years the education budget has continued to grow in absolute and relative terms. For the 2016 Fiscal Budget (Jan-Dec) for the education sector, the Government allocated G$40.3B (equivalent to US$201.5M), or 17.5 percent of the total budget, up from $31.8 billion (16.6 percent) in 2015. The estimated education sector budget is forecasted to grow steadily and reach G$49.2B in 2018 (Education Sector Plan 2014-2018). The largest share of the education budget goes to secondary education, 28 percent, followed by primary education with 26 percent. The sector continues to benefit from the contributions of development partners including the World Bank and UNICEF.

6. However, low quality of teaching and learning at all levels and inequalities in learning outcomes remain significant challenges**.** Although Guyana has achieved near-universal primary education and a rapidly expanding secondary system, learning outcomes have not kept pace. In 2016, only 14 percent of grade 2 students achieved scores indicating they "attained the standard" in literacy and numeracy; 41 percent were "approaching standard" and 45 percent "below standard." Boys were 9 percentage points more likely than girls to be "below standard," an early achievement gap that continues and reverberates in the substantially lower enrollment of males in secondary school, as referenced above. Low achievement continues to be a problem at the secondary level, as only about 45 percent of Guyanese students scored 50 percent or more in math in the Caribbean Secondary Education Certificate (CSEC) examinations in 2015.

[4] Research shows that the gains from improving the quality of education are three times as large as those from expanding enrollment at the current level of quality. See Eric Hanushek and Ludger Woessmann, *Universal Basic Skills Should Become the Primary Development Goal*, May 24, 2015.

Girls from coastal regions scored 20 and 23 percentage points higher than hinterland girls in math and English, respectively, in 2013. Similarly, coastal boys scored 19 and 23 percentage points higher for math and English in the same year. These disparities are attributable to poverty and limited school resources, including good quality teachers, in hinterland areas[5].

7. Teaching practices are also a significant constraint to learning. Continued low learning levels result partly from teaching styles based on memorization rather than critical thinking and conceptual understanding. There is little adaptation of teaching strategies to varying contexts and learning styles (including gender differences, linguistic and sociocultural contexts, and students' preparation for learning from their home experiences), which particularly affects the hinterland areas. These challenges are evident at every level of the education system. Until recently, nursery education followed structured, didactic instructional methods instead of open-ended, play-based, and hands-on approaches that are more suitable for healthy child development and acquisition of abstract concepts, especially in mathematics.

8. The curriculum has become outdated and is lacking in coherence. The curriculum—defined as not only learning standards for children, but also as the expectations for how teachers would deliver content in the classroom—is another key constraint to improved learning levels. The primary and secondary school curricula have not been systematically reformed since the 1990s. Over time, new subjects, information and communications technologies (ICT), and distance education methodologies have been added in an ad hoc manner. As a result, the curricula have become outdated, grade inappropriate, disjointed between grades and levels, and diverging from more modern regional Caribbean and international standards. The hinterland has suffered most from these curricular deficiencies, since initiatives to meet the learning needs of the indigenous peoples have been inadequate. These flaws have become a major missing part of the package of measures aimed at improving education quality in Guyana.

9. Curriculum reform has therefore become one of highest priorities in the Government's sector development program. In line with the Government's "Vision 2020: The Good Life in a Green Economy" policy[6], the country's Education Sector Plan (ESP) 2014-18 sets two priorities: (a) to increase learning outcomes for all levels of education and all sub-groups; and (b) to decrease the differentials in learning outcomes between sub-groups, especially between students in coastal and hinterland schools. The aim now is to reform and benchmark the curriculum to the regional Caribbean and international standards; complement previous and on-going quality improvement reforms in teacher training, textbooks and ICT; and develop new approaches to help the most disadvantaged and hard-to-reach learners. Doing so would support the establishment of a solid foundation on which high-quality education could be provided to help students from all groups achieve higher proficiency in all subjects. The Government also intends to include mechanisms to reduce gender gaps and target the specific needs of the indigenous and poorest groups, as well as students with disabilities.

10. The Government recognizes that higher education also plays a critical role in the production of a highly skilled work force, including health professionals. The University of Guyana (UG) is the only comprehensive university in the country, and student learning at UG is compromised by poorly compensated and under-qualified staff working in inadequate teaching and learning facilities. These

[5] Assessment of World Bank support for Education in Guyana, Draft, Hongyu Yang, June 2016.

[6] The new Government has prepared a medium-term strategic framework, entitled Vision 2020: The Good Life in a Green Economy. A cross-cutting theme in *Vision 2020* is poverty reduction, targeting the most vulnerable groups, such as Amerindian groups and those living in hinterland areas. Expansion of quality education to hinterland areas and the poor would make a significant contribution to poverty reduction.

conditions have constrained production of adequately trained professionals, including health professionals. The UG Faculty of Health Sciences is the sole public institution for training health professionals in the country. As of 2016, the Faculty employs 103 lecturers. For the 2016-17 academic year, the FHS enrolled 888 students, an increase of 33 percent since 2012. The student body comprises 260 students in medicine, 205 in medical technology[7], 132 in pharmacy, 49 in dentistry, and 242 in public health (which includes nursing and specialties such as optometry)[8].

11. Effectively addressing the current health challenges of the country would require a major improvement in both the quality and the quantity of this future health workforce. The country's triple burden of disease of (a) infectious diseases; (b) non-communicable diseases (NCDs); and (c) its worsening trauma epidemiology (death and long-term disability due to road injuries, self-harm, violence, conflict, etc.) would, if not addressed, compromise Guyana's economic growth potential and outlook. In spite of improvements on many health indicators, the World Health Organization (WHO) health profile for Guyana registers deterioration in maternal mortality (from 210 maternal deaths per 100,000 live births in 1990 to 250 in 2013), malaria (from 10.6 malaria deaths per 100,000 population in 2000 to 15.4 in 2012), and tuberculosis (13 deaths per 100,000 in 2000 to 16 in 2013). In line with the Bank's and the United Nation's (UN) recent prioritization of health workforce investments[9], including higher quality education of significantly larger numbers of health workers, Guyana plans to respond to these challenges by improving upon the training and learning of its medical, nursing and other health professional students.

12. The regional accrediting body, the Caribbean Accreditation Authority for Education in Medicine and Other Health Professions (CAAM-HP), discontinued the accreditation of the program in medicine in 2013. In November 2016, a follow-up visit from CAAM-HP noted progress toward reaccreditation, with some improvements remaining to be made. The CAAM-HP team identified eight areas for improvement: (a) staff terms and conditions, (b) construction of a new building for the faculty, (c) the implementation of a new curriculum, (d) the small number of teaching staff in certain disciplines, (e) low capacity to undertake scholarship and research, (f) the lack of an overarching system of student assessment, (g) a lack of quality assurance and enhancement process at the Faculty and University levels, and (h) the need to review the role of the external examiner and move from directly administering assessments to oversight of assessments. The Faculty's application for provisional re-accreditation is under review by CAAM-HP, which is premised on additional investments that would be required to obtain and maintain a full accreditation in the future not only for medicine, but all of the other programs that are being offered by the Faculty of Health Sciences.

13. Steps toward reaccreditation are underway, but additional work remains to be done on pedagogy and assessment, facilities, and research. A UG health and medical curriculum has been reviewed and the revised curricula will be introduced to students in September 2017. However, CAAM-HP noted that instruction remains largely traditional discipline-based and centered around didactic/tutorial methods, while the accreditation standards call for more modernized teaching that fosters team-based learning, problem-based patient-oriented curricula, "competency" training, and self-directed study and critical

[7] UG Faculty of Health Science.
[8] UG Faculty of Health Science, 2016.
[9] See Addressing the Challenges of Health Professional Education, Qatar Foundation and the World Bank Group, November 2016; also UN Commission on Health Employment and Economic Growth, New York, September 2016.

judgment[10]. Areas of non-compliance in infrastructure include inadequate training and practice laboratories, skill labs by priority fields (e.g. community medicine , anatomy, physiology, pathophysiology , physical diagnosis, obstetrics/gynecology and pediatrics vis-à-vis maternal and child health knowledge and competencies), insufficient clinical and non-clinical practice space, inadequate study areas, missing ramps and other accessibility standards for disabled students, insufficient storage spaces for students and lab supplies (e.g. educational reagents and supplies), and insufficient laboratory and practical space. Future improvements in the Faculty's capacity for scholarship and research are also premised on improvements in physical infrastructure.

14. Strategies to Address Sector Needs. Four of the six major interventions identified in the 2014-2018 Education Sector Plan would rely on improved curricula: (a) establishing an accountability system that creates incentives to improve student learning outcomes; (b) further improving the quality of teaching; (c) better alignment of teaching-learning materials/instructional tools/assisted devices to facilitate improved learning outcomes; and (d) increased and better utilization of students' instructional time. The current ESP builds on a number of accomplishments from the Education Sector Plan 2008-2013 including: an increase in the proportion of trained teachers in the system from 58 to 70 percent; the creation, piloting, and publication of a series of nursery workbooks, readers, and assessment booklets to support the emergent literacy and numeracy; and an improvement in the proportion of students scoring 50 percent and over in mathematics in the national grade six examination, attributed to the introduction of Interactive Radio Instruction (IRI) which helps teachers better utilize students' instructional time. The UG has launched a comprehensive strategic program to address overall constraints at the university with support from the international community. The main objective of the plan is to increase the output of high-quality graduates, especially in the fields of science and technology, through: (a) upgrading staff quality and incentives; (b) rehabilitating the physical and ICT infrastructure to ensure properly equipped classrooms and laboratories; and (c) restructuring and reforming the programs offered to meet current and emerging needs of the country, as well as to meet regional and international standards.

15. Actions Already Taken to Implement These Strategies. The World Bank has successfully collaborated with the Government of Guyana (GoG) in the education sector for the past 13 years. A number of World Bank-financed initiatives have helped support sector strategies, specifically through: (a) the Education for All Fast Track Initiative EFA/FTI for the Improvement of Primary Education (P089324) - 2004 to 2012; (b) the Guyana Improving Teacher Education Project (GITEP, P110018, TF053679) – 2010 to 2015; (c) the ongoing Secondary Education Improvement Project (P147924, IDA Credit No. 5473-GY) – approved in 2014 and (d) the ongoing Guyana Early Childhood Education Project (P129555, TF019053) – approved in 2015. A common thread in these projects has been strengthening teachers' content knowledge and pedagogical skills, especially in literacy and numeracy. The Secondary Education Improvement Project is enabling better utilization of students' instructional time by fostering student-centered pedagogy. In response to the UG's Strategic Plan to address constraints and increase output of high-quality graduates, the ongoing UG Science and Technology Support Project (UGSTSP, P125288, IDA Credit No. 5753-GY) has put in place policies and mechanisms to increase regular production of qualified

[10] This is in line with the Bank's support for the important 2010 Julio Frenk/Lincoln Chen Lancet Commission Report on Health Professionals Education for the 21st Century, which provided the impetus for major health and medical education reform around the world to better address the 21st Century health challenges as they transition from MDG to SDG dimensions. See The Lancet Commission – Health Professionals for a New Century: Transforming Education to Strengthen Health Systems, The Lancet, and December 2010.

teachers, with UGSTSP supporting the improvement of the learning environment and facilities for the Agriculture and Forestry, Environmental and Earth Sciences, Natural Science, and Technology faculties.

C. Higher-Level Objectives to which the Project Contributes

16. The proposed Project directly supports one of the three objectives of World Bank Group's Country Engagement Note (CEN) for the period FY16-18, discussed by the World Bank Board of Executive Directors on May 3, 2016 (Report No. 94017-GY). The second of the three objectives is "setting up the foundations for high-quality education". As per the CEN, "Bank assistance would focus on the development of human resources and capacity for more effective teaching and learning throughout the school system in Guyana." The proposed Project would support the shared vision of education quality improvement at all levels; a sine qua non for economic growth. The Project would contribute to the GoG's efforts to reduce poverty and increase shared prosperity for the population by investing in human capital.

17. The Government's Education Sector Plan 2014-2018 aims at improving education quality. The Project would assist the Government in achieving its goal by focusing on improving learning outcomes at the pre-primary through lower secondary levels and the improved learning environment at the UG Faculty of Health Sciences, all of which would increase future economic opportunities for students. A better-trained health sector workforce would also contribute to poverty reduction and shared prosperity by reducing the burden of morbidity and mortality, which are constraints to individual economic opportunity and economic performance. Society in general would benefit indirectly from graduates with the necessary knowledge and skills to be productive, obtain decent-paying jobs, and contribute to Guyana's modernizing economy.

18. Building resilience to climate change and geophysical hazards is also a vital step in the fight against poverty and for sustainable development. To that end, the building constructed under the Project will consider the vulnerability to climate change and disaster risks for its design and construction (for instance, using a suspended slab to locate the building above water lines in case of flood, and /or using specific material so the roof can sustain strong winds and rains). These climate change adaptation activities for the building under Component 2 account for approximately 10 percent of the building construction costs (or 4.3 percent of the total financing).

II. PROJECT DEVELOPMENT OBJECTIVES

A. Project Development Objectives

19. The objectives of the Project are to: (i) improve teaching practices and student achievement in mathematics at the primary level in selected schools; and (ii) strengthen the teaching capacity and improve the learning environment of the University of Guyana, Faculty of Health Sciences (UG FHS).

20. Although the Project would also revise other subject curricula, achievement in primary-level mathematics was selected for the PDO because early-grade mathematics is fundamental to performance in other subjects and because a successful revision of the primary mathematics curriculum would guide the revision of other subjects. Teaching practices would be observed and measured in schools selected to ensure representation of hinterland, riverine and coastal regions.

B. Project Beneficiaries

21. The main beneficiaries of the Project would be the students of nursery, primary, and lower secondary schools and students at the UG FHS, who would receive better quality services. The first part of the Project Development Objective (PDO) focuses on mathematics, as this is the area of greatest need for Guyana's students, and the methodology used to revise the mathematics curriculum and teaching practices would be used to revise other subjects later in the Project. Through its focus on teaching methods targeted to children's learning levels, the Project is expected to benefit traditionally disadvantaged students along dimensions of gender, disability, and indigenous People, Additionally, teachers, the Ministry of Education (MOE), the National Center for Education Resource Development (NCERD) officials, UG staff, the productive sector, employers, and the general public would benefit from the activities of the Project.

C. PDO-Level Results Indicators

22. The PDO would be measured by three outcome indicators:

(a) PDO Indicator 1: Percentage of students with "approaching standard" or "attained standard" in numeracy in the National Grade Two Assessment.

(b) PDO Indicator 2: Percentage of pilot school teachers meeting standards in student-centered teaching practices.

(c) PDO Indicator 3: Medicine program at the UG meets CAAM-HP accreditation requirements for facilities, course delivery, and student performance assessment.

The data for the first indicator would be collected by the MOE Examinations Division. Analysis of this data would differentiate among the Coastal and Hinterland regions, as well as among boys and girls. Since the examination would be changed during the Project implementation, progress would be tracked through a set of anchor items common to the old and new exams. Early grade mathematics would be the first subject revised, piloted, and scaled nationwide, so progress on these examination results would be indicative of the effectiveness of the Project approach as a whole. The second PDO indicator would be monitored by the MOE with the classroom observation tools to be developed under the Project (para. 28). The third PDO indicator would be monitored by the Project Implementation Unit (PIU). It was agreed that the PIU would staff a qualified person fully dedicated to the Project's Monitoring and Evaluation (M&E) for both components.

III. PROJECT DESCRIPTION

A. Project Components

Component 1: Integrated Curriculum Reform (estimated total cost: US$6.03 million, of which IDA: US$5.36 million).

23. The objective of this Component is to improve student achievement at nursery, primary, and lower secondary levels. This would be achieved by implementing a phased revision of the curriculum, defined not only as the content students are expected to learn in each subject and grade level, but also as the way in

which that content is taught, with an emphasis on interactive, student-centered pedagogies, social inclusion and gender informed approaches. This Component has four subcomponents: (a) development of a curriculum framework and teaching guides, (b) teacher training, (c) strengthening of national assessment capacity, and (d) teaching and learning materials.

24. To build capacity for continuous improvement in the education system, the reforms would be phased in by subject and level. Guided by an overall curriculum framework, each subject course outline would be revised– including revised teaching methods, assessments, and materials – and implemented in a set of pilot schools. The pilot schools would represent different regions of Guyana, including schools in Hinterland regions and riverine areas; different levels of student preparation and academic performance; different sizes and mixes of grade levels; and schools with students with disabilities. The pilot schools would be randomly assigned from a sampling frame in selected regions to enable an impact evaluation. The experience of the pilot schools and feedback gathered from beneficiaries would inform further revisions before the new subject curriculum is scaled up nationwide. The first subject curriculum to be revised, piloted, and scaled up nationwide would be primary-level mathematics, in view of Guyana's particular weakness in mathematics and the critical importance of improving early grade outcomes for students' future success. Drawing on this experience, the Project would then repeat the process for secondary-level mathematics and primary-level English, followed in later years by secondary English and other subjects, as well as the nursery curriculum.

Subcomponent 1.1 – Curriculum Framework and Teaching Guides (estimated total cost: US$1.24 million, of which IDA: US$1.24 million).

25. To ensure coherence across subjects and levels, and to articulate the desired learning outcomes for each level, this sub-component would: (a) develop a curriculum framework for nursery, primary and lower secondary levels. The framework would establish a vision of the ideal graduate from each level of the school system and a map for the subject-specific revisions of curriculum and pedagogy; (b) carry out training for MOE Staff on current best practices in curriculum writing, teaching methods, and teacher training, including cross cutting dimensions such as social inclusion and gender informed approaches; (c) develop teaching guides and course outlines for selected subjects for nursery, primary and lower secondary grades; these guides would give due consideration to the above listed cross cutting dimensions. It would take on board a synthesis of findings from the MOE's and NCERD's ongoing consultations with educators, faith and business leaders, parents, students, and community members across the country, including a specific consultation with persons with disabilities. The framework would be developed by a Core Technical Committee (CTC) to include representatives of the MOE, NCERD, CPCE, and the UG, retired educators, and of the indigenous community, and it would be approved by the Education Systems Committee of the MOE; (d)provide office and training equipment for NCERD as part of the capacity building.

26. Guided by the curriculum framework, course outlines and teaching guides would be developed by Subject-Specific Committees (SSCs). The SSCs would be comprised of individuals with technical expertise on each subject and would include representatives of indigenous communities. The teaching guides would outline the objectives, content, teaching and learning activities/strategies, assessment (see subcomponent 1.3), and learning support materials (see subcomponent 1.4) for each level, taking particular care to ensure coherence at the transitions between different levels of education (i.e. nursery to primary and primary to lower secondary). The CTC and SSCs would ensure that indigenous culture would be incorporated in the curriculum in various forms, e.g. through indigenous history, and indigenous stories.

Subcomponent 1.2 – Teacher Training (estimated total cost: US$2.43 million, of which IDA: US$2.43 million).

27. This subcomponent would provide support for the: (a) development and carrying out of teacher training courses on student-centered pedagogies and student assessment practices consistent with the new curriculum framework, including strategies to improve student inclusiveness; (b) training of master trainers and curriculum officers on the implementation of the new teaching guides and course outlines and student-centered pedagogies; (c) carrying out of capacity-building activities by the master trainers to public school teachers, principals and regional and district education officers on the new teaching guides, course outlines and student-centered pedagogies; and (d) carrying out of classroom observation of selected public school teachers and the related impact evaluation.

28. As the curriculum for each subject is revised and finalized, the training program would likewise be revised and scaled up nationally and integrated into the pre-service teacher training program at the Cyril Potter College of Education (CPCE) and the UG Faculty of Education. The training would be supported by sample lessons and a website for support resources, which would provide opportunities for sharing of best practices and raising concerns about the curriculum. This content would be delivered to hinterland teachers without internet access through regional hubs and by CD-ROM or other methods provided by traveling inspectors.

29. Classroom observation of teachers would be enhanced through the new open-source classroom observation tools (a process by which the observer sits in on one or more classroom sessions, records the instructor's teaching practices and student actions), being developed by the Systems Approach for Better Education Results (SABER) at the World Bank. Once validated for the Guyanese context, the tools would provide a baseline for teaching practices and would be incorporated into regular school-based supervision. The World Bank would provide technical support and training for the validation and implementation of these tools.

30. The teacher training would include sensitization of teachers on the consequences of biases (conscious or unconscious) against students of different genders, racial and ethnic groups, and students with disabilities. The training would equip teachers with classroom strategies to help overcome these biases and to accommodate students with special needs and diverse learning styles. The training would promote the use of mother-tongue instruction, when the instructor has the appropriate language skills, to supplement English-language instruction in hinterland regions. Teachers would also be trained to allow pupils to express themselves in their mother tongue and not stigmatize this expression. Members of indigenous communities would be included as master trainers; currently 4 of 31 master trainers are from indigenous communities.

Subcomponent 1.3—National Assessment Capacity (estimated total cost: US$0.32 million, of which IDA: US$0.32 million).

31. This subcomponent would strengthen national and school-level capacity to administer effective student learning assessments, analyze student performance, and feed results into improvements in the curriculum and teaching process. Specifically it would provide support for: (i) *at the national level*: (a) the development of end-of-term assessments for selected subjects at nursery, primary and lower secondary

levels; (b) the alignment of national student examinations with the new revised course outlines consistent with the new curriculum framework; (c) the development of software for the analysis of the results of national student examinations by the NCERD Measurement and Evaluation Unit; and (d) the improvement of the format of student examinations results reports and the utilization of the results; (ii) *at the school level*, carrying out of capacity-building activities for: (a) public school administrators and teachers on interpreting and using the student examinations results; and (b) public school teachers on the design of student learning assessments and adaptation of teaching methods; and (c) *the carrying out of capacity-building activities for*: (i) the NCERD Measurement and Evaluation Unit on assessment design; and (b) NCERD and other relevant MOE's staff on the design of examination items to measure higher-level thinking, and on using the school-level student examination results reports for continuous examinations improvement and course outlines revision.

32. At the school level, this subcomponent would build teacher and school administrator capacity to use both national examination results and classroom assessments effectively. The key activities would be: (a) training school administrators and teachers on how to interpret and use the improved school-level reports on national standardized examination performance, and (b) training for teachers on how to design classroom assessments to identify weaknesses in student learning and then adapt their teaching methods to achieve better learning outcomes.

Subcomponent 1.4 – Teaching and Learning Materials (US$2.04 million, of which IDA: US$1.37 million).

33. This subcomponent would support the development, acquisition and distribution of teaching and learning materials consistent with the new curriculum framework for selected subjects at nursery, primary and lower secondary levels.

34. Specifically, these would include developmentally-appropriate, play-based learning materials at the nursery level; and course outlines, workbooks, and charts at the primary and lower secondary levels. The materials would be designed to depict males and females, members of different ethnic and racial groups including Amerindians, and disabled students in a positive and inclusive manner that does not reinforce gender, ethnic, and other stereotypes or traditional roles. Indigenous cultural materials would be included in these materials.

Component 2: Strengthening the Teaching Capacity and Improving the Learning Environment for the University of Guyana Faculty of Health Sciences (estimated total: US$6.94 million, of which IDA: US$6.91 million).

35. This Component would support the UG Faculty of Health Sciences (FHS) in achieving and maintaining regional accreditation for programs through improved and sustained teaching quality and learning environment. It would build on the UG FHS recently revised curricula and improve conditions for teaching faculty. The two subcomponents would: (a) strengthen the capacity of teaching, course delivery, and establish a student performance and evaluation framework; and (b) improve the learning environment by financing the construction of a new health sciences education building with modern training and laboratory facilities.

Subcomponent 2.1 –Strengthening Teaching Capacity (estimated total cost: US$0.06 million, of which IDA: US$0.03 million).

36. This subcomponent would support the: (a) carrying out of activities to strengthen the capacity of the UG FHS' lecturers on course delivery using modern medical and health education methodologies; and (b) the establishment of a student performance and evaluation system consistent with requirements for CAAM-HP accreditation.

37. In more detail, this subcomponent would provide technical support for gradually modifying and adapting the course structures and contents of the UG Faculty of Health Sciences in line with problem-based, competency-oriented, and team-based training and learning, consistent with the global guidance and standards by WHO/PAHO and the World Federation for Medical Education (WFME). The student evaluation would align with national and international norms of accomplishment and performance within the health care system, which employs a variety of modern measures of assessing new knowledge, skills, and clinical and non-clinical competencies, behaviors, and attitudes. This includes skills reflecting the enhanced prominence of social determinants of health in Guyana. Counterpart funds would support the training for FHS lecturers, while the International Development Association (IDA) funds would support the development of a student performance and evaluation framework/system.

Subcomponent 2.2 – Improving the Learning Environment (estimated total cost: US$6.88 million, of which IDA: US$6.88 million).

38. This subcomponent would provide support for the design, construction and acquisition of furniture and equipment for a new health sciences building at the UG Turkeyen Campus.

39. The current facility lacks sufficient laboratories and other clinical and non-clinical infrastructure necessary to support and sustain regional accreditation for the UG's Health Sciences programs. The existing FHS buildings would continue to house teaching spaces and administrative offices once the new FHS is completed.

40. The proposed new FHS is planned with a gross floor area of approximately 40,000 square feet. It would provide a variety of teaching and multi-purpose spaces, giving flexibility that would allow for an optimal use of space to suit the different usage demands. These include clinical and non-clinical approaches, such as skill labs and team-based, patient problem-based teaching and learning.[11] As such, the FHS would complement the existing facilities for clinical rotations at academic teaching hospitals in Georgetown and rural areas. In addition to the teaching and learning spaces, the new FHS would house laboratories that would improve the capacity of the Faculty of Health Sciences to sustain its CAAM-HP accreditation requirements. Laboratory spaces would include a research lab, a microbiology lab, a histotechnology lab, a hematological/biochemistry lab, an anatomy lab, and a skills lab. The planning of the new FHS would be such that through the use of reconfigurable multi-purpose spaces, the FHS would be able to accommodate MOOCs (Massive Open Online Courses) teaching and presentations for those health and medical curricula courses for which teaching faculty or material at UG is scarce or missing.

41. In accordance with CAAM-HP requirements, the building would be completed inclusive of furniture and medical equipment. In line with the Government strategy and to reduce the vulnerability to flooding and other disaster risks, the design of the building would incorporate good practices with regard to

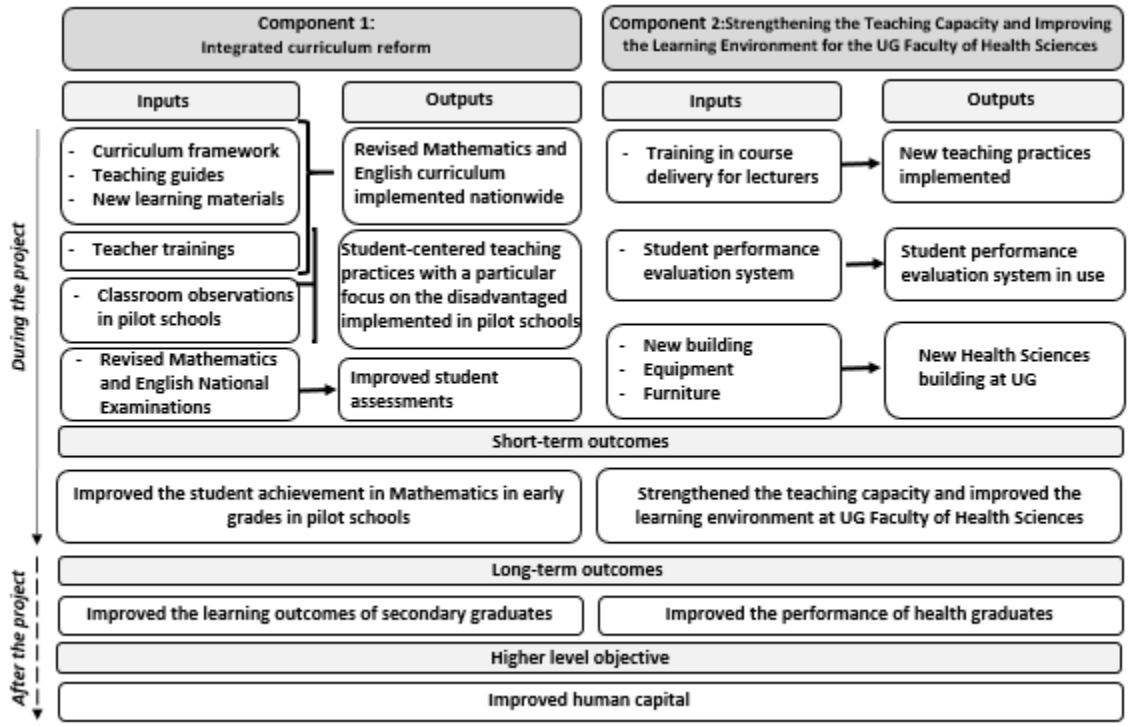
[11] In line with the health and medical education approaches and curricula reforms of such universities and medical schools as McMaster University (Canada), Maastricht University (the Netherlands) and possibly those of the University of the Philippines School of Health Sciences in Leyte ("step-ladder approach").

sustainability, green design and resilience to climate change hazards. In addition, the building would provide a barrier-free environment to ensure no one is physically excluded from use of it by unnecessary architectural or engineering barriers.

Component 3: Project Implementation Support (Total: US$ 1.06 million; IDA: US$1.06 million).

42. This Component would support (a) Project coordination, implementation and administration, including *inter alia*, the carrying out of monitoring and evaluation, procurement, financial management and environmental and social activities, and Project audits; and (b) capacity building activities on Project implementation.

PROJECT RESULTS CHAIN



B. Project Cost and Financing

43. Investment Project Financing for the proposed Project would be provided by an IDA Credit in the amount of SDR 9.9 million (equivalent to US$13.33 million), to be disbursed over a period of six years.

Project Components	Project cost (in US$ millions)	IDA Financing (in US$ millions)	Counterpart Funding
1. Integrated Curriculum Reform	6.03	5.36	0.67
2. Strengthening the Teaching Capacity and Improving the Learning Environment for the University of Guyana Faculty of Health Sciences	6.94	6.91	0.03
3. Project Implementation Support	1.06	1.06	0.00
Total Costs	14.03	13.33	0.70
Total Project Costs	14.03	13.33	0.70
Front End Fees	0.00		
Total Financing Required	14.03	13.33	0.70

C. Lessons Learned and Reflected in the Project Design

44. The Implementation Completion and Results Reports (ICR) of the recently completed Education For all Fast Track Initiative Catalytic Trust Fund Project (Report No. ICR2547) highlighted several lessons which are incorporated into the project design. This includes the key role of Regional and District Education Officers (Red.Os and DEOs) in all training, supervision, and project monitoring activities to ensure they fully understand what is expected of them and of the Project, which improves project implementation and sustainability. Under the proposed Project, REd.Os and DEOs would participate in training workshops for the new curriculum, supervise implementation of the new curriculum activities at the school level, and be involved in general project monitoring activities. The lessons from the ICR indicated that it should be realistic when setting targets, particularly related to student achievement gains within a relatively short timeframe.

45. The design and implementation of Component 1 is informed by the experiences of curriculum reforms in Vietnam Renovation of General Education Project (P150058) and Jamaica (Government's program). In Vietnam's last K-12 curriculum reform (1997-2009), the goals of the reform were often described as "active learning" or "student-centered learning," but the Ministry was criticized for not consistently stating what teachers should do differently under the new curriculum. Therefore, the Guyana reforms would clearly define these principles at the outset through the framework and provide specific guidance and training to teachers on pedagogy. Another lesson from the Vietnam reforms is the need to pay particular attention to the transitions between levels of schooling to minimize discontinuities in content. The subject-centered approach of this Project (as opposed to grade-level centered as in Vietnam) would help avoid these pitfalls. In Jamaica, the most challenging issues have been around the implementation of the new curriculum in schools, particularly in teacher training and material support for implementation. Key lessons include the need to develop a detailed implementation plan outlining targets and time periods, and the need to designate a resource person in each school who can assist with curricular implementation issues.

46. Lessons from the international evidence based on curriculum reform and pedagogy are discussed in the Appraisal Summary, section VI (b).

IV. IMPLEMENTATION

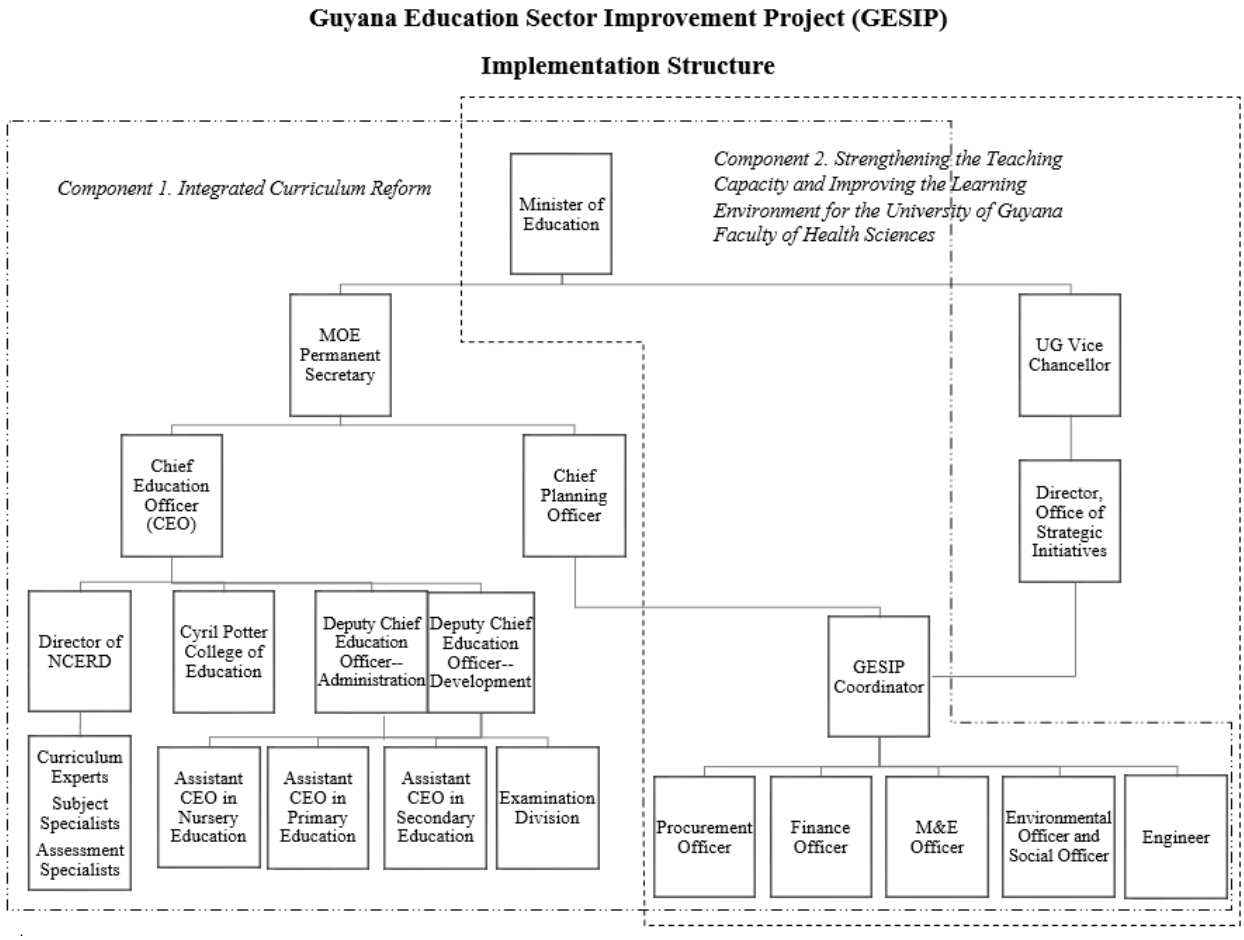
A. Institutional and Implementation Arrangements

47. The MOE would be the implementing agency. The MOE already has extensive experience implementing Bank-financed projects, in many cases in collaboration with the UG. For Component 1 (Integrated Curriculum Reform), technical responsibility for implementation would lie with the NCERD and the Examinations Division of the MOE. For Component 2 (Strengthen the Capacity in Teaching and Improving the Learning Environment for the UG Faculty of Health Science), technical responsibilities for implementation would reside with the UG. Fiduciary responsibilities would be managed by the MOE, which currently handles all financial management and procurement for the ongoing World Bank-financed education projects.

48. To facilitate the carrying out of Component 2 of the Project, and prior to carrying out any activities under this Component, the Government shall enter into an agreement (the Subsidiary Agreement) with the UG, under terms acceptable to the Bank, including *inter alia*, the UG's obligation to assist and facilitate the carrying out of Component 2 of the Project.

49. The Project Team would consist of a Project Coordinator, a Procurement Officer, a Financial Officer, an Engineer (part time, when needed), an M&E Officer, an Environment Officer (part time, when needed), and a Social Development Officer (part time, when needed). The current Project core team members for UGSTSP (P125288) have started working on the procurement activities for Component 2 of the Project. The positions of the Project Coordinator and Procurement Officer have been advertised and the selection process is in progress, candidates were interviewed as of March 31, 2017. The UGSTSP would be closed on June 30, 2017. Most of the Project activities have been completed, the remaining ones are well underway to be finished by the closing date.

50. A Steering Committee would be constituted to provide policy guidance and coordination of the Project. The Committee would be chaired by the Minister of Education or his nominee and would include representatives from the Ministry of Finance, as well as NCERD, the UG, and the CPCE.



B. Results Monitoring and Evaluation

51. The MOE would be responsible for the M&E process of Component 1 of the Project, supported by the M&E Officer within the PIU. The University of Guyana would be responsible for M&E of Component 2, supported by the M&E Officer within the PIU. The Project Coordinator would send semiannual and annual Progress Reports to the Bank, including on progress toward targets described in the Results Framework. The Project Implementation Unit would fall under the Planning Unit of MOE. The measurement and evaluation capacity at NCERD would be strengthened through training and provision of necessary equipment.

52. M&E for Component 1 would focus on tracking (a) the extent to which teachers adopt more interactive and student-centered pedagogy, using the new SABER classroom observation tools; and (b) changes in examination results. NCERD officers, master trainers, and Red.Os and DEOs would conduct classroom observation of teachers and train principals in the use of the observation instrument to give teachers feedback on their performance. During the pilot phase of the new curriculum in each subject, student assessments in the pilot schools would determine whether student achievement is on track to meet the new standards and to identify areas for further revision of the curriculum and teaching methods. An impact evaluation would also be conducted at the pilot stage. Pilot schools and a set of comparison schools would be randomly assigned from a sampling frame that includes hinterland areas, allowing a

rigorous comparison of the old and new curricula. In conjunction with the impact evaluation, there would a beneficiary survey. The Project would hire an international consultant to assist the NCERD in conducting the impact evaluation. The Project M&E would be closely linked to the development of the new standardized tests in subcomponent 1.3, and the assessment consultants would work with NCERD curriculum officers and the Measurement and Evaluation Unit to build NCERD's capacity in this area.

53. For Component 2, a beneficiary survey would be carried out to seek feedback on learning environment at the new facility.

C. Sustainability

54. The sustainability of the Project results lies in its close linkage with Government priorities as identified in the Education Sector Plan (ESP) 2014-2018. Component 1 is designed to support the Government's plans to improve learning outcomes by improving the quality of the curriculum and teaching and aligning student learning assessments and examinations with these changes. The Component is also designed to build capacity in curriculum writing, implementation of curriculum, teaching guides, and teacher training using the results of the assessments, so that the Government is equipped to continue improving learning outcomes after the Project closes. The experience and lessons learned during the proposed Project's implementation would help identify future capacity building needs.

55. The estimated cost of this Project is US$14 million over a 6-year period. The total cost of ESP 2014-2018 for the education sector over the five-year period is about US$600 million, including only the Government financing for education. The GoG has been committed to education, with total Government expenditure for the sector at 16 percent of the Government budget and 5 percent of GDP in the past 5 years. It is likely that the curriculum reform would enhance the MOE's and NCERD's technical capacity for continuous implementation of new curricula, teacher training in core subjects, and improving student learning assessment systems. Teacher training programs developed based on the revised curricula under the Project would be continued by NCERD, which is responsible for providing in-service training to teachers at pre-primary, primary and secondary levels and receives an annual training budget from the Government. Pre-service training for teachers would be by the Cyril Potter Colleague of Education and UG Faculty of Education.

56. With respect to Component 2, the sustainability of Project interventions largely relates to maintenance of civil works (i.e. a new Health Sciences Facility) financed by the Project. Recurrent maintenance expenditures for the Facility are estimated (based on the draft design brief prepared during project preparation) to be equivalent to 4.5% percent of the UG's current spending on the Faculty of Health Science and 2.5 % percent of UG's spending overall.

D. Role of Partners

57. The proposed Project would be financed by IDA, which is the major partner of the GoG in education and health education. Other partners active in these sectors in Guyana include UNICEF, which focuses on Early Childhood Development (ages 0-5); and the Pan-American Health Organization (PAHO) in health education. The Project builds on UNICEF-Bank collaboration to improve nursery education and would help Guyana meet health education standards of PAHO.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

58. The overall risk rating for the Project is Moderate, given the experience of the PIU which has implemented Bank-financed education projects for the past 13 years. The Stakeholder Risk is substantial, for which mitigation measures have been put in place.

59. Stakeholder risk: The risk is linked to the sustainability of the curriculum reform process beyond the life of the Project and the need for continuity of technical and administrative support from the UG. To mitigate the risk, the proposed project will build sustainable capacity in the unit responsible for curriculum in the Ministry of Education (MOE). The proposed Project includes a Subsidiary Agreement between the UG and the MOE, the implementing agency, specifying the UG's obligations to facilitate the carrying out of the activities under the UG component of the proposed Project.

60. Although the Environmental and Social risk rating is Moderate, there is some risk of acculturation and loss of indigenous language associated with the curriculum reform. Given that indigenous languages in Guyana are spoken and not written, it would not be feasible to use indigenous languages as the language of instruction or assessment. The Moderate risk rating in part reflects the planned mitigation measures in the Indigenous Peoples Plan (IPP), such as training teachers not to stigmatize or redirect students' expression in their mother tongue in the classroom. The IPP also notes the importance of incorporating indigenous culture and history into the curriculum and teaching guides, as well as associated teaching and learning materials.

VI. APPRAISAL SUMMARY

A. Economic and Financial (if applicable) Analysis

61. Given the very different nature of the beneficiaries of the two Project interventions, two separate cost-benefit analysis have been conducted.

62. **Component 1: Integrated Curriculum Reform.** The estimated benefits of this intervention are based on the assumption that the curriculum reform would improve the quality of education through more relevant content and better teaching practices. As a result, students would complete lower secondary education with improved knowledge and therefore would be more likely to transition to upper secondary school, to attain grade 11 and, in half of the cases, to continue into tertiary education. This higher educational attainment would then translate into higher income over the life cycle.

63. The analysis models the benefits of increasing the number of 11th graders, approximated by the average number of CSEC candidates, by between 1 and 5 percentage points. It is assumed that 85[12] percent of these additional grade 11 students would complete secondary education and, among them, 50 percent would join the labor force while the other 50 percent would continue to higher education. About 70 percent of those who attend higher education would complete their studies. The Projected income benefits

[12] Source: Ministry of Education.

are based on the earnings differential between primary and secondary education completers ($1,323/year) and the earnings differential between secondary and higher education completers ($2,214/year)[13]. Additionally, using the 2012 Census data, the labor force participation is estimated at 66[14] percent and the unemployment rate is estimated in 5-year age groups.

64. The Project's economic costs include the Bank's investment (US$5.98 million, distributed according to the expected disbursement schedule). Given that the new curriculum would not require additional teachers and that the teacher training is already a regular activity performed by the MOE, the intervention is assumed not to create any recurrent costs.

65. It is assumed that at least 15 student cohorts would benefit from the new curriculum before it needs to be fully revised again and, therefore, considering that first full cohort benefitting from a complete education under the new curriculum for the four core subjects is expected to complete 11th grade in 2035, the time horizon considered in this cost-benefit analysis is 2017-2050.

66. The table below presents the results of the cost-benefit analysis for the integrated curriculum reform, assuming a discount rate of 5 percent. The analysis suggests that if the number of 11th graders increase by as little as 3 percent, the internal rate of return (IRR) would be 10 percent.

Increase in 11 graders	IRR
1%	4%
2%	8%
3%	10%
4%	12%
5%	13%

67. The estimated benefits of this intervention reflect a lower bound of the expected benefits:

(a) The individual returns to increased educational attainment do not capture the potential dynamic effects of an overall increase in productivity, resulting in improved economic growth.
(b) Due to data limitations, the analysis assumes that labor force participation and unemployment rates do not vary across educational levels, while international evidence shows that both improve with educational attainment.
(c) Educational attainment is correlated with several social benefits such as longer life expectancy and higher civic engagement, that haven't been quantified in this analysis.

68. **Component 2: Strengthening the Teaching Capacity and Improving the Learning Environment for the University of Guyana Faculty of Health Sciences.** The benefits of this intervention are based on the assumption that the improved learning environment for the UG Faculty of Health Sciences would increase the quality of the health care provision as a result of a better-trained health workforce, which would then translate into better health outcomes in the country.

[13] Source on returns to education and transition and completion rates for higher education: Project Appraisal Document of the Guyana Secondary Education Improvement Project (P147924, Report No. PAD846).
[14] Labor force participation for individuals aged 20 to 60.

69. In developing countries, the value of statistical life, defined as "the amount that people are jointly willing to pay for fatality risk reduction in the expectation of saving one life" (Borjas, 2013), has been estimated in the last 10 years to range between US$1,783 (Bangladesh, 2005) to US$3.74 million (India, 2011)[15]. At the upper bound estimate, an investment of US$6.9 million would be justified if it saves fewer than three statistical lives; at the lower bound, it would be justified if it allows Guyana to save approximately 4,000 statistical lives.

B. Technical

70. The Project's emphasis on changing teaching methods – in particular by adopting student-centered pedagogy – to improve learning outcomes is well supported by international evidence. A review of systematic reviews in education found that the interventions most consistently found effective focused on improving pedagogy, and in particular on tailoring instruction to student skills (Evans and Popova 2015). Many of these pedagogical interventions are from supplemental or wraparound programs, while the interventions in Guyana would be mainstreamed in Government schools. However, an evaluation of a mainstreamed version of this type of program in Haryana, India, also found improved learning outcomes (Banerjee et al. 2016).

71. Evidence suggests that the effectiveness of teacher training depends critically on the details of implementation. A review of evaluations of in-service teacher training found that training programs that focus on a specific subject, include follow-up visits, and provide complementary materials tend be effective, while those that use non-education professionals as trainers tend to have worse outcomes (Popova, Evans, and Arancibia 2016). The teacher training subcomponent is well aligned with these lessons, as it would track the reforms of specific subject curricula; include follow-up visits from NCERD, master trainers, Red.Os and DEOs; and provide complementary materials including sample lessons and an online resource center, and would be conducted by master trainers. In summary, the literature indicates that the pedagogical and teacher training components of the curriculum reform would be key to the Project's success in raising learning outcomes.

72. There is less evidence on curriculum reform; of the existing evidence comes from high-income contexts (Jacob et al. 2016) or from specialized add-on curricula, such as leadership and entrepreneurship training (Educate! 2014). A new pre-school curriculum in India, which emphasized interaction and comprehension rather than rote memorization, significantly improved basic literacy skills (He et al. 2009). There is indirect evidence that core curricula in many developing countries are overly ambitious and cater primarily to the most advantaged students. The lack of impact of interventions such as additional textbooks based on the official curriculum (Glewwe et al. 2009) and smaller class sizes (Duflo et al. 2015, Banerjee et al. 2007) in rigorous studies has been attributed to inappropriate curricula which prioritize coverage of topics over learning. These findings appear to echo reports of an "overloaded" curriculum in Guyana and support the view that the curriculum itself may be a constraint to effective teaching.

73. The rationale for Component 2 is more straightforward, as it meets faculty-development and infrastructure needs identified by the regional accreditation process. The Faculty of Health Sciences and student body have outgrown the existing facility, which suffers from a lack of adequate laboratories and

[15] Majumder, A., & Madheswaran, S. (2016). Value of Statistical Life: A Meta-Analysis with Mixed Effects Regression Model.

student space, as well as poor ventilation, lighting, and other occupational health and safety hazards. The new facility is intended to help meet a national goal of high quality health care for all, allow the medical school to attain and maintain full, continuous accreditation from the Caribbean Accreditation Authority for Education in Medicine and CAAM-HP, and meet Guyana's responsibilities to the CARICOM Single Market and Economy (CSME) and to the Pan-American Health Organization (PAHO).

C. Financial Management

74. The Project's financial management system would be handled by the PIU already established within the MOE. The PIU has experience with World Bank-financed projects and is currently responsible for the FM aspects of three such projects: the UG Science and Technology Support P125288, Guyana Early Childhood Education P129555, and Guyana Secondary Education Improvement Projects P147924. The overall financial management performance, as well as the internal control environment of the PIU, is considered satisfactory and adequate. The Bank performed a financial management assessment of this proposed Project and concluded that the PIU would continue to have in place an adequate financial management system that can provide, with reasonable assurance, accurate and timely information on the status of the funds as required by the Bank.

75. **Budgeting:** A budget for the entire life of the Project would be prepared, based on the Project's procurement plan, in which annual budgets would be derived. The budget for the life of the Project would be reviewed periodically and updated as needed to reflect implementation progress.

76. **Accounting and Information System:** The Project's accounts would be recorded and reported using the cash basis of accounting. The accounting software, QuickBooks, is currently being used to record, monitor and report on all financial transactions of three World Bank-financed Projects. QuickBooks would also be used for the GESIP. A specific chart of accounts would be set-up in QuickBooks for GESIP by Project component, sub-components, categories and activities to ensure the provision of accurate and reliable financial information.

77. **Financial Reporting & Monitoring:** Interim Financial Report (IFR): The PIU would be required to prepare semi-annually IFRs, which would cover each six months in line with the GoG fiscal year. The IFRs would be due within 45 days of each half-year end.

78. **External Audit:** An external audit would be required annually covering the period up to December 31st of each fiscal year. The audited financial statements and the management letter would be due within six months after the fiscal year end. The Project accounts would be audited by the Audit Office of Guyana or an approved external audit firm. The financial statements would be prepared in conformity with the International Financial Reporting Standards.

79. **Disbursements and Funds Flows:** The Bank would disburse the proceeds of the Credit into a segregated Designated Account (DA), denominated in US dollars, at the Bank of Guyana (Central Bank). A segregated local currency account, to finance local currency expenditure, would also be opened at a commercial bank deemed acceptable by the Bank.

80. **Disbursement Arrangements:** Disbursement under the Project would be in the form of Advances, Direct Payments, and Reimbursements. Disbursements for Project eligible expenditures via the US Dollar

denominated DA under the Project would be reports-based. Funds would be transferred periodically from the DA to a Project Account, which would be denominated in Guyana Dollars. Both accounts would be segregated. The DA would be opened at the Bank of Guyana (Central Bank) and the Project Account would be opened at the Bank of Guyana. Disbursements on the basis of direct payments would be fully documented. The minimum application size for Direct Payments, and Reimbursements is SDR 90,000 (US$121,000 equivalent) and expenditures paid out of the DA should be reported semiannually.

81. *Initial Advance:* An initial advance would be made upon Credit Effectiveness. The initial advance would be provided on the basis of a withdrawal application and the projected expenditures during the period covering Credit Effectiveness until the end of the semester following the semester after effectiveness (a period up to 12 months).

82. *Subsequent Advances:* Subsequent advances for disbursements via the DA would be made on the basis of the IFRs, which would include a cash forecast statement of the funding needs for the next two semesters.

83. *Direct Payments:* Disbursements could be made on the basis of direct payment to suppliers, contractors or service providers. The applications for direct payments would be fully documented and would include the records evidencing eligible expenditures such as invoice and receipts.

84. *Retroactive Financing:* The GoG has requested an amount of SDR 90,000 (US$121,000 equivalent) to be considered for retroactive financing. This corresponds to eligible Project expenditures incurred after Project Appraisal, February 13, 2017, up to the date of signing of the Financing Agreement. The disbursement request for retroactive financing would consist of IFRs and other evidence of payments as needed.

85. *Disbursement Schedule:* The following table specifies the categories of Eligible Expenditures that may be financed out of the Financing, the allocations of the amounts of Financing to each Category, and the percentage of expenditures to be financed for Eligible Expenditures in each Category.

Category	Amount of the Credit Allocated (in million SDR)	Percentage of Expenditures to be Financed
(1) Goods, non-consulting services, consulting services and Training for Component 1 of the Project.	3.98	100%
(2) Goods, works, non-consulting services, consulting services and Training for Component 2 of the Project.	5.13	100%

(3) Goods, non-consulting services, consulting services, Training and Operating Costs for Component 3 of the Project.	0.79	100%
TOTAL AMOUNT	9.9	

D. Procurement

86. Procurement would be carried out in accordance with the "World Bank Procurement Regulations for IPF Borrowers" (July 2016) ("Procurement Regulations"). The Procurement Plan, which describes the applicable procurement procedures and standard procurement documents (SPDs) to be used for each procurement method, as well as standard forms of contracts are posted on the World Bank website, would be updated at least annually or as required to reflect the actual Project implementation needs and improvements in institutional capacity. In accordance with paragraph 5.9 of the Procurement Regulations, the Bank's Systematic Tracking and Exchanges in Procurement (STEP) system would be used to prepare, clear and update the Procurement Plans and conduct procurement transactions for the Project. This textual part along with the Procurement Plan tables in STEP constitute the Procurement Plan for the Project. The following applies to all procurement activities in the Procurement Plan:

(a) The Bank's Standard Procurement Documents shall be used for all contracts. The procurement documents are subject to international competitive procurement and those contracts as specified in the Procurement Plan tables in STEP.

(b) When approaching the national market, the country's own procurement procedures may be used in accordance to the National Procurement Arrangements of the Procurement Regulations. This would be specified in the Procurement Plan tables in STEP. When the Government uses its own national open competitive procurement arrangements as set forth in the Procurement Act of 2003, such arrangements shall be subject to paragraph 5.4 of the Procurement Regulations and its following conditions. When other national procurement arrangements other than national open competitive procurement arrangements are applied by the Borrower, such arrangements shall be subject to paragraph 5.5 of the Procurement Regulations.

(c) Contracts for leased assets, procurement of second hand goods and domestic preference would be bound by the procurement regulations. Procurement regulations would be applicable as specified under paragraph 5.10 for leased assets and paragraph 5.11 of the procurement regulations for procurement of Second Hand Goods. Domestic preference would be specified under paragraph 5.51 of the Procurement Regulations (Goods and Works). Goods are applicable for those contracts identified in the Procurement Plan tables.

Overview of Country, Borrower and Marketplace

a) Client Capability and PIU Assessment: An assessment of the Project Implementation Unit (PIU) was conducted for the preparation of the Project, the main findings were:

87. The risk rating for Procurement is Moderate, given the high level of experience of the procurement specialist for the Project. Recent country procurement capacity assessment of the PIU indicates that there

is adequate procurement capacity in the team. The team has received extensive training in the last year, including procurement training as part of the Caribbean 2016 Fiduciary Workshop and training on the Bank's New Procurement Framework (NPF). Based on the assessment, the Project would not require hands-on expanded implementation support (HEIS). Contract management capability has also been assessed as adequate. Regarding capacity of the country's technical evaluators, the Bank would continue providing additional training for the pool of technical evaluators identified by NPTAB.

88. The PIU of the MOE and UG would be responsible for implementation of this new Project. The procurement function would be covered by the current Procurement Specialist who covers ongoing Bank-financed projects for UGSTSP ongoing Secondary Education Improvement Project P147924. Given the workload of the Procurement Specialist, a Procurement Assistant would be hired to support the Procurement Specialist.

89. Regarding Complaints management and dispute resolution systems, normally the PIU communicates to the Bank about complaints it received. Usually the National Procurement and Tender Administration Board (NPTAB) also receives complaints from firms. The procurement policy dialogue would also address: (a) greater alignment between Guyana's national procurement regulations and the Bank's guidelines; and (b) an expedited system for complaints to Bank-financed contracts.

b) Operational Context

90. *Governance aspects*: The PIU has adequate experience and knowledge of the Bank's procurement regulations and procedures.

91. *Economic Aspects*: Guyana has a small economy and the size of contracts are often small, therefore these do not generate the interest of international firms, especially in the case of civil works construction and supervision. The country has a limited market, nevertheless vehicles and computers are generally available locally. It is recommended that contracts are packaged to ensure adequate participation of international bidders.

92. *Sustainability Aspects:* The Country does not have specific sustainable procurement arrangements, nevertheless it is very oriented in maintaining natural resources.

93. *Technological Aspects:* There seem to be some limitations on internet access. Further, there are risks of poor quality computers being sold by locally established companies.

94. *Since the market is small, many of the goods need to be purchased from international suppliers.* Further, for complex consulting assignments the use of international consulting firms is also envisioned. In general, rehabilitation and construction of works are awarded to local firms or associations of international and local firms. It is recommendable to introduce provisions for the procurement of computers, in order to avoid poor quality and low performance equipment to be awarded as part of competitive processes. Packaging of contracts is recommended to ensure competitive process and participation of international bidders.

95. *Frequency of procurement implementation support.* Contracts subject to post review would be reviewed by the Bank once a year; and based on the findings of these reviews and the proposed ratings, the Bank may determine the revision of the prior review requirements.

Thresholds for procurement methods and prior review are described in table below:

Expenditure Category	Contract Value (Threshold) (US$, thousands)	Procurement Method	Market Approach	Bank Prior Review or as Indicated in the Procurement Plan
1. Works	> 3,000	Request for bids	Open, limited, international, single stage	All
	200–3,000	Request for bids	Open, limited, national, single stage	First contract
	< 200	Request for quotations	Open, limited, national, single stage	
	Regardless of value	DC	Direct, single stage	All
2. Goods	> 500	Request for bids RFP	Open, limited, international, single stage	All
	100 – 500	Request for bids RFP	Open, limited, national, single stage	Post review
	< 100	Request for quotations	Open, limited, international national, single stage	
	Regardless of value	DC	Direct, single stage	All
3. Consultant Services	> 300	QCBS	Open, International, short list	All
	< 300	QCBS, QBS, CQS, FBS, LCS (according to Procurement Plan)	Open, national, short list	All ToRs First Contract Selection process yearly (Ex post)
	Regardless of value	Direct Selection	Direct	All
	Regardless of value	IC	Open, limited	All ToR. Selection Process reviewed once yearly (Ex Post).
	Regardless of value	Direct Selection	Direct	All

E. Social (including Social Safeguards)

96. **Social Analysis:** During Project preparation, an analysis was undertaken to determine which social factors are most pertinent in the Guyanese education sector, and should therefore be prioritized in the curricula reform. The social analysis consisted of: (a) a desk review of the literature pertaining to the Guyanese education sector, as well as the nexus between gender and disability and education; (b) in-

country consultations with prominent Governmental and non-Governmental actors and disability activists in order to ascertain and integrate their perspectives and identify their respective roles during Project implementation; and (c) site visits to two remote Hinterland Schools in Region One. In addition, an IPP was prepared since the Project would be implemented country-wide, including in Indigenous territories, and therefore triggers OP 4.10 Indigenous Peoples (see below). The MOE prepared the IPP (Report No. SFG2984) and it was approved by the Bank and disclosed on February 6, 2017 in both the MOE's and the Bank's external websites.

97. **Positive Social Benefits:** The analysis concluded that the Project is expected to have positive long-term social impacts by providing an opportunity to improve educational quality and (ultimately) outcomes for female and country-wide through a more inclusive curricula. Both the process of curricula reform (e.g. national consultations) and the reforms themselves (content, format etc.) would provide opportunities to implement a more inclusive approach with explicit attention to two historically marginalized and underserved groups, namely indigenous students and students with disabilities, in addition to the special attention paid to lower-performing students as a broad group.

98. Indigenous students are disproportionally represented among the poor, largely reside in remote hinterland locales, and are historically underserved by the education sector. Approximately 9.2 percent of the Guyanese population is Indigenous (see IPP), ranking them as the fourth largest group in the country. They are the majority population in the interior regions (Regions 1, 7, 8 and 9). Consultations took place between July and August 2016 in these Regions. Feedback from these consultations have been incorporated into the project design, including, among other things, the importance of: incorporating indigenous languages and culture into the curriculum; the potential to select hinterland schools among the "pilot" schools; and the need to include hinterland teachers in the curricula update and exam design.

99. **Disability**: Global evidence indicates that persons with disabilities are among the largest and poorest among people living in poverty and have historically been excluded from mainstream education opportunities, which are a potential pathway out of poverty. Although the GoG's policy framework explicitly promotes inclusive education,[16] students with disabilities face profound obstacles in accessing a meaningful education. Barriers include physical and attitudinal barriers, as well as the lack of a tailored curriculum to address special needs and limited capacity of teachers to support students with (different kinds of) disabilities. The GoG, represented through the MOE and the National Commission on Disabilities, expressed significant support for disability inclusion through the curricula reform, as did representatives of various leading Disability Organizations, including the Guyana Council of Organizations for Persons with Disabilities. The update of the Guyanese curricula presents an opportunity to improve educational and long term poverty outcomes for persons with disabilities in Guyana, if well-conceived and targeted interventions are incorporated into the curriculum reform and implemented through appropriate entry points and if these curriculum and teacher training enhancements lead to improved educational outcomes for students with disabilities.

100. **Gender:** While Guyana has closed the gap in educational attainment both in primary and secondary education, boys are more likely to drop out and are outnumbered at the tertiary level, resulting in "male underachievement." Again, the reforms provide an opportunity to promote gender inclusion

[16] Persons with Disabilities Act (2010); draft Social Inclusion Policy (2010); ratification of UN Convention on the Rights of Persons with Disabilities (2014).

through teaching methods that are more targeted to students' learning levels (cf. para. 28) but also specifically in relation to interventions aimed at indigenous and disabled students.

101. **Entry Points for Inclusion:** For example, the process of curricula reform should ensure that key constituents are systematically included as resource persons in the planning of consultations and reform content (e.g. National Commission on Disability and representatives of indigenous teachers – cf. para. 25). In addition, the following entry points (further elaborated upon in the social assessment) were identified: Teacher training to foster positive teacher attitudes towards students with disabilities and equip them with relevant skills to tailor various modes of delivery (oral, written) for children with specific needs (cf. para. 31); focus on teaching and learning materials to ensure that they are inclusive (disability, gender, indigenous) and avoid stereotyping (focus on representation, illustrations, language, transformational roles) and formats (large print, braille, audio etc.; cf. para. 35). Additional interventions not within the scope of the Project, but complementary to it, include improved coordination between special education teachers and general education teachers: institutional coordination arrangements (i.e. co-teaching, teaching assistants, etc.); and diversity in teacher workforce in terms of gender and including measures to ensure that teachers with disabilities are being included in the workforce.

F. Environment (including Safeguards)

102. The proposed Project has been assessed as Category B, as environmental impacts are expected to be minimal and highly localized. Potential environmental impacts are typical of small to medium scale construction, including the generation of debris, dust, noise, health and safety risks to workers during construction, and the generation of waste, including hazardous waste during the operation of the health sciences facility. Also, as the construction is going to take place during the academic semesters, there could be impacts related to traffic congestion and noise that could affect the academic environment.

103. To mitigate these environmental risks, the UG has prepared an Environmental Assessment and Management Plan (EMP), which was approved by the Bank and disclosed on February 3, 2017 both in the UG's and the Bank's external websites (World Bank Report No. SFG2975). All contractors would follow the EAMP. This EAMP would be supervised by both the engineering firm hired to oversee the construction contractors, as well as by the UG civil works engineer overseeing the entire construction process. Once the construction phase is completed, additional education and awareness-raising efforts are likely to be required at the UG campus to ensure students and staff behave in environmentally sensitive ways (avoiding litter, using sanitary facilities properly, etc.). The EMP includes procedures for grievance-handling and for M&E.

104. The environmental safeguards policies triggered for the Project are OP 4.01 Environmental Assessment and OP 4.09 Pest Management given the need to consider environmental management measures related to the civil works and the use of pesticides in small quantities for termite treatments and/or vector control during the operation of the facilities.

105. OP/BP 4.04 Natural Habitats and OP/BP 4.36 Forests were not triggered, as the site for the new Health Sciences Building (HSB) does not consider any changes to natural habitats and forest management or works in forest areas in the zone designated for the new construction.

106. OP/BP 4.11 Physical Cultural Resources was not triggered as the locations of the proposed HSB site do not affect Physical Cultural Resources.

107. OP/BP 4.12 Involuntary Resettlement was not triggered because the site for the new HSB is located inside the UG campus. Therefore, no involuntary resettlement or land acquisition is expected.

G. Other Safeguard Policies (if applicable)

108. No other safeguard policies are triggered for the Project.

H. World Bank Grievance Redress

109. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported Project may submit complaints to existing Project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address Project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit *http://www.worldbank.org/en/Projects-operations/products-and-services/grievance-redress-service*. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

VII. RESULTS FRAMEWORK AND MONITORING

Results Framework
COUNTRY : Guyana
Guyana Education Sector Improvement Project

Project Development Objectives

The objectives of the Project are to: (i) improve teaching practices and student achievement in mathematics at the primary level in selected schools; and (ii) strengthen the teaching capacity and improve the learning environment of the UG FHS.

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: PDO 1: Percentage of students with “approaching standard” or “attained standard” in numeracy in the National Grade Two Assessment.		Percentage	56.00	59.00	Annual.	Student assessments.	Student Assessment Unit.
Description: In the National Grade Two Assessment students are graded in a scale with three values: below standard, approaching standard or attained standard. This indicator will monitor the percentage of students in the two higher grades. The indicator will also be disaggregated by gender and Coast/Hinterland.							
Name: PDO 1: Percentage of students with “approaching standard” or “attained standard” in numeracy in the		Percentage	60.00	63.00	Annual.	Student assessments.	Student Assessment Unit.

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
National. Grade Two Assessment (Girls)							
Description: In the National Grade Two Assessment students are graded in a scale with three values: below standard, approaching standard or attained standard. This indicator will monitor the percentage of students in the two higher grades. The indicator will also be disaggregated by gender and Coast/Hinterland.							
Name: PDO 1: Percentage of students with "approaching standard" or "attained standard" in numeracy in the National Grade Two Assessment (Boys).		Percentage	51.00	54.00	Annual	Student Assessments	Student Assessment Unit
Description: In the National Grade Two Assessment students are graded in a scale with three values: below standard, approaching standard or attained standard. This indicator will monitor the percentage of students in the two higher grades. The indicator will also be disaggregated by gender and Coast/Hinterland.							
Name: PDO 2: Increase in the percentage of pilot school teachers meeting standards in student-centered teaching practices.		Text	TBD in 2018.	+10%	Twice during the Project life.	Classroom observations.	NCERD, PIU and the Bank.
Description: This indicator will assess the implementation of student-centered teaching practices through classroom-observations that will be developed during the project implementation. A pilot version of the observation instrument and the standards will be available in 2017. The baseline will be established in 2018.							
Name: PDO 3: Medicine program at the UG meets CAAM-HP accreditation criteria for course delivery,		Text	Criteria are not met.	Criteria are met.	Annual.	Project Implementation Progress Report.	UG FHS and PIU.

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
student performance assessment and facilities.							

Description: During their last visit, in November 2016, the Caribbean Accreditation Authority for Education in Medicine and Other Health Professions (CAAM-HP) identified the lack of an overall assessment strategy for the medical program, to ensure reliability and validity of the assessment processes, as an area of concern. Additionally, the implementation of the new 2017 curriculum and the need for a new FHS building were identified as areas of transition towards accreditation.

The training on course delivery of the lecturers at UG FHS, the implementation of a student assessment system and the construction of a new FHS facility are expected to make the medicine program at the UG meet CAAM-HP accreditation criteria for course delivery and student performance assessment.

Intermediate Results Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: IRI 1: Curriculum framework developed.		Yes/No	N	Y	Once.	Results of the consultants' reports.	NCERD, PIU.

Description: Qualitative indicator. Development of a curriculum framework that defines the strategy of the pre-primary, primary and lower secondary education as a result of the stakeholders consultations and the current curriculum review.

Name: IRI 2: Core subjects' curricula revised.		Text	No	All core subjects revised	Once.	Results of English, Mathematics and Science curriculum revision.	NCERD, PIU.

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Description: Qualitative indicator. The curriculum is revised if its contents have been reviewed and revised to align with the newly developed curriculum framework.							
Name: IRI 3: Nursery curriculum revised.		Yes/No	N	Y	Once.	Results of the Nursery curriculum revision.	NCERD, PIU.
Description: The nursery curriculum will be considered to be revised if its contents have been reviewed and revised as needed to align with the curriculum framework.							
Name: IRI 4: Teachers trained in the new curriculum.		Number	0.00	6500.00	Annual.	Project Implementation Progress Report.	NCERD, PIU.
Description: Cumulative number of teachers trained in the new curriculum.							
Name: IRI 5: Mathematics and English learning assessments aligned with the revised curriculum		Text	No	Mathematics and English learning assessments aligned to the revised curriculum.	Annual.	Project Implementation Progress report.	NCERD, PIU, MOE Examinations Unit.
Description: Once the curricula of English and Mathematics are revised, a learning assessment will be aligned to this revision.							

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: IRI 6: Impact Evaluation on teaching practices.		Text	IE not developed.	The results from the Impact Evaluation on teaching practices are analyzed.	Twice.	Impact evaluation tools/instrument will be developed and conducted during implementation of the Project.	NCERD, PIU and the Bank.
Description: The impact evaluation will be developed and conducted during the Project life. It aims at doing a rigorous comparison of the old and new curricula in pilot schools and a set of comparison schools that will be randomly assigned from a sampling frame that includes hinterland areas.							
Name: IRI 7: Teachers trained in social inclusive practices.		Text	No	5000 teachers trained in social inclusive practices.	Annual.	Results on the Project Progress Report.	PIU, MOE and NCERD.
Description: Number of teachers who have participated in the sensitization on the consequences of even unconscious biases against students of different genders, racial and ethnic groups, and students with disabilities.							
Name: IRI 8: Survey of teachers' and parents' satisfaction with the new curriculum and teaching methods conducted in conjunction with the Impact Evaluation.		Text	No such survey exists.	Survey conducted and results analyzed.	Once.	Survey questionnaire will be developed and conducted during implementation of the Project.	PIU and the Bank.

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Description: Together with the impact evaluation, a survey of teachers' and parent's satisfaction on the new curriculum and teaching methods will be conducted.							
Name: IRI 9: Lecturers at the UG Health Sciences faculty trained in course delivery.		Number	0.00	70.00	Annual.	Progress Implementation Progress Report.	UG FHS, PIU.
Description: Cumulative number of teachers in course delivery (i.e. pedagogical techniques for delivering courses effectively).							
Name: IRI 10: Health Science facility constructed.		Text	No	Construction completed.	Annual.	Project Implementation Progress Report.	PIU, UG FHS.
Description: Qualitative indicator. The construction of the Health Science facility will be considered completed when the building is furnished and fully functional to be used for teaching.							
Name: IRI 11: Beneficiaries' survey to UG Health Sciences Faculty: students, lecturers and administrative staff.		Text	No such survey exists.	Survey conducted and results analyzed.	Twice.	Online surveys conducted with students, lecturers and administrative staff.	Surveys will be designed and analyzed by a statistics professor and distributed by the UG Office of Quality Assurance / PIU.
Description: Two online surveys will be conducted to measure improvement in the satisfaction of the beneficiaries regarding: (a) the new curriculum (b) the teaching							

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
pedagogies, (c) the assessment system; (d) the new Health Science building; and (e) gender dimensions.							
Name: IRI 12: Direct project beneficiaries (IDA Core Indicator).		Number	0.00	153000.00	Annual.	Project Implementation Progress Report.	PIU.
Female beneficiaries		Percentage	0.00	50.00	Annual.	Project Implementation Progress Report.	PIU.
Description: Project Direct Beneficiaries during the Project life are defined as: Under Component 1: Students from Nursery, Primary and Lower Secondary, Teachers teaching these grades, and the curricula staff in the MOE, CPCE, and NCERD. Under Component 2: Students, Lecturers and Administrative staff in UG FHS. (Customized definition for this Core Indicator). Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct beneficiaries are female. This indicator is calculated as a percentage.							

Target Values

Project Development Objective Indicators

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
PDO 1: Percentage of students with “approaching standard” or “attained standard” in numeracy in the National Grade Two Assessment.	56.00	56.00	56.00	57.00	58.00	59.00	59.00
PDO 1: Percentage of students with “approaching standard” or “attained standard” in numeracy in the National. Grade Two Assessment (Girls)	60.00	60.00	60.00	61.00	62.00	63.00	63.00
PDO 1: Percentage of students with “approaching standard” or “attained standard” in numeracy in the National Grade Two Assessment (Boys).	51.00	51.00	51.00	52.00	53.00	54.00	54.00
PDO 2: Increase in the percentage of pilot school teachers meeting standards in student-centered teaching practices.	TBD in 2018.	Baseline established		Baseline + 5%		Baseline + 10%	+10%
PDO 3: Medicine program at the UG meets CAAM-HP accreditation criteria for course delivery, student performance assessment and facilities.	Criteria are not met.	Design of the FHS building is completed.	Training in course delivery for UG FHS lecturers and the construction of the FHS building have started, the new	Training in course delivery for UG FHS lecturers and the construction of the FHS building continue and the new	70 UG FHS lecturers are trained in course delivery, the construction of the FHS building is completed and the new	Criteria are met.	Criteria are met.

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
			assessment system is developed.	assessment system is implemented.	assessment system is in use.		

Intermediate Results Indicators

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
IRI 1: Curriculum framework developed.	N	N	Y	Y	Y	Y	Y
IRI 2: Core subjects' curricula revised.	No	No	No	Mathematics curriculum revised.	English curriculum revised.	Science and Social Studies curriculum revised.	All core subjects revised
IRI 3: Nursery curriculum revised.	N	N	N	Y	Y	Y	Y
IRI 4: Teachers trained in the new curriculum.	0.00	0.00	0.00	2000.00	4000.00	6500.00	6500.00
IRI 5: Mathematics and English learning assessments aligned with the revised curriculum	No	No	Training for NCERD staff on using the results for the continuous improvement of the examinations.	Training for NCERD staff on the design of examination items.	Mathematics learning assessments aligned to the revised curriculum.	English learning assessments aligned to the revised curriculum.	Mathematics and English learning assessments aligned to the revised curriculum.
IRI 6: Impact Evaluation on teaching practices.	IE not developed.	Impact evaluation is designed.	Baseline information is collected.	Baseline information is analyzed.	End line information is collected.	Impact evaluation results are analyzed.	The results from the Impact Evaluation on

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
							teaching practices are analyzed.
IRI 7: Teachers trained in social inclusive practices.	No	No	Training materials developed.	Master trainers trained in inclusive practices.	2500 teachers trained.	2500 teachers trained.	5000 teachers trained in social inclusive practices.
IRI 8: Survey of teachers' and parents' satisfaction with the new curriculum and teaching methods conducted in conjunction with the Impact Evaluation.	No such survey exists.	Survey instrument designed.	Baseline information collected.	Baseline information is analyzed.	Survey of teachers' and parents' satisfaction is conducted.	Survey results are analyzed.	Survey conducted and results analyzed.
IRI 9: Lecturers at the UG Health Sciences faculty trained in course delivery.	0.00	0.00	20.00	40.00	70.00	70.00	70.00
IRI 10: Health Science facility constructed.	No	Design of the building completed.	Construction started.	Construction continued.	Construction completed.	Construction completed.	Construction completed.
IRI 11: Beneficiaries' survey to UG Health Sciences Faculty: students, lecturers and administrative staff.	No such survey exists.	No such survey exists.	Baseline instrument designed.	Baseline survey conducted and results analyzed.	Survey instrument developed.	Survey conducted and results analyzed.	Survey conducted and results analyzed.
IRI 12: Direct project beneficiaries (IDA Core Indicator).	0.00	50.00	1050.00	52700.00	97800.00	153000.00	153000.00
Female beneficiaries	0.00	50.00	50.00	50.00	50.00	50.00	50.00