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Report No: PAD4854

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED CREDIT

IN THE AMOUNT OF SDR 31.9 MILLION
(US$44.0 MILLION EQUIVALENT)

TO THE

CO-OPERATIVE REPUBLIC OF GUYANA

FOR A

GUYANA STRENGTHENING HUMAN CAPITAL THROUGH EDUCATION PROJECT

May 19, 2022

Education Global Practice
Latin America and Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective March 31, 2022)

Currency Unit =	Guyanese Dollar (GY$)
GY$ 209.21 =	US$1
US$1.38 =	SDR 1

FISCAL YEAR
January 1 - December 31

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ABBREVIATIONS AND ACRONYMS

CERC	Contingent Emergency Response Component
CPD	Continuous Professional Development
CPCE	Cyril Potter College of Education
CSEC	Caribbean Secondary Education Certificate
CTVET	Council for Technical and Vocational Education and Training
CVQ	Caribbean Vocation Qualification
ECE	Early Childhood Education
EHS	Environmental, Health and Safety
EMIS	Education Management Information System
ESAs	Environmental and Social Assessments
ESCP	Environmental and Social Commitment Plan
ESHS	Environmental, Social, Health and Safety
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESRS	Environmental and Social Review Summary
ESP	Education Sector Plan
ESS	Environmental and Social Standards
E&S	Environmental and Social
FM	Financial Management
GBV	Gender-Based Violence
GESPP	Guyana Education Sector Program Project
GDP	Gross Domestic Product
GSS	General Secondary Schools
GPE	Global Partnership for Education
GoG	Government of Guyana
GRS	Grievance Redress Service
GRM	Grievance Redress Mechanism
GESIP	Guyana Education Sector Improvement Project
GSEIP	Guyana Secondary Education Improvement Project
IADB	Inter-American Development Bank
IDA	International Development Association
IMF	International Monetary Fund
IFRs	Interim Financial Reports
IPF	Investment Project Financing
IPP	Indigenous Peoples Plan
IPPF	Indigenous Peoples Planning Framework
LAC	Latin America and the Caribbean Region
LAYS	Learning-Adjusted Years of Schooling
LEG	Local Education Group

LMP	Labor Management Procedures
M&E	Monitoring and Evaluation
MOE	Ministry of Education
NER	Net Enrollment Rate
NCERD	National Center for Educational Resource Development
PDO	Project Development Objective
PICs	Practical Instruction Centers
PIU	Project Implementation Unit
RPF	Resettlement Planning Framework
SCCP	Secondary Competency Certificate Program
SD	Secondary Departments
SEA/SH	Sexual Exploitation and Abuse/Sexual Harassment
SEP	Stakeholder Engagement Plan
STEM	Science, Technology, Engineering, and Mathematics
STEP	Systematic Tracking and Exchanges in Procurement
TVET	Technical and Vocational Education and Training
UG	University of Guyana
UNICEF	United Nations Children's Fund
WB	World Bank

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Guyana	Guyana Strengthening Human Capital through Education Project	
Project ID	**Financing Instrument**	**Environmental and Social Risk Classification**
P177741	Investment Project Financing	Substantial

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Performance-Based Conditions (PBCs)	[✓] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	[ ] Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
10-Jun-2022	30-Jun-2027

Bank/IFC Collaboration

No

Proposed Development Objective(s)

The Project Development Objective (PDO) is to improve: (i) access and learning conditions in secondary education; and (ii) access to technical and vocational education and training aligned with identified labor market needs

Components

Component Name	Cost (US$, millions)
Component 1: Improve Service Delivery and Enhance the Learning Environment at the Secondary Level	35.00
Component 2: Strengthen Skills Development and Technical and Vocational Training	7.00
Component 3: Contingent Emergency Response Component (CERC)	0.00
Component 4: Project Management and Monitoring and Evaluation	2.00

Organizations

Borrower:	Co-operative Republic of Guyana
Implementing Agency:	Ministry of Education

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	44.00
Total Financing	44.00
of which IBRD/IDA	44.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	44.00
IDA Credit	44.00

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
Guyana	44.00	0.00	0.00	44.00
National PBA	44.00	0.00	0.00	44.00

Total	**44.00**	**0.00**	**0.00**	**44.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2022	2023	2024	2025	2026	2027
Annual	0.00	5.53	7.16	8.86	12.69	9.76
Cumulative	0.00	5.53	12.69	21.55	34.24	44.00

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

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

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

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants

Sections and Description

Schedule 2, Section I. A.1. The MOE shall Establish no later than one month after the Effective Date and maintain

throughout the period of Project implementation, a Project Implementation Unit (PIU) within MOE.

Sections and Description

Schedule 2. Section I. D.1. In order to ensure the proper implementation of contingent emergency response activities under Part 3 of the Project ("Emergency Response Part"), the Recipient shall: (a) prepare and furnish to the Association for its review and approval, a Contingency Emergency Response Manual ("CER Manual"); (b) afford the Association a reasonable opportunity to review the proposed CER Manual; (c) promptly adopt the CER Manual for the Emergency Response Part as accepted by the Association and integrate it as an annex to the Project Operations Manual; (d) ensure that the Emergency Response Part is carried out in accordance with the CER Manual; provided, however, that in the event of any inconsistency between the provisions of the CER Manual and this Agreement, the provisions of this Agreement shall prevail; and (e) not amend, suspend, abrogate, repeal or waive any provision of the CER Manual without the prior written approval by the Association.

Sections and Description

Schedule 2. Section I. D.2. The Recipient shall, throughout the implementation of the Emergency Response Part, maintain the institutional structures and arrangements established in accordance with the CER Manual, with adequate staff and resources satisfactory to the Association; and undertake no activities unless and until the CER related conditions described below have been met in respect of the activities outlined in the referenced Schedule.

Conditions

Type	Financing source	Description
Disbursement	IBRD/IDA	Schedule 2, Section III.B.1. Notwithstanding the provisions of Part A, no withdrawal shall be made: (a) for payments made prior to the Signature Date, except that, withdrawals up to an aggregate amount not to exceed 20% of the total Financing may be made for payments made up to twelve (12) months prior to the Signature Date of this Agreement, for Eligible Expenditures under Category (1) or (b) for Emergency Expenditures under Category (2), unless and until the Association is satisfied, and notified the Recipient of its satisfaction, that all of the conditions have been met in respect of the outlined expenditures in the referenced schedule.

I. STRATEGIC CONTEXT

A. Country Context

1. **The Co-operative Republic of Guyana is a small, sparsely populated South American country with abundant natural resources.** The country is endowed with fertile agricultural lands, valuable mineral resources including bauxite and gold, extensive tropical forests that cover 80 percent of the country, and recently discovered large offshore gas and oil reserves. Guyanese society is ethnically and religiously diverse, encompassing Indo-Guyanese, Afro-Guyanese, Mixed-Guyanese, indigenous Amerindian, and others. Guyana has a low population density, with 90 percent of its approximately 779,004 inhabitants living on the narrow coastal plain, which represents 10 percent of the country's area. Coastal flooding, exacerbated by climate change, is a serious risk, as much of Guyana's population and economic activity, including the capital, Georgetown, and most of its agriculture, are concentrated in low-lying areas along the Atlantic coast.

2. **Until recently, Guyana's gross domestic product (GDP) per capita was among the lowest in South America and poverty levels at 48.4 percent are high compared to other countries in the Latin America and Caribbean (LAC) region.** Historically, a lack of domestic opportunities has led to high emigration rates, particularly of higher educated groups, with 39 percent of all Guyanese citizens currently residing abroad. Roughly half of all Guyanese with a tertiary education have emigrated to the United States. With an economy that is heavily dependent upon natural resources, agriculture, and remittances, Guyana is vulnerable to commodity price fluctuations, adverse weather conditions, and economic conditions in migrant destination countries. Economic diversification beyond natural resources and agriculture remains a challenge, with sugar, gold, bauxite, shrimp, timber, and rice representing over 80 percent of the country's exports in 2014. The export composition is changing, although it remains dependent on natural resources, with almost 40 percent of exports being related to the oil and gas sector in 2020, further emphasizing the need for economic diversification.[1] In 2020, remittances were equivalent to approximately 8 percent of GDP,[2] mainly sent from the diaspora in the United States and Canada. Despite overall declining poverty trends, poverty remains entrenched along geographic and ethnic lines. Poverty rates are highest in the sparsely populated interior, particularly in Amerindian populations, where communities have limited access to economic opportunities, healthcare, and public services.

3. **Due to the recent oil and gas discovery, Guyana stands at the threshold of a new economic era.** The discovery of vast offshore oil and gas reserves is poised to fundamentally transform the structure of the Guyanese economy while generating an influx of fiscal revenue. Extraordinary economic growth of 20-40 percent over the last two years brought GDP per capita to over US$9,300 in 2021, from about US$6,600 in 2019. The rise of the oil and gas sector poses unprecedented macro fiscal management challenges while offering new opportunities to address longstanding development constraints. The discovery presents employment opportunities for both specialized technicians and semi-skilled workers in the associated supply chains. However, for increased income to lead to broad-based gains for the population, Guyana must improve its human capital and reduce poverty levels while maintaining macroeconomic stability and environmental sustainability. Specifically, in addition to improving access as well as the quality and relevance of the existing education system, there is an urgent need to design and

[1] UN Comtrade, 2020. International Trade Statistics Yearbook Volume I. Trade by Country
[2] World Bank, 2020. World Bank staff estimates based on IMF balance of payments data, and World Bank and OECD GDP estimates.

implement cost-effective strategies that match the new labor market as a means of providing gainful employment for the large number of new entrants to the labor market. A green transition will require large investments in new technologies as well as in Science, Technology, Engineering, and Mathematics (STEM) education to prepare the labor force.

4. **Guyana is at high risk of climate induced hazards, including increases in heavy rainfall and related occurrences of flooding, sea-level rise and storm surges, especially in coastal areas, as well as increases in temperature and a decrease of annual precipitation.** Simultaneously, Guyana's contribution to climate change is expected to increase due to the oil and gas discovery, which could ultimately hinder growth and development efforts in the country if left unchecked. Guyana's coastal plain strip lies below the mean high-tide mark and has historically suffered flooding from both Atlantic storm surges and heavy rains. Research shows that the impact of rising sea levels and intensified storm surges in Guyana would be among the greatest in the world, exposing 100 percent of the country's coastal agriculture and 66.4 percent of coastal urban areas to flooding and coastal erosion, with potential GDP losses projected to exceed 46.4 percent.[3] In response, the Guyana Low Carbon Development Strategy 2030 outlines substantial measures to support green resilient growth, including increased protection for the standing forest and investments in renewable energy sources such as hydropower and solar energy.

5. **The outbreak of the coronavirus disease (COVID-19) was declared a Public Health Emergency of International Concern on January 30, 2020, and, like most other countries, the virus spread to Guyana.** The crisis is continuing to stretch the public health systems and threaten the economy. In line with international best practice, the government enacted several mitigation measures, including limitations on many non-essential services during the early stages of the pandemic. The order included restrictions on travel and on social and economic activities. In addition, the Ministry of Education (MOE) closed public schools nationally from March 13, 2020. Effective November 9, 2020, the MOE began a phased reopening of public schools with grade 10-12 students returning to school based on a rotation schedule and restricted timetables. All practical instruction and technical vocational educational centers were also reopened. Strict distancing guidelines and sanitation protocols have been put in place, with teachers and students receiving face masks, shields, sanitizing agents, vitamins, and care packages. Additionally, handwashing sinks have been installed in schools, thermometers have been provided, and students have been given a diagnostic wellness kit. Due to increased access to vaccines,[4] the economy, including the education sector, continued to reopen. Schools reopened at the nursery and primary level in September 2021, and at the secondary level in November 2021, with number restrictions and schedule rotations. On April 25, 2022, all public schools fully reopened for every-day in-person learning at all levels.

B. Sectoral and Institutional Context

Human capital, the labor market, and the new economy

6. **To ensure that the ongoing economic transition results in green resilient and inclusive growth, the Government of Guyana (GoG) is investing heavily in human capital.** Investments are designed to build human capital for the new economy, with specific emphasis on the oil and gas sector, climate-

[3] World Bank, 2020. A Pivotal Moment for Guyana: Realizing the Opportunities - Systematic Country Diagnostic
[4] Around a third of the adult population was fully vaccinated in September 2021, with latest values reflecting around two-thirds fully vaccinated in April 2022.

resilient agriculture, low-carbon technology, and digital development. To prepare the labor force, investments at the secondary and post-secondary Technical and Vocational Education and Training (TVET) levels are critical. These investments will support multiple and varied pathways to acquire the skills necessary for all youth to participate in the future labor market and economy in Guyana.

7. **According to the Human Capital Index, a child born in Guyana today will be 50 percent as productive when she grows up as she could be if she enjoyed complete education and full health**.[5] This is lower than the average for the LAC region and upper middle-income countries. The low Human Capital score is in part driven by low educational outcomes. The average Guyanese student is expected to complete 12.2 years of schooling, but this is equivalent to only 6.8 years of learning when expressed in terms of Learning-Adjusted Years of Schooling (LAYS).[6] Furthermore, the Harmonized Learning Outcomes (HLO), an international database built by the World Bank that compares international and regional standardized achievement tests,[7] reveals that Guyana had the 17th poorest results among 157 countries/territories for which data are available. In the Caribbean Secondary Education Certificate (CSEC) examination, between 2014 and 2018, only 55 percent of the students completing the secondary cycle attained passes in STEM subjects, with boys performing significantly better than girls.[8] The International Monetary Fund (IMF) has also recently linked Guyana's skills shortage to its poor school enrollment and education performance rates relative to by regional standards.[9] In addition to foundational skills, the labor force requires other productivity-enhancing skills such as higher order cognitive skills; behavioral and socio-emotional skills or soft skills; technical or vocational skills; and business skills.

8. **The level of education of the working-age population in Guyana is low for a middle-income country**. According to the 2018 Guyana Labor Force Survey, approximately 8 percent of the working-age population does not have any formal education and about 51 percent of the Guyanese workforce aged 25 to 34 did not complete secondary education,[10] which is high compared to other regional peers such as Jamaica (17 percent). No more than 6 percent of the working-age population has completed tertiary education, and only 5 percent have a formal TVET qualification. The situation varies significantly among population subgroups in Guyana. In coastal areas, 51 percent of the workforce completed secondary education, compared to 31 percent in interior areas. The gap in secondary completion is also significant between rural (45 percent) and urban areas (63 percent). Further, while girls and women outperform boys and men in education enrollment and completion, this does not translate into increased labor force participation. In 2018, 46.8 percent of the female youth population were not in education, employment, or training, compared to 24.8 percent of males, indicating misalignment of skills and/or gender-based discrepancies in the labor market.[11]

9. **Guyana's labor force structure remains largely oriented towards traditional sectors, and the level of unemployment remains high, particularly for youth with limited or no education.** The majority of the Guyanese working population is employed in one of two sectors: agriculture, forestry and fishing,

[5] World Bank Human Capital Index 2020
https://databank.worldbank.org/data/download/hci/HCI_2pager_GUY.pdf?cid=GGH_e_hcpexternal_en_ext
[6] For definition and methodology see https://www.worldbank.org/en/publication/human-capital#Data
[7] For details on the methodology see (Patrinos & Angrist, 2018).
[8] Education Sector Plan (ESP) 2021-2025
[9] IMF: Guyana Staff Report for the 2019 Article IV Consultation, July 2019.
[10] At least 5 years of schooling at the secondary level.
[11] World Bank, 2021. Guyana Country Gender Scorecard

or wholesale and retail trade. Other important domains of economic activity include construction, manufacturing, and public administration and services. The majority of the working-age population is based in rural areas (72.3 percent). The unemployment rate of the third quarter of 2021 was 14.5 percent overall, but 31.9 percent for youth, particularly for those having only primary education or upper secondary education. The unemployment rate is lowest for persons with post-secondary and tertiary education.

10. **Following the discovery and production, of oil and gas, Guyana is experiencing a labor market paradox.** On the one hand, the country has one of the highest emigration rates in the world. It is estimated that 550,000 Guyana nationals reside abroad, many of whom are considered highly skilled. At the same time, the rapid development of the oil and gas industry has severely increased the demand for skilled workers and technicians, with an estimated 160,000 additional workers needed for Guyana to realize its full growth potential as described in the GoG's 2021-2025 ESP.[12,13] While there is no recent comprehensive survey of skills in short supply in Guyana, representatives for the oil and gas industry have stated that the industry suffers from crucial shortage of skills required.[14] The shortage affects the possibility for local companies to take advantage of the demand for oil-linked services. Given the high and increasing demand for skilled workers and specialists, the IMF has suggested a more liberal immigration policy, as the shortage of skilled manpower constrains medium to long-term growth.[15] The IMF has also linked Guyana's skills shortage to its poor school enrollment and education performance rates, by regional standards, highlighting another possible strategy. Currently, public training offers remain limited and frequently outdated in key emerging sectors, such as green transition and digital technologies.

11. **Education is a priority for government spending, to increase the overall level of human capital and to rapidly support the labor force in acquiring the needed skills to benefit from the ongoing economic transformation.** Public expenditure on education as share of GDP has increased from 4 percent in 2013 to 5.6 percent in 2018, which is in line with international norms,[16] and is higher than most regional peers. Education spending out of total public spending (excluding debt servicing) also shows a recent upward trend, with an increase of 5 percentage points from 12.3 percent in 2013 to 17.8 percent in 2018.[17] The largest share of the education budget is allocated to secondary education (34 percent), followed by primary education (31 percent), and nursery (15 percent).[18] The per-student spending in nursery education is above the average expenditure in other Caribbean small states and close to the Organization for Economic Co-operation and Development (OECD) average, while spending in primary and secondary education is comparatively lower.[19] Despite the government's increased attention to post-secondary and tertiary TVET, the budget allocation has not increased, but remained constant at just below 6 percent since 2016.[20] The recurrent unit cost per student for post-secondary TVET/tertiary education is at the

[12] Idem
[13] GoG has established a Re-migration unit under the Ministry of Foreign Affairs with the objective of providing assistance to citizens who are interested in re-migrating. https://www.minfor.gov.gy/featured/re-migrating-to-guyana/
[14] See for example '*Guyana must accept it has crucial skills shortage for oil sector; temper local content expectations' in Oil-Now* April 17, 2021
[15] IMF: Guyana Staff Report for the 2019 Article IV Consultation, July 2019.
[16] Education expenditure is in line with recommendations from The Third International Conference on Financing for Development: at least 4 percent to 6 percent of GDP.
[17] Education Sector Plan (ESP) 2021-2025
[18] Guyana Public Expenditure Review
[19] Guyana Public Expenditure Review (PER), World Bank 2021
[20] Share of government recurrent expenditures on technical and tertiary education represented 5.9% in 2016 and 2017, and 5.8% in 2018.

same level as for secondary education. Consequently, considering the generally higher cost of delivering TVET (lab equipment and material, etc.), the budget for learning materials, qualified teaching staff, and maintenance at this level is relatively low.

Structure of the education system

12. **Guyana's education system is structured in five levels: nursery, primary, secondary, post-secondary, and tertiary.** Education is free from nursery to secondary school and compulsory from the age of six years to fifteen years, covering primary education and at least three years of secondary. Two years of nursery education are available for children starting at the age of three years and three months. Primary education starts at the age of five years and six months, with a duration of 6 years. Secondary education lasts between three to five years depending on the type of institution – secondary departments of primary schools (SD) or general secondary schools (GSS), respectively. Grades 7-9 are considered lower secondary, whilst grades 10 - 12 are considered upper secondary.[21] Both academic and vocational programs are offered at the secondary level, with some of the pre-vocational programs offered in complementary Practical Instruction Centers (PICs) that provide specialized technical facilities for clusters of schools.[22] Post-secondary education is provided at ten public dedicated TVET institutions, offering full-time and part-time courses at Craft, Technical and Diploma levels.[23,24] However, in the absence of recent labor market surveys and coordination mechanisms, the linkage between the training offered and the current and emerging skills needs remains unclear. Tertiary education is delivered by two public institutions: the Cyril Potter College of Education (CPCE), which offers teacher training, and the University of Guyana (UG), which offers graduate and post-graduate degrees, certificates, and diplomas in various subjects.

13. **Almost 20 percent of the total population is in school.** Guyana delivers education to about 181,000 students, of which 15 percent attend nursery (pre-primary), 45 percent attend primary, and 31 percent attend GSS. Of the total enrollment, 3 percent attend Secondary Department of Primary schools (known as primary tops), 2 percent attend TVET institutions, and 4 percent of students are enrolled in tertiary education. The school network consists of approximately 508 nursery schools, 445 primary schools, and 205 secondary schools, in addition to ten institutions delivering post-secondary education and two public institutions at the tertiary level.

14. **Guyana's education sector has made remarkable progress in access at the nursery and primary level in recent years, but access lags at the secondary and post-secondary levels**. Although not compulsory, access to nursery (pre-primary) is relatively high, with an 88 percent net enrollment rate (NER) in 2018.[25] Moreover, Guyana has achieved near-universal primary education enrollment, with an NER of 92 percent in 2018.[26] However, access to secondary education continues to lag, with a 61 percent NER in 2018, significantly below the MOE goal to reach universal access to secondary education. The NER in tertiary education (including post-secondary TVET) is even lower at 15 percent, significantly lower than

[21] Compulsory education applies until the age of 15, when most students in Guyana are either in Grade 10 or 11.
[22] Examples of courses offered by PICs include electrical installation, building technology, technical drawing, industrial technology, home economics and food and nutrition courses.
[23] These institutions provide full and part-time courses, with students being exposed to practical experiences while serving attachments within industries and agencies.
[24] For a detailed description of TVET offerings in Guyana see Annex 3.
[25] Education Strategic Plan (ESP) 2021- 2025, MOE 2020.
[26] Education Strategic Plan (ESP) 2021- 2025, MOE 2020.

in all benchmark countries, including other Caribbean small states (which average at 25 percent).[27] Across the levels, out-of-school children are primarily from poor households and remote regions of the country.[28]

Key challenges faced by the secondary education system

15. **The secondary education sector in Guyana is facing challenges in terms of access and equity, as well as quality and relevance.** In order to achieve the GoG's vision of providing universal free secondary education to all, access and quality-related constraints must be addressed in parallel to ensure that progress is made in a sustainable and inclusive manner. Identified key challenges facing secondary education include: (i) limited number of facilities and inappropriate learning environments; (ii) demand-side constraints (transportation costs, declining household income requiring children to contribute, etc.); (iii) lack of and inequitable distribution of trained teachers; and (iv) inadequate learning materials. These challenges at the secondary level are interrelated. Hence, to increase enrollment and prevent student dropout – and simultaneously improve access to secondary education in Guyana – a holistic approach will be required that combines increasing the number of schools, addressing demand-related challenges, and improving the quality of education.

16. **Access and retention at the secondary level**, **both for academic and vocational programs, are limited and inequitable**. At the primary level, 93 percent of students who begin school continue through the final grade. At the secondary level, however, the survival rate from grade 7 to grade 9 is 90 percent, and the survival rate from grade 7 to grade 11 is only 81percent.[29] Furthermore, survival rates vary significantly across the country and by gender: while boys on average have lower rates in most of the regions and at the national level,[30] survival rates are lower for girls in a few regions. Overall, the largest decline occurs after Grade 9, 10 and 11, following the compulsory age period.[31] The secondary school enrollment rate remains low and has been declining over the past years.[32] Nationally, the gross enrollment rate dropped from 86 percent in 2014 to 68 percent in 2018, and the NER declined from 76 percent to 61 percent over the same period.[33] Disaggregating the data, the reported participation rate is higher for students in the hinterland regions, with a NER of 85 percent compared to students in the coastal area with a NER of 59 percent.[34] However, as indicated in the ESP, the NER figures need to be treated with caution given that the figures are based on projected population data at the regional level.[35] Further, while enrollment data provides useful information on retention, an updated analysis on root causes for dropout, including gender and regional disaggregation, is needed.

[27] Guyana Public Expenditure Review (PER), World Bank 2021
[28] Education Strategic Plan (ESP) 2021- 2025, MOE 2020.
[29] Ministry of Education Guyana. Survival Rate Definition: The percentage of a cohort of students enrolled in grade 7 who survive (enroll) to a certain grade, taking into account dropout rates and controlling for the proportion of outbound and inbound students. As such, the survival rate to Grade 9 is the percentage of students enrolled in Grade 7 that survive to Grade 9. Given that education is compulsory until age 15 and the measure estimates survival rate from Grade 7 (with students already having dropped out before this grade) this is low.
[30] Nationally, survival rate is lower for male students (89 percent) than for female students (92 percent) at grade 9, with a similar trend in grade 11 with male students lower (81 percent) than for female students (83 percent).
[31] Compulsory period starts from the age of five years and six months to fifteen years, covering nursery, primary education, and five years of secondary (secondary education has a duration up to 7 years).
[32] Further analysis on the decreasing secondary enrollment trend will be undertaken during this Project, including to disaggregate by academic and vocational programs.
[33] ESP 2021-2025
[34] Ministry of Education Guyana
[35] ESP 2021-2025, p. 42.

17. **Limited number of facilities and inappropriate learning environments negatively impact secondary education access, retention and learning outcomes**. Access to secondary education is severely constrained by the lack of spaces in GSS. As a result, students are housed in SDs at primary schools (primary tops) or housed in auditoriums at other GSS. Many SDs lack trained teachers at the secondary level, cannot offer the full curriculum, and lack laboratories or specialty rooms, negatively impacting learning at this level. Students housed in auditoriums cause overcrowding, resulting in a similar lack of access to facilities and contributing to straining teachers. Given the resulting poor learning conditions, more GSS are needed across Guyana. This is particularly true in rural areas of the country, where the shortage of schools contributes to the vulnerabilities already experienced. Investing in quality school facilities at the secondary level has the potential to improve the learning environment for underserved students, while also contributing to increasing learning outcomes, enrollment and reducing dropout levels overall.[36] Supported by the construction of one GSS under the Bank-financed Guyana Secondary Education Improvement Project (GSEIP), 91 percent of secondary aged students in regions 3 and 4 are now enrolled in GSS, from a baseline of 87 percent in 2014. [37] Moreover, evidence indicates that the learning environment is critical for developing 21st century skills, and that well-designed facilities (e.g. encouraging group work and efficient use of Information and Communications Technology (ICT) solutions have the potential to increase attendance and quality of education simultaneously.[38] Climate-related risks to the education sector are an additional concern for access to conducive learning environments. Flooding is an imminent threat to school facilities and student learning, attendance, and safety, hence education facilities must be adapted to be resilient against these challenges, and simultaneously be climate neutral through low carbon solutions.

18. **Demand-side factors also impact attendance and enrolment at the secondary level.** Distance to school is cited as a key reason for non-enrollment given high transportation costs and risks to children associated with long commutes. These challenges are exacerbated for students with disabilities, for whom financial and transport issues were cited as the most serious challenges, ahead of finding accommodating schools and attitudes of other students.[39] Following the pandemic and the extensive closure of the Guyanese economy, additional demand-side factors, such as declining household income, could adversely impact student attendance and return to school. This is especially concerning given the already high dropout rates at the secondary level, specifically for boys, who may be under larger pressure to provide for their families. Socioemotional issues may also play a role in return to schooling, increasing the need for counselling and student support. The limited demand for education is further negatively impacted by the poor quality and limited relevance of secondary education and vocational training. Combined with the high costs associated with education for households, the low efficiency of schooling directly impacts the retention of students. In rural areas, parental perception of low quality of education negatively impacts the decision to send their children to school. In order to reach access targets, it is thus critical to invest concurrently in improving the quality of service delivery, while also improving school facilities.[40]

19. **National assessments bear out similarly low levels of learning across the education system.** In particular, math scores upon entry to the secondary level are low across Guyana. In the 2019 National

[36] Barrett et. al. 2019. The Impact of School Infrastructure on Learning: A Synthesis of the Evidence.
[37] This increase is partly due to the absorption of secondary students previously enrolled in SDs.
[38] Shmis et.al. 2021. New Skills for New Century: Informing Regional Policy. World Bank, Washington, DC.
[39] Guyana Out of School Children Study - September 2017, UNICEF
[40] Guyana Out of School Children Study - September 2017, UNICEF

Grade Six Assessment, only 44 percent of girls and 37 percent of boys attained a passing grade in mathematics. This poor performance persists through secondary, with 2018 CSEC grade 11 exam results showing 49 percent of girls and 52 percent of boys attaining a passing grade in mathematics.[41] Overall, only around 50 percent of secondary school students in Guyana pass the CSEC.

20. **A large proportion of teachers are unqualified or untrained,[42] and the availability and relevance of learning materials are limited**.[43] In a nationally representative study at the primary level, the Teach classroom observation tool[44] found that while teachers in Guyana spent 91 percent of classroom time actively teaching or providing a learning activity, only 7 percent of teachers met standards in instructional practices.[45] Further, whilst the national student-teacher-ratio (STR) is relatively low,[46] there is a significantly higher regional inequity of trained teachers.[47] Having fewer trained teachers where they are needed most is both inefficient and inequitable, and likely contributes to the gap between rural and coastal education outcomes. The MOE makes substantial investments to ensure that textbooks are aligned with the curricula and available in the classroom, but significant gaps remain. For instance, only 48 percent of all schools receive textbooks on time, and this figure drops to 30 percent for schools in the hinterlands.

21. **Learning outcomes may weaken further due to the outbreak of COVID-19 and its disruptions to the education system.** Between March 2020 and January 2022, schools in Guyana were closed or mostly closed 73 percent of the number of school days (280 school days),.[48] The government has implemented activities designed to support hybrid education, including support to home-based learning through online technology, television, radio, and print materials, as well as continued support to ongoing reforms with longer-term implications, such as the implementation of the new curriculum and management of the school system.[49] Nonetheless, schooling and learning outcomes have been significantly impacted, including attendance rates. Whilst actual evidence on learning losses is scarce, simulations indicate that Guyana risks losing 1.6 LAYS following a 13-month school closure from a baseline of 6.8.[50] The impact of the pandemic and subsequent school closures threaten past gains in access and learning at all levels of education, while also heightening the risk of students dropping out or refusing to return. The Bank is supporting the government's efforts to recover learning under its three ongoing projects, the Guyana Education Sector Improvement Project (GESIP, P159519), the Guyana Education Sector Program Project (GESPP, P174244), and Guyana Secondary Education Improvement Project (GSEIP, P147924) through a consolidation of the curriculum and piloting of EdTech initiatives, with the intention to support teaching at the level of the student following school closures.

[41] MOE, Guyana
[42] Average of 27.6 percent of untrained teachers for Nursery, Primary and Secondary. Guyana PER.
[43] Guyana ESP, p. 64-65
[44] Teach is a classroom observation tool that provides a snapshot of both teachers' time use and the presence or absence of behaviors shown by research to be associated with student learning. Molina et al. 2018.
[45] Such as checking students' understanding, providing feedback, and engaging them in critical thinking.
[46] From 15 and up to 24 in some rural regions
[47] Guyana Public Expenditure Review 2021 – Data on STR from 2016 or latest.
[48] World Bank, 2022. (Forthcoming) Acting Now to Protect the Human Capital of Our Children, Two years following the pandemic.
[49] Amongst other efforts, GOG has embarked on a project responding to COVID-19 (GPE financed), managed by UNICEF, supporting continuity of learning; psychosocial support; and return to school in safe, protective learning environments. The Bank and UNICEF will collaborate to ensure complementarity of interventions, particularly on learning continuity.
[50] World Bank. 2021. Acting Now to Protect the Human Capital of Our Children: The Costs of and Response to COVID-19 Pandemic's Impact on the Education Sector in Latin America and the Caribbean. World Bank, Washington, DC

Key challenges in the TVET sector

22. **Several key challenges impact the TVET sector's effectiveness and ability to equip graduates with labor market-relevant competences.** A recent diagnostic study of the TVET sector[51] identified the following constraints as major bottlenecks to delivering labor market-relevant skills: (i) the fragmented institutional setting and a weak coordination among different TVET providers; (ii) the absence of an updated strategy and plan to set the direction for the TVET sector's development towards the needs of the new economy; (iii) the shortage of administrative TVET data (the system mostly uses anecdotal information on skills in demand and the employability of graduates), the absence of accessible information for the user (including students and employers) and a negative public perception of TVET; (iv) the insufficient involvement of private companies in the development of the sector; (v) the shortage of qualified TVET teachers and instructors; and (vi) the insufficient resources and availability of up-to-date equipment and learning material.

23. **The TVET sector is marked by a fragmented institutional setting and weak coordination among different TVET providers.** The delivery of TVET falls under the responsibility of the MOE but involves an array of stakeholders given its linkages to the labor market. The Council for TVET (CTVET), established in 2004, reports both to the CTVET Board of Governors and the MOE, and plays an important role in ensuring the quality of TVET programs and that available offerings suit Guyana's development needs. To do so, CTVET collaborates closely with the private sector and industry and other stakeholders through a monthly Board meeting. However, it has been challenging to engage private sector representatives given their perceived limited influence on the development of the TVET system, resulting in limited involvement as well as difficulty finding internship opportunities and work attachments for students.[52] While the CTVET is mandated with coordinating and supervising public TVET under the MOE, it has no mandate for TVET programs under other ministries or the wide range of private and non-formal skills programs.

24. **The TVET sector is governed by the 2011-2021 "Policy on Technical and Vocational Education and Training", which needs to be updated to set the direction for the sector's development towards the needs of the new economy.** The current labor market relevance of the skills that graduates develop is limited. A lack of emphasis on the use of technology and mathematics in the secondary school sector leaves the young workforce unprepared for employment, particularly for the emerging oil and gas sector. There is also limited engagement with the private sector, which adversely impacts both the quality and relevance of course offerings in technical institutes, and ultimately negatively affects the alignment of skills development with labor market needs.

25. **There is a shortage of administrative TVET data, an absence of accessible information for users, and a negative public perception of TVET.** Availability of and access to information is limited in the TVET sector and this poses challenges for efficient monitoring of its performance, as well as for decision-making by stakeholders and beneficiaries. There is no recent labor market survey that can adequately inform the degree of skills mismatch in Guyana. There is also a general shortage of aggregated data on enrollment

[51] Working paper, World Bank 2022

[52] The TVET sector also involves the National Accreditation Council, which advises on the recognition of education and training institutions; the Ministry of Labor, which focuses on the rehabilitation of children, women, families, and the elderly and provides training and social and welfare services/programs to disadvantaged persons; and the Board of Industrial Training, under the Ministry of Labor, which plays a key role in rolling out the apprenticeship system in Guyana.

and graduation within different occupational streams, as well as on completion, dropout, and repetition rates. The ongoing efforts to establish a state-of-the-art Education Management Information System (EMIS), supported under GESPP (P174244), provides an opportunity to integrate TVET data in the national EMIS. Furthermore, no current data is available on the qualifications of post-secondary TVET teaching staff and the capacity utilization by the different TVET institutions, nor is there easily available information on course offerings for students.[53] This general lack of information contributes to the poor perception of the TVET sector as an attractive option.

26. The TVET sector in Guyana is marked by a shortage of qualified TVET teachers and instructors. A 2004 survey of the TVET sector[54] found that a high percentage of trainers were deficient in technical and pedagogical skills. The findings also indicated that pre-deployment technical training offered at the Government Technical Institute and CPCE did not adequately equip trainers with the requisite skills to improve learning at the TVET level. Furthermore, most teachers and instructors are unable to refresh their practical skills regularly. Finally, the general attitude towards TVET is negative; low salaries and competing offers from the private sector in and out of the country complicates staffing of TVET institutions.

27. **An additional bottleneck in Guyana's TVET sector is the insufficient resources and availability of up-to-date equipment and learning material.** The TVET level operates with limited resources.[55] Each TVET institution receives a budgetary allocation from the MOE for teaching, learning, and training materials under the field materials and supplies line item. However, while workshops and TVET classrooms are regularly upgraded, they are generally behind current trends in educational delivery worldwide.[56] The sub-sector experiences a shortage of training materials (such as hand tools, workshop equipment, textbooks, and audio-visual equipment) and most of the facilities are rundown. While civil works have been undertaken in the sector, they have not been sufficient to adequately improve the learning environment.

C. Relevance to Higher Level Objectives

28. **The proposed Project directly supports one of the three objectives of the World Bank Group's Country Engagement Note 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," aiming to focus World Bank assistance on the development of human resources and capacity for more effective teaching and learning throughout the school system in Guyana. The Systematic Country Diagnostic, presented to the Board on November 25, 2020, (Report No. 135127-GY), also highlighted low levels of human capital and education quality as key challenges for inclusive growth and poverty reduction in Guyana. The proposed Project would support the shared vision of education quality improvement at all levels, which is a necessary precursor to inclusive economic growth. Thus, the Project would contribute to the government's efforts to reduce poverty and increase shared prosperity for the population by investing in human capital. In addition, the activities remain a

[53] Post-secondary TVET institutions advertise their programs annually in printed media (newspapers), through social media platforms, and on television, and only a few institutions have developed websites.
[54] By the Caribbean Development Bank
[55] See para 12 above
[56] World Bank 2021, Guyana TVET diagnostic study

priority in the World Bank's Learning for All Education Strategy 2020,[57] and the World Bank Group's FY23-26 Country Partnership Framework for Guyana (Report No. 168273-GY, under preparation), and the World Bank Green, Resilient and Inclusive Development (GRID) approach.

29. **The Project design is aligned with the Guyana ESP 2021-2025**.[58] The ESP sets five priorities: (i) improving governance and accountability; (ii) improving performance at all levels; (iii) improving the efficiency of the education system; (iv) reducing inequities in education; and (v) contributing to lifelong learning and employability. The Project will support the government in achieving these goals by focusing on expanding access to quality education at the secondary level, as well as on improving labor market-appropriate skills through investments in technical and vocational training. Advancing these goals would improve overall education performance, as the Project would target vulnerable students to reduce inequities, all of which would contribute to lifelong learning and employability for all. Table 1 below outlines the alignment between the Project and the relevant ESP objectives.

Table 1: Guyana Strengthening Human Capital through Education (HCP) alignment with ESP 2021-2025

Project Component	ESP Objective	Alignment
Component 1: Improve Service Delivery and Enhance the Learning Environment at the Secondary Level	**Intermediate outcome 2:** Improving performance on all levels	Component 1 is aligned with the ESP objective through teacher training on the new curriculum, provision of mentoring and coaching of teachers at the secondary level, which would improve quality teaching and learning. Subcomponent 1.2 will focus on provision of learning-centered school facilities, which is critical to improve performance.
	Program 4.1: To ensure equitable distribution of education resources and delivery across education districts with specific emphasis on hinterland/riverine areas	Component 1 is aligned with the program under the ESP by expanding access to secondary education through the construction of GSS in underserved areas, which is informed by needs identified in the school mapping exercise and subsequent education facilities strategy. The Project will contribute to the reduction of inequalities between regions, a core objective of the ESP. The component will also finance teacher training and textbooks, which will be adapted to ensure equitable distribution.
Component 2: Strengthen Skills Development and Technical and Vocational Training.	**Program 2.4:** To ensure secondary school graduates possess matriculation stats and obtain a skills certificate (National/Caribbean)	Component 2 will support the development of a new TVET sector policy to guide the long-term development of the sub-sector and ultimately improve the quality, access, and relevance of technical training in Guyana.
	Intermediate Outcome 5: Contributing to lifelong learning and employability (all programs)	Component 2 will finance activities to strengthen the enabling environment for the TVET sector, as well as to improve skills development and TVET offerings. The activities will increase gender inclusivity and inclusion of persons with disabilities

[57] World Bank. (2011). Learning for all: Investing in people's knowledge and skills to promote development. World Bank Group Education Strategy 2020.
[58] Finalized on November 20, 2020.

		across the TVET sector, include climate considerations such as climate friendly and green jobs training, and provide equipment to select pilot schools.
Cross-cutting issues throughout the Project: Climate change mitigation and adaptation	The ESP refers to climate change and the adverse impact of potential school flooding on school infrastructure, as well as the need for adaptation	The Project will improve climate change adaptation and reduce observed vulnerabilities to climate-related risks, as well as address climate change through the development of an education facilities strategy and subsequent construction of schools that consider identified risks and incorporate efficient energy use. The Project will also ensure the inclusion of climate awareness in training modules and teaching practices.

30. **The Project is also aligned with ongoing COVID-19 efforts, including the Public Education COVID-19 Response and Recovery document**.[59] This document focuses on continuity of learning for all children through online and non-online modalities, depending on the context of the child. The Project will contribute to learning continuity and recovery in secondary education through the provision of teacher training for grades 7-9, including student-centered pedagogy and formative assessment to inform differentiated learning. It would also address demand-driven challenges to access, including the establishment of an Early Warning System (EWS) to help teachers and principals identify and support students at risk of dropping out. The Project is designed to be adaptable to both fully distant and hybrid models, as well as to face-to-face learning. The schools constructed will also be designed to be equipped for future pandemics, including adequate airflow and sanitation stations. Finally, the TVET components will include transferrable skills to equip students for a changing labor force, including digital competency skills, which are particularly useful in this context.

31. **The Project is aligned with previous and ongoing Bank projects in Guyana.** The Bank has a long-term engagement in the education sector in Guyana, and the projects build on each other towards Guyana's education objectives, as outlined in the ESP 2021-25. The three ongoing projects[60] support all levels of education, from nursery to secondary, in a lifecycle approach to education that balances addressing both access and quality challenges. The Project will support the larger curriculum reform and revision across all grade levels in Guyana, currently undertaken by the government supported by the GESIP (P159519). The GESPP (P174244) supports the curriculum rollout through teacher training at the nursery level, and this Project will support teacher training on the new curriculum for grades 7-9 as part of the larger secondary reform agenda. The GESIP and GESPP use the Teach classroom observation tool at the primary and nursery levels, respectively, and this Project will extend implementation to the secondary level to adequately measure improvement in teaching practices and enable targeted support to teachers. The GSEIP (P147924) undertakes the construction of three GSS, and lessons learnt from the process will inform the education facilities strategy and school construction under this Project. The three ongoing projects and the Education Public Expenditure Review (P172215), finalized during the second quarter of 2021, have informed the overall design and focus on teacher training and support, expanding access, and improving the learning environment at the secondary level, as well as on skills development.

[59] MOE, 2020

[60] Guyana Secondary Education Improvement Project (GSEIP) (P147924), Guyana Education Sector Improvement Project (GESIP) (P159519), Guyana Education Sector Program Project (GESPP) (P174244). More detailed lessons learnt from the ongoing Projects can be found in section *F. Lessons Learned and Reflected in the Project Design.*

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

32. The Project Development Objective (PDO) is to improve: (i) access and learning conditions in secondary education; and (ii) access to technical and vocational education and training aligned with identified labor market needs.

PDO Level Indicators

33. **The following key indicators are proposed for the Project:**

i. Share of secondary school teachers meeting standards in student-centered teaching practices (text)
ii. Improved survival rate to grade 9 (percentage - disaggregated by sex)
iii. Students enrolled in enhanced General Secondary Schools [61] (number - disaggregated by sex)
iv. Youths completing a new or enhanced TVET program in priority sectors (number - disaggregated by sex)[62]

34. The data to monitor PDO Indicator 1 would be collected through the classroom observation tool Teach, based on standards as agreed with the government. For the second and third PDO Indicators, monitoring would be undertaken by using enrollment figures as collected and reported by the MOE. The CTVET would report on the data required to monitor and report progress against PDO Indicator 4 on enhanced TVET certifications.

B. Project Components

35. **The proposed Project would support the government's secondary education and TVET reform agenda and its objective of achieving both universal secondary education and increased provision of labor market relevant skills.** The Project would support different trajectories and modalities of obtaining an education by incorporating interventions addressing constraints related to access, quality, and relevance to help youth in Guyana reach their full potential and participate productively in the labor market. The Project would achieve its development objective through the implementation of four components.

[61] An enhanced GSS is defined as a new or renovated school with an improved learning environment, including learning-centered design, inclusive and disability friendly layout, gender related risk considerations, climate risk resilient facilities, sustainable energy use, and adequate connectivity needs. The minimum quality standard for an enhanced GSS will be defined in the education facilities strategy.
[62] Enhanced TVET certification is defined and consist of i) a recognized and competency-based skills qualification (e.g., Caribbean Vocation Qualification CVQ) in a selected sector, i.e., an economic sector identified as a priority through a labor market needs assessment or by MOE in collaboration with CTVET; and ii) apprenticeship or employability training if not included in the accreditation.

36. **Component 1: Improve Service Delivery and Enhance the Learning Environment at the Secondary Level (estimated US$35 million).** Component 1 will support the larger secondary education reform agenda in Guyana by helping improve education service delivery through teacher and principal capacity building, provision of textbooks, and targeted interventions addressing capacity and demand-side challenges to access and retention. It will also support the expansion of access and improvement of the learning environment through the development of an Education Facilities Strategy and the construction of key identified GSS.

37. **Subcomponent 1.1: Improving Service Delivery to Support Student Retention and Learning at the Secondary Level (estimated US$12 million).** Subcomponent 1.1 would finance targeted interventions to improve service delivery at the secondary level. Activities will include: (i) teacher training on the new curriculum for grades 7-9 with targeted mathematics training, including teacher coaching and mentoring, and the development and implementation of an instructional leadership and managerial program for principals; (ii) financing of learning materials and purchasing of textbooks on the MOE Secondary textbook list to support the rollout of the new curriculum for grades 7-9 and the urgent need for learning recovery following the pandemic for grades 10-11; and (iii) targeted interventions to address capacity and demand-side challenges to support student retention and access.

38. **The interventions to support teachers under activity (i) will be closely aligned with GESIP.** GESIP is supporting the development of the new curriculum for all grades (nursery to grade 9), and financing teacher training on the new curriculum up to Grade 6.[63] This Project will finance the training for Grades 7-9.[64] The teacher training would be adapted to the COVID-19 context and emphasize student-centered pedagogies, differentiated instruction, including for students with disabilities, to support teaching at the right level, and digital skills. The new curriculum also emphasizes environmental stewardship and climate change,[65] integrated into social studies and science for grades 7 and 9, which will be included in the teacher training (see Annex 4 for detailed climate actions). The teacher training on the new enhanced curriculum will also incorporate STEM subjects, including mathematics and science to support the foundation of critical skills relevant to the evolving labor market. Based on the health situation, this content would be delivered face-to-face through regional hubs, as well as online, by CD-ROM, or by other methods provided by traveling inspectors to ensure that teachers without internet connectivity can access the content. The teacher training for secondary-level teachers will be assessed through the Teach classroom observation tool. Teach will be adapted to the Guyanese context, will be used to establish a baseline for teaching practices before the teacher training on the new curriculum, and will be

[63] As of April 2022, the curriculum has been revised for Grades 1-6 under GESIP. In the current school year, 2021/2022, the new curriculum is being piloted in 112 schools for Grade 1-4 and national rollout is planned for 2022-23. The pilot for Grade 5-6 is planned for 2022-23, with national roll out in 2023-24. The curriculum for grade 7-9 is expected to be completed by end 2022. This Project will support the piloting and national roll out of the new curriculum for Grade 7-9, with plans to pilot and roll out concurrently with the piloting and roll out for grade 5-6 in year 2022/23 and 2023/24 respectively.

[64] Methodology will follow current approach in GESIP, with master trainers trained who then train the teachers. Master trainers may include existing civil servants and will be compensated with a daily stipend for this additional work as specified in a signed agreement with the MOE.

[65] The inclusion of climate change in the new curriculum focuses on raising awareness of the causes and the impact of climate change, as well adaptation to related risks. Students will learn about the impacts of global warning in Guyana and other development countries, as well as how behavioral change and conservation efforts can mitigate/prevent the effects of global warming.

incorporated into regular school-based supervision. The Bank would provide technical support and training for the validation and implementation of these tools.

39. **The Project would also finance the development of a coaching and mentoring program for teachers to support continuous professional development (CPD)**. The trainers who teach the curriculum course will visit each teacher in their classroom twice per year to provide individual space to trouble-shoot any issues that the teacher may be experiencing when putting the training into practice. Finally, the subcomponent would support the development and implementation of an instructional and culturally responsive leadership and managerial training for principals. The program will be developed by a consultant in close coordination with MOE and National Center for Education Resources Development (NCERD), and delivered through synchronous and asynchronous modalities, as well as in-person workshops. The Project will finance teacher training, technical assistance and other costs associated with these activities.

40. **Under activity (ii), the Project would finance textbooks for grades 7-11 to support the rollout of the new curriculum and the urgent need for learning recovery following the pandemic**. The MOE has developed a costed list of existing textbooks in line with the renewed curriculum and Caribbean Examinations Council (CXC) requirements. Distribution of the textbooks will be undertaken through the Ministry's existing channels. The MOE will procure and distribute the textbooks to the regional education offices that will, in turn, ensure that the textbooks are delivered on time at the school level.[66] The teacher training on the curriculum will include training on how to efficiently utilize and incorporate the textbooks in teaching and in the classroom.

41. **To ensure that school staff are equipped to support students' return to school and that demand-side challenges are considered**, activity (iii) would finance: (a) the establishment of an EWS to combat dropout at the secondary level and associated interventions to support student retention, including the provision of student counselling and guidance; and (b) re-enrollment and information campaigns at the community level focusing on the returns to and benefits of education to encourage students that have left the education system to return and to promote retention. The EWS and associated training will place emphasis on the end of lower secondary education (grade 8 and 9) in order to reduce dropouts at this critical junction. In addition to establishment of the system, teachers will be trained to respond once a student has been identified as at risk, through socioemotional counselling and academic support. In schools without counselors, existing liaison teachers will be trained in this role, so that there is at least one resource for student counselling at each institution. These efforts are complementary to government interventions to address demand side challenges to access, such as the *Because We Care* cash grant to all parents of children attending school to meet expenses associated with their child's attendance.[67] The MOE, with support of UNICEF, is currently preparing to undertake a study on the causes of the large drop in secondary enrollment between 2014 and 2018, to identify the specific drivers of challenges to access and student dropout, including specific causes by gender and geographic location. The study is expected to be finalized by October 2022 and will be utilized to improve targeting of activities under the Project. The Project will finance a study to understand the impact of the pandemic on learning and schooling losses, and to assess the impact of the educational interventions to recover losses and to further inform

[66] Textbooks can also be procured and distributed in virtual format where possible.

[67] Ministry of Education, Guyana. *https://education.gov.gy/en/index.php/more/because-we-care/4613-because-we-care-cash-grant-increased-to-25-000-per-child*

targeted interventions. The Project will finance technical assistance, capacity building, and other costs associated with these activities.

42. **The Project investments under subcomponent 1.1 are designed to close enrollment gaps between boys and girls at the secondary level and encourage enrollment in GSS.** Communication campaigns related to attending school will include information on the average wage returns to secondary education in Guyana. International evidence indicates that this type of information intervention can be a low-cost and cost-effective incentive for students to attend school and can appeal to boys in particular. This is particularly important in the post-pandemic context where more students are at risk of not returning to school or of dropping out. The interventions will be targeted to regions with the largest gender gap in survival rates and will be designed to take into consideration the regional contexts. To monitor progress in closing the enrollment gap among secondary students, PDO Indicator 3 on enrollment in GSS will be disaggregated by sex. Dropout and survival rates are also gender skewed, with more boys affected nationally and in most of the regions, and girls in other regions of the country. The Project will support student retention through the defined activities, which would aim at reducing overall dropout and closing the gender gap, impacting more boys or girls depending on region. This effort will be monitored through PDO indicator 2: Improved survival rate to grade 9, disaggregated by sex. Specifically, the progress on closing the identified gender gap at regional level will be monitored through the Intermediate Results Indicator (IRI): Number of regions reaching gender parity[68] in survival rates to grade 9 (Number).

43. **Subcomponent 1.2: Developing an Education Facilities Strategy for Secondary Education and Support to Selected GSS (estimated US$23 million).** Subcomponent 1.2 would finance the development of a strategy to optimize the school network. The strategy would include the development of criteria and an evidence-based mechanism to identify school facility construction and renovation needs across the country. The strategy would serve as a tool for the government to design an optimal school network equipped to support human capital development in Guyana. The strategy would also incorporate key standards and criteria for school facilities, aligned with international best practices, and include requirements for learning-centered design, climate risk resilient facilities, energy efficiency, water efficiency,[69] and addressing connectivity needs, and would include a financing mechanism to identify funding needs for construction and maintenance. Improving the learning environment at the secondary level would increase access to education. Moreover, evidence indicates that quality school infrastructure and learning environment is critical for developing 21st century skills (critical thinking, and socioemotional and digital skills). As such, school facilities will be designed to (i) encourage team and group work; (ii) have adequate physical characteristics (air quality, temperature, visual clarity and comfort); (iii) efficiently utilize and have ICT solutions; and (iv) be safe and inclusive.[70] The appropriate utilization of the improved learning environment will be included in teacher training and in the school facilities strategy. The activity would be aligned with and build on the ongoing school mapping exercise undertaken by the MOE in collaboration with the Inter-American Development Bank (IADB) and UNICEF. The Project will finance technical assistance and other selected costs associated with the drafting of the strategy, including potential consultation and validation processes.

[68] Gender parity is considered achieved within 0.98 and 1.02
[69] Incorporating water efficient technologies such as rain capture or water-efficient latrines.
[70] Shmis et.al. 2021. New Skills for New Century: Informing Regional Policy. World Bank, Washington, DC.

44. **The subcomponent would also finance the design and construction or renovation of key selected GSS in Guyana, which will be identified through the ongoing school mapping by the MOE.** The schools would be built in underserved areas in the West Demerara and regions 4, 5, 6 and 10. The initial school mapping would identify the specific geographic locations where new/renovated schools are needed to address immediate access and quality constraints for secondary level education. This would include information on overcrowding in existing GSS, secondary students enrolled in primary tops, the development of new housing areas, and other demographic shifts. In areas with many secondary level students enrolled in SDs, provision of adequate school facilities would allow more students, with a specific emphasis on boys, to enroll in and complete secondary education. The construction under the Project would also include the extension of connectivity and internet access to GSS financed under the Project. The connectivity intervention will be captured in the Strategy and piloted in the schools constructed under this Project. Based on current school construction costs in Guyana, the funding envelope for the construction and renovation activities would tentatively cover six schools (pending precise scope and location). The Project will finance design, supervision and construction or renovation works as well as equipment and furniture, and other selected costs associated with the construction process.

45. **The GSS will incorporate climate change considerations, based on the assessment of risks, and be built above the flood line and with additional flood defense mechanisms to improve resilience, such as improved site drainage.** The facilities will also be built in locations, and with material and design, that can withstand natural disasters, flooding, and storms. This is particularly relevant in the coastal areas that experience more frequent flooding, and where school facilities will be designed to protect major equipment, to allow continued education delivery during power outages and to serve as shelter-in-place in case of heavy rainstorms and other climate induced hazards. In line with the above-mentioned strategy, all GSS would be constructed with considerations of gender, inclusion, and climate-smart adaptations, in line with regional and national standards and the World Bank GRID approach to ensure a safe and green education sector and conducive learning environment. In addition, all GSS will be designed to incorporate energy efficiency measures, such as natural ventilation and energy-efficient lighting[71] in support of the country's climate change mitigation actions. Schools constructed in areas with limited access to electricity or not connected to the grid will have renewable energy power generation solutions. Emergency response plans responding specifically to climate induced natural disasters will be developed and implemented, in line with school protocols and in a participatory manner with inputs from vulnerable groups that will, in turn, increase preparedness to natural disasters induced by climate change. This will be measured through the Climate IRI: Classrooms built or rehabilitated according to climate-resilient design standards (Number).

46. **The Project will also incorporate gender and disability friendly design considerations in the construction of schools.** This is especially relevant for the construction and design of washrooms, which would be adequately separated for boys and girls. The Project will also consider the risk of Gender-Based Violence (GBV) in the context of the civil works, to be informed by the characteristic of selected sites (i.e., labor influx considerations). The worker's Code of Conduct includes non-discrimination and harassment clauses, which are reinforced with on-site training, and the environmental management plan will include GBV considerations. The overarching policy of the government, as stated in the 2021-2025 ESP, is to cater for students with disabilities in mainstream schools. Although comprehensive data is lacking, a sample survey in five regions (2, 3, 5,6 and 10) undertaken by the National Commission on Disability indicated

[71] Including using LED-light bulbs and motion-sensor light switches.

that fewer than 20 percent of persons with disabilities attend secondary school. Among others, physical access was cited as one of the challenges. To ensure that the school buildings constructed are inclusive of persons with mobility disabilities, all travel surfaces will be wheelchair accessible, elevators will be installed to ensure access to both floors, and accessible washrooms will be located on both floors. Inclusiveness will be monitored through IRI: Schools built or rehabilitated according to minimum quality standards (Number), where the minimum standard will include criteria for both inclusiveness and climate. Citizens will be engaged during community consultations including persons with disabilities and women's groups, and their inputs will help shape the gender and disability design considerations for school construction. Grievance mechanisms will be established during the construction phase where complaints or queries can be received and addressed by the contractor or MOE as appropriate.

47. **Component 2: Strengthen Skills Development and Technical and Vocational Training (estimated US$7 million).** This component aims to increase the provision of labor market-relevant skills in Guyana by strengthening the enabling environment for TVET, as well as supporting the improvement of labor-market relevant TVET offerings. Subcomponent 2.1 will address TVET system-level challenges and subcomponent 2.2 will focus on the quality and relevance of TVET offerings in secondary vocational schools and post-secondary TVET institutions.

48. **Subcomponent 2.1: Strengthening the Enabling Environment and Information System for TVET (estimated US$2 million).** This subcomponent will have six interrelated focus areas aiming at improving the TVET sector governance and delivery. The subcomponent will support the development of a new TVET sector policy, replacing the TVET Policy for 2011-2021, and strengthening the role of CTVET in the TVET sector. To ensure these efforts reflect the conditions of the labor market and the needs of the TVET sector, the subcomponent will aim to increase overall access and availability of timely and relevant information for stakeholders' and beneficiaries' decision making. The TVET sector policy will incorporate a strong focus on the inclusion of gender and of persons with disabilities, as well as integrated climate considerations, such as climate friendly and green jobs training (see Annex 4 for detailed climate actions).

49. **The new TVET sector policy for 2022-2032 will be prepared under MOE and CTVET leadership**. The new policy will identify specific, prioritized goals and targets for TVET development, including strengthening apprenticeship as a means of skills acquisition including for upskilling of current workers. By supporting the preparation of a new TVET sector policy, the Project will assist the government to set the direction for the medium to the long-term development of the sector, which, in turn, will improve the quality, access and relevance of TVET in the country. In alignment with the ESP, the Project will identify ways to include climate awareness, green skills,[72] and digital literacy as part of the training modules and teaching practices. Further, the Policy will ensure alignment with the Caribbean Community strategy and qualification framework. The Project will finance technical assistance and other selected costs associated with the drafting of the Policy, including potential consultation and validation processes. At the latest, the new TVET sector policy is expected to be approved by the MOE during the second year of the Project implementation.

50. **This subcomponent would strengthen the role of the Council for TVET as the coordinating body of TVET provision in Guyana**. The CTVET already plays an important role in coordinating the activities of

[72] Developed modules and accompanied teacher trainings will be designed to introduce students to the concepts of both the "green" economy and how developing "green" skills can benefit them in the labor market and subsequent careers.

public secondary vocational schools and public TVET institutions under the MOE. However, its mandate does not include private secondary schools and TVET institutions under other ministries. An important element of the support to the CTVET will be the strengthening of its interaction with the private sector. The Project will finance stakeholder consultations, technical assistance to adjust the existing legislation and governance structure, and capacity building for CTVET staff. The Project will finance a capacity assessment of the CTVET, which will inform a plan to strengthen its role, including identifying key stakeholder and staff development needs. The assessment and plan will in turn inform the development of regulations to support implementation of the CTVET Act.

51. **To better inform priorities for skills provision, a rapid labor market survey[73] will be prepared to gauge the private and public sectors' demand for technical and non-technical skills**. To keep the survey nimble, it will focus on key priority economic sectors by using a sample of enterprises. The Project will finance training for relevant staff, technical assistance, and costs associated with the surveys, including stakeholder engagement and in-person interviews. The survey results will help set the priorities for subcomponent 2.2, including the identification of priority sectors for intervention, and will be undertaken in the first phase of the Project (with results expected no later than 6 months after effectiveness) and repeated during the third year of Project implementation.

52. **To provide information on the labor market relevance of the available secondary and post-secondary education and training, tracer studies on graduates from different streams of secondary vocational schools and TVET institutions will be undertaken.** The studies will comprise a representative sample of graduates and will draw on existing user-friendly tracer methodologies. To ensure that the interventions are relevant and sustainable, the CTVET will be the focal point for the labor market survey and the tracer studies. In order to prepare for future follow-up surveys, the Project will systematically involve the CTVET and MOE staff in the activities. Further, the Project will finance technical assistance for relevant MOE and CTVET staff in the design, implementation and analysis of similar surveys, and studies to ensure sustainability and continuous usage of the tools. Like the rapid labor market survey, the studies will be conducted in the first phase of implementation, as the results will help establish the priorities for subcomponent 2.2.

53. **The Project will support the establishment of a TVET-Management Information System (MIS) as a supplement to the EMIS currently being developed by the MOE and supported under GESPP in collaboration with UNESCO.** The TVET-MIS would provide information on enrollment and graduation for different TVET streams to improve informed decision-making in the sector. The MIS would further include information and data on the number of teachers and their qualifications for each school and TVET institution, class size, pass and dropout rates, student/teacher ratios, and school/institution facilities. The TVET-MIS would be integrated and harmonized with the EMIS to improve overall sector decision-making.

54. **This subcomponent will also support the development of an integrated digital platform, linked to the EMIS, for information on training opportunities.** To increase availability of information on TVET programs, a digital platform (portal) providing updated information on training opportunities to all stakeholders, including students and employers, will allow youth to make more informed decisions for their future. The Project will finance the development of a portal providing information on topics such as different post-primary and post-secondary education streams, entry requirements, the possibility of

[73] The Training Provider Assessment (TPA) instrument will be considered as an option to inform surveys to be financed under the Project.

obtaining stipends, guidance on how to make career decisions, and, for graduates, tips on how to write a resume and cover letter and job search and interview techniques. The platform will also aim to change the perception of the TVET sector among the youth and increase its attractiveness. The findings from the tracer studies and labor market surveys would be integrated into the platform, enabling a more comprehensive understanding of the quality of the TVET sector and employment opportunities. The portal will be linked with the EMIS and will be hosted and maintained by the MOE.

55. **Subcomponent 2.2: Improving Skills Development and TVET offerings at the Secondary and Post-Secondary Levels (estimated US$5 million).** Building on the labor market analysis and the tracer survey results to be undertaken early in the Project's implementation, this subcomponent will aim at expanding access to quality, labor market relevant TVET offerings in secondary schools and selected post-secondary TVET institutions. The subcomponent will have four focus areas: (i) update the curriculum of existing course offerings at the secondary level, including the delivery methodology; (ii) professional development for secondary level TVET teachers and trainers, including digital and socioemotional skills; (iii) development of new post-secondary TVET programs within occupational areas identified as experiencing a shortage of qualified staff by the labor market survey; and (iv) support for post-secondary TVET students to undertake internships/industry attachments.

56. **This subcomponent will support an update of the curriculum of selected existing TVET course offerings at the secondary level, including means of delivery.** The Project will support updating of selected curricula and TVET offerings for secondary schools providing the SCCP and CVQ curricula and the update of related teaching and learning material. Examples of possible new subjects to be provided include ICT and coding, electronics, and sustainable agriculture and food production. Furthermore, existing TVET offerings will be enhanced with supplemental modules on socioemotional skills (including life skills and entrepreneurship skills) and climate change (through climate screening of offerings)[74] to enhance students' fundamental knowledge and skills in preparation for further studies and future employability. Although several secondary schools have introduced online learning in response to the COVID-19 pandemic, there is considerable potential to further the delivery of online and blended learning. The Project will finance essential materials and software to support the efficient integration of digital tools and technologies for course delivery. CTVET and the National Center of Educational Resources Development (NCERD) will be the main partners for this focus area. Consultation with the industries will be undertaken to ensure the alignment of curricula with labor market needs.

57. **The Project will support professional development for secondary level TVET teachers and trainers, including digital and socioemotional skills**. Many PICs and secondary school TVET teachers have not had an opportunity to update their competencies since graduation. Further, many teachers are unfamiliar with the opportunities provided by digital technologies such as online and blended learning and smart classrooms. In line with the government's plans for enhancing the competencies of TVET teachers, the Project will finance: (i) a training needs assessment of existing secondary education TVET teachers to be conducted during the inception phase of the Project; (ii) a training program for introduction of new TVET subjects and upgrading digital and socioemotional competencies of existing and future TVET teachers; and (iii) study and exchange visits to other countries in the region for teacher trainers from the

[74] All offerings will be screened to include relevant aspects of climate change mitigation and adaptation to subsequent risks (including the usage of green technology, skills relevant to the green economy, sustainable techniques in for example construction and agriculture and disaster risk management).

CPCE. The Project will finance the development of the training programs, including minor equipment and learning material, as well as the actual training. Other potential areas of support include internships for TVET teachers, sensitivity training for teaching staff, learning materials and EdTech for students with disabilities.

58. **Based on the findings of the rapid labor market survey and the tracer studies, the Project will finance the development and introduction of a limited number of new post-secondary TVET programs in the identified priority sectors.** Tentatively, programs to be developed will relate to areas such as climate resilient agriculture, green construction technologies, and digital technologies, e.g., mechatronics. The CTVET will play a key role in the identification of the new course offerings. The new programs will be piloted by two of the existing public TVET institutions, one located in the coastal area, and one in a rural setting. The support to TVET institutions may include minor rehabilitations of existing facilities and purchase of critical state-of-the art equipment essential for delivering the newly developed programs, curriculum development, and training of relevant teaching staff, including relevant internships. Due to the limited size of the TVET sector in Guyana, twinning arrangements with TVET institutions in other countries, preferably within the region, will be encouraged to make the best use of available resources.

59. **This subcomponent will also finance a pilot for post-secondary students to undertake internships/industry attachments**. While internships and attachments are already part of many TVET programs, it is often difficult for the TVET institutions to find enough enterprises willing to take on interns. Therefore, the Project will, as a pilot, cover selected costs (such as transportation, insurance, and meals) related to the industrial attachment of post-secondary TVET students in priority sectors. An evaluation of this intervention will be undertaken to inform a potential scale-up of the activity.

60. **The Project will monitor and analyze gender gaps in enrollment and/or learning outcomes in the TVET sector.** Activities under subcomponent 2.2 will include specific measures to close gender gaps, such as teacher sensitivity training, a code of conduct for teachers, representation of both genders across the spectrum of training programs, and communications campaigns, among others. Beyond improving the overall information and availability of data for TVET, the gender gap at the TVET level will be measured through PDO Indicator 4: PDO Indicator 4: Youths completing an enhanced secondary or post-secondary TVET program in priority sectors (number - disaggregated by sex).

61. **Component 3: Contingent Emergency Response Component (CERC) (US$0 million).** Due to Guyana's high vulnerability to natural disasters, including those exacerbated by climate change, as well as global vulnerabilities exposed by the current COVID-19 crisis, a CERC component will be included. The CERC is designed as a mechanism for rapid response in the event of an eligible emergency, which can be activated upon request from the government. This component would not have any initial funding allocation but, in the event of an emergency, uncommitted funds could be reallocated from other components in accordance with an Emergency Action Plan prepared by the government and the CERC's implementation modalities.

62. **Component 4: Project Management and Monitoring and Evaluation (estimated US$2.0 million).** Component 4 will support the management of the education system through improved monitoring and evaluation (M&E), as well as overall Project management, including auditing activities and support for compliance with environmental and social standards (ESS). Component 4 will also finance the administration of two participant satisfaction surveys. The first survey would assess teacher satisfaction

with training and coaching under Component 1. The second survey would be administered to TVET teachers and trainers on the professional development and training, with specific emphasis on digital and socioemotional skills. The feedback from the surveys will be taken into account for decision-making and inform implementation improvements during the Project lifetime. The administration of the surveys will be monitored under IRI: Community Engagement: Survey of participant satisfaction administered, and feedback addressed (Text).

C. Project Beneficiaries

63. **Overall Project beneficiaries.** The proposed Project is expected to benefit to at least 60,744 students and 2,128 teachers and principals at the secondary level, and to at least 600 students and 40 TVET trainers in two selected post-secondary institutes.

64. **The main Project beneficiaries under Component 1 would be secondary school-aged students and secondary school teachers and principals in Guyana**. Direct beneficiaries include 2,028 secondary education level teachers and principals that will receive training on the new curriculum, capacity building, leadership training, and tools and learning materials to improve teaching practices. Teacher training and strengthened teaching practices are expected to benefit all 60,744 secondary aged students across the country. Through the inclusion of training and tools aiming to support student retention and learning, as well as the focus on rural areas, the Project is expected to benefit traditionally disadvantaged students along the dimensions of gender, disability, ethnicity, and geography. Following the pandemic, the gap between students based on socioeconomic factors will have increased, and the support to teachers and principals will be critical to ensure that they are well equipped to support students' return to school. Further, the six select GSS to be constructed or renovated under subcomponent 1.2 are planned to be located in underserved areas. This would generate 4,0000 additional or enhanced seats in secondary schools in areas where many students are currently in SDs in primary schools or in inadequate secondary schools, and ultimately benefit underserved students.

65. **The main beneficiaries under Component 2 would be students enrolled in TVET courses in secondary schools and selected post-secondary institutes**. The TVET sector policy to be supported under the Project will enhance the sector and aim to benefit all students enrolled. Under subcomponent 2.1, 140 TVET trainers will benefit from training and capacity building, including socioemotional and digital skills. Subcomponent 2.1 will also include the provision of limited equipment and learning material for secondary TVET in select rural schools with limited resources, benefitting 100 TVET trainers and 3,000 students enrolled in the selected schools. The Project will also directly benefit 600 students and 40 TVET trainers in the two selected post-secondary institutes. Indirect beneficiaries will be private companies and public institutions employing the TVET graduates.

66. **The direct beneficiaries under Component 4 would be the MOE, TVET Council, NCERD, and other relevant agencies that will receive support and capacity building**. Finally, in the long term, the labor market, employers, and the general public would all benefit from the Project's activities.

D. Results Chain

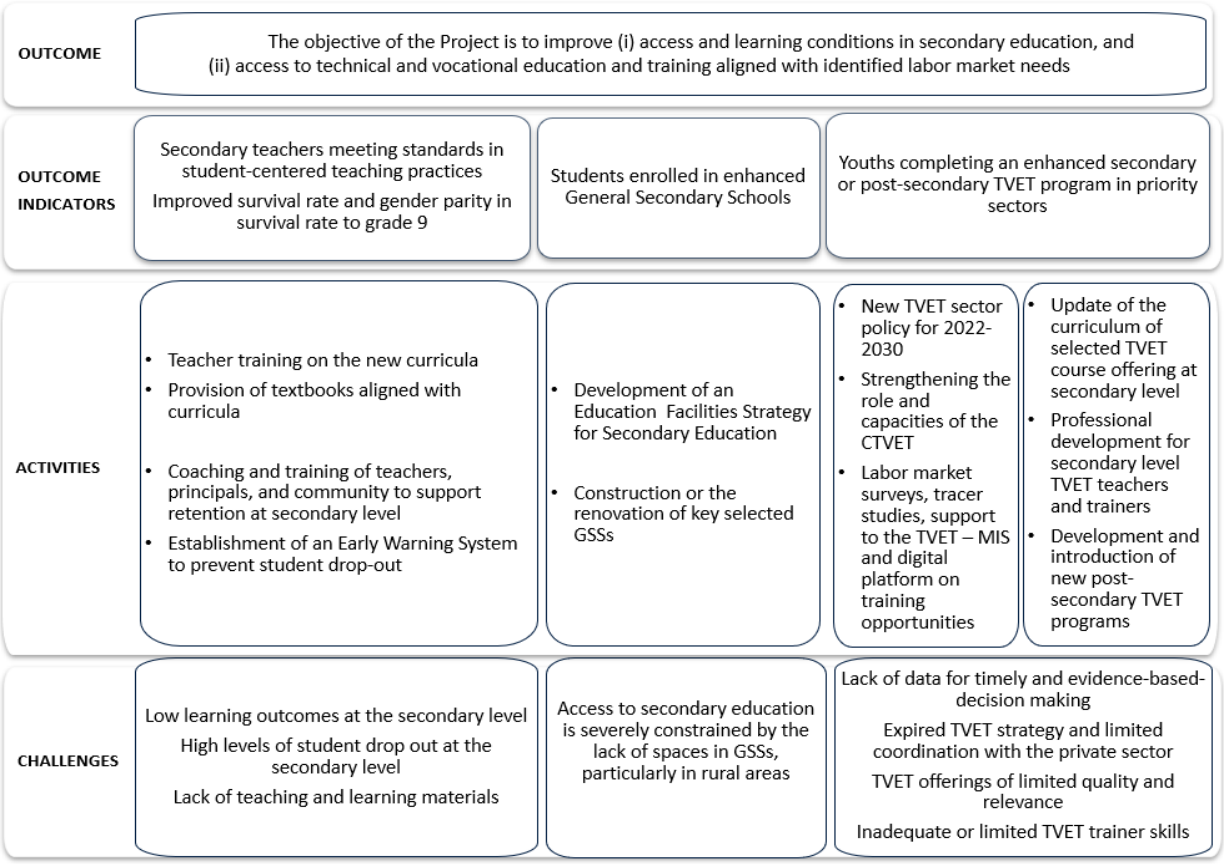
67. **The Project supports the education sector in Guyana through a design aimed at addressing the sector's most pressing challenges at the secondary and post-secondary level, which are considered the**

key bottlenecks for Human Capital improvement in the country. This holistic approach is reflected in the Project's results chain. Component 1 will focus on improving access and the learning environment in general secondary education, with particular attention to the improvement of service delivery (with better trained teachers and principals, lesson content, teaching and learning materials), learning environments, and equity (with specific support to rural areas and to boys). Component 2 will focus on improving the responsiveness to labor market needs and enhance the quality of TVET offerings through integrated information systems, improved planning and management, and increased private sector engagement. Further, to ensure the sustainability of the proposed activities, the Project will support the development of strategy instruments for school facilities and for TVET development. The combination of system-level and school-level activities will contribute to a better managed education and skills sector, and to improved education service delivery benefitting all secondary-school and some post-secondary aged youth.

68. The key assumptions for the theory of change under this Project are the following:

(i) With the support of the PIU and through the development of the implementation plan, the Project activities will be integrated smoothly with the regular workplan of the MOE.
(ii) Strong leadership from the MOE to support the outlined Project activities, as well as continuous engagement with internal (relevant units in the MOE, public schools) and external (Ministry of Finance and other relevant line ministries, the private sector, private schools) stakeholders to ensure efficient and timely Project implementation.
(iii) With the support of the PIU and through the development of the implementation plan, the Project activities will be integrated smoothly with the regular workplan of the MOE.
(iv) Political willingness to support the development and implementation of new policies (for education facilities and for the TVET sector).
(v) Skilled construction firms, which are available and willing to undertake the civil works and required materials in the country (including in remote areas) to build the schools in a timely manner in line with agreed technical requirements for the civil works.
(vi) Interest from the GoG and the private sector to improve TVET offerings, which in turn will progressively increase the demand and interest from potential beneficiaries for TVET.
(vii) Availability of expertise required to conduct quality skills gaps analyses and tracer studies are available in Guyana.
(viii) Teachers are willing and interested in undertaking training and CPD opportunities provided under the Project.

Figure 1: Results Chain



E. Rationale for Bank Involvement and Role of Partners

69. **The World Bank has extensive experience supporting governments in improving their provision of education services, including in Guyana.** The Bank has expertise across all levels of the education sector, including secondary school level and TVET/skills development, and can draw expertise from a vast global knowledge depository. Furthermore, the Project builds on and complements other Bank-financed projects at the country level, including the ongoing GSEIP (P147924, IDA Credit No. 5473-GY), GESIP (P159519, IDA Credit No. 6009-GY), and GESPP (P174244, Grant No. B5951-GY).

70. **Guyana has a strong Local Education Group (LEG) that supports the effective coordination of sector activities.** The LEG includes national and international partners, and the members have effective and continuous dialogue through quarterly meetings. Particularly active partners in the education sector include UNICEF and the IADB, institutions with which the Bank is coordinating closely. Currently, UNICEF is executing a *Global Partnership for Education (GPE) COVID-19 Accelerated Funding* (US$3.75 million) supporting continuity of learning, wellbeing/psychosocial support, and Water, Sanitation and Hygiene, and safe school activities. The IADB is currently preparing a new Project focused on primary education and is supporting the ongoing *Support to Safety Nets for Vulnerable Populations Affected by Coronavirus in Guyana* (US$15 million), focused on vulnerable and indigenous populations with two components: (i)

social services (cash transfers); and (ii) education (educational materials for radio, tv and print), provision of access to water in schools, and support for student loan payments (higher education). The Project is designed to be complementary to these interventions.

F. Lessons Learned and Reflected in the Project Design

71. **The Project considers several lessons learned from previous and ongoing projects.** These are outlined in Table 2 to provide an overview of the linkages across the Bank education portfolio in Guyana. The projects and lessons learned that have informed the design of the Project include the GSEIP, GESIP, and GESPP. GSEIP has yielded important lessons related to the construction of GSS, given previous challenges with contractor's compliance with environment, health and safety (EHS) management issues at the construction sites, and will heavily inform the activities under subcomponent 1.2. This relates particularly to the need to emphasize in the bidding process of contractors' criteria to ensure compliance with Bank regulations, with specific reference to environmental and social management. Lessons learned regarding construction are also derived from GESIP, and the construction of the Health Sciences Building at UG, where the approval of the building design have significantly impacted the project timeline, emphasizing the need to initiate the design of the GSS early under this Project.

72. **The Project design also draws from experiences from teacher training activities and the use of the Teach classroom observation tool at the primary level.** These lessons will be used to scale up the Teach tool to the secondary level under the Project as well as deliver teacher training on the new curriculum for grades 7-9. Lessons from GESIP, and Teach at the primary level, include the importance of using locally sourced and recorded instruction videos for the training to ensure that the local context is considered. For the secondary level, ensuring that the training material is anchored in the local context will be prioritized. Teacher training related activities under GSEIP and GESIP have experienced challenges in terms of ensuring completion of the training courses due to limited teacher commitment. This Project will incorporate lessons learned from these experiences, especially with regards to incentivizing teacher participation and training completion and explore the potential to include project financed training in CPD efforts.

73. **The Project will also draw lessons and build on important linkages from GESPP to develop efficient data collection, management and utilization systems**. This includes the establishment of a state-of-the-art EMIS across education levels. The EMIS will be critical for establishing early warning and data systems and processes for secondary and TVET under this Project. To establish a comprehensive TVET-MIS, many internal and external stakeholders must be involved and consulted to ensure alignment and avoiding the risk of duplicating efforts. Under the GESPP, various actors have been involved in the establishment of an EMIS system, which is a time-intensive exercise. The Project will ensure that early communication is undertaken with all relevant stakeholders to ensure alignment from the onset. Given the large Bank-financed education portfolio in Guyana, there are many important synergies and linkages that this Project builds on, as outlined in the table below.

74. **Lessons are also learned from international experience, in particular with regards to the private sector role in TVET.** International experience shows that ensuring effective participation of the private sector (at the training provider level as well as system-level oversight level) is critical for a responsive and demand-driven skills development system. To meet the demand for skills and improve employment outcomes of trainees, it is imperative to involve employers in the training and system management

processes. Private sector representatives are well positioned to define and anticipate the skills workers need. Under the proposed project, employer participation in identifying skills gaps (in the context of the studies) will be encouraged, by contributing to sector management and planning and the development of relevant training offering ensuring practical experience for students and trainers.

Table 2: Lessons Learnt from Ongoing Education Projects in Guyana and Linkages with Guyana HCP

Ongoing WB Education Projects	Activities	Linkages with Guyana HCP	Lessons Learnt
Guyana Secondary Education Improvement Project (P147924) GSEIP	Component 1: Teacher Training in Mathematics	Teacher training in mathematics for secondary level teachers will be incorporated into an online CPD training portal (Moodle) available for teachers in grades 7-9 as part of the support for rolling out the new curriculum in the Guyana HCP. Training developed under the Project will also be incorporated in the CPD training portal.	Experience on how to successfully train master trainers and efficiently roll out the teacher training in mathematics and the curriculum across the country will inform teacher training activities, with particular emphasis on incentivizing teachers to complete training.
	Component 2: Construction of GSS	Component 2 under GSEIP includes construction of select GSS, and the HCP will also finance construction of new GSS as well as renovation of existing GSS.	Lessons learnt will inform the full construction process under the new Project, including procurement, contracting, supervision, and social and environmental management. Additional criteria will be incorporated in the bidding process to ensure compliance with Bank regulations.
Guyana Education Sector Improvement Project (P159519) GESIP	Component 1: Curriculum Reform, Teacher Training, Classroom observation at the primary level	The Teach tool has been implemented at the primary level under GESIP; under the Guyana HCP, this will be implemented at the secondary level to improve teaching practices. Teacher training under the new curriculum developed under GESIP will be rolled out for grades 7-9 under the Guyana HCP.	The successful implementation of Teach at the primary level informed the design of the new Project. The training on the tool will be informed by lessons learnt under GESIP. Experiences with rolling out the curriculum will inform the subsequent rollout and teacher training for grades 7-9.
	Component 1: Learning Materials	The Guyana HCP will finance the procurement of textbooks, with linkages to procurement and distribution of learning materials under GESIP.	Procurement practices under GESIP will be reviewed to inform the procurement and distribution of textbooks. This includes initiating procurement processes early to avoid delays.
	Component 2: Construction of Health Sciences Building at	GESIP includes a construction component, which will be an important experience for the construction of GSS under Guyana HCP.	Lessons learnt will inform construction under the new Project, specifically on procurement, design, supervision, and contracting. Initiate design process early,

	University of Guyana		and leverage experience from other GSS design and constructed.
Guyana Education Sector Program Project (P174244) GESPP	Component 1: Improving Teaching at the Nursery level	The Teach tool is being implemented at the Early Childhood Education (ECE) level under GESPP, under the Guyana HCP this will be implemented for the secondary level.	The government has had positive experiences in deploying Teach at the primary and ECE level. The training on the tool will be informed by lessons learnt and successes under GESIP and GESPP.
	Component 3: EMIS	Establishing a state-of-the-art EMIS under GESPP will be important for the early warning system under the Guyana HCP, as well as the establishment of data systems and processes for TVET.	The establishment of EMIS is still in its infancy, but lessons learnt will be important for activities under subcomponent 1.1. and 2.1, as the data systems will be integrated and communicate with each other. Important lessons learnt include early communication with internal and external stakeholders to ensure alignment and avoiding duplicating efforts.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

75. **The MOE will be the implementing agency for the Project. The MOE has extensive experience successfully implementing Bank-financed projects.** Technical responsibilities for implementation overall would lie with the Chief Education Officer of the MOE. For Components 1 and 2, technical responsibility for implementation would lie with the Assistant Chief Education Officer (CEO) for Secondary and the Deputy CEO and Assistant CEO for Technical, respectively. The NCERD will lead teacher training aspects. The CTVET will play an important role under Component 2 to ensure private sector collaboration and linkages with the labor market. The CTVET will be the focal point for the labor market survey and the tracer studies. The MOE will also designate an official as the Environmental and Social (E&S) Focal Point for the E&S aspects of the Project. For Components 3 and 4, technical responsibility would reside with the MOE Planning Unit. Fiduciary responsibilities will be managed by the Planning Unit of the MOE, which currently handles all financial management (FM) and procurement for the ongoing Bank Projects in Guyana.

76. **The Project will be managed by a Project Implementation Unit (PIU) housed in the MOE Planning Department.** The PIU would consist of a Project Coordinator, a Procurement Officer, a Financial Officer, a Monitoring and Evaluation Officer, a fulltime Environmental Officer, and a fulltime Social Development Officer. Additional procurement resources may be necessary in order for the PIU to efficiently implement another project, including keeping the Systematic Tracking and Exchanges in Procurement (STEP) system updated. Accordingly, the PIU will closely monitor the procurement workload and react to the needs of the Project in a timely manner. The PIU would be responsible for day-to-day management, monitoring, and coordination of implementation, including work planning, procurement,

accounting, disbursement, FM, and other Project-related activities. The Project Coordinator would report to the Chief Planning Officer of the MOE, supervise agreed work plans for each component, and coordinate implementation among MOE departments. In addition, the Project Coordinator would be responsible for reporting to the Bank through the Quarterly Progress Reports. The Procurement function of the Project will be successfully implemented by ensuring that the PIU is adequately staffed, and the monitoring and reporting arrangements envisioned are in place.[75]

B. Results Monitoring and Evaluation Arrangements

77. **The MOE would be responsible for the M&E process of the Project, supported by the M&E Officer within the PIU.** The Project Coordinator would submit semiannual and Annual Progress Reports to the Bank, including progress toward targets described in the Results Framework, prepared by the M&E Officer. The measurement and evaluation capacity of the PIU and other relevant stakeholders (CTVET, textbook unit) would be strengthened through training financed by the Project, as necessary. The M&E officer will collect data on the activities in accordance with the results framework, including the three PDO indicators and all intermediate indicators. The M&E officer will also monitor beneficiary feedback, and feedback received will be incorporated into the programs as appropriate during Project implementation. In addition, the PIU will submit to the Bank quarterly reports on the implementation of the Environmental and Social Commitment Plan (ESCP), and the monthly reports received from Contractors.

C. Sustainability

78. **The sustainability of the Project's results lies in its close linkage with government priorities, as identified in the ESP 2021-2025, alignment with other projects, and focus on capacity-building**. All components are designed to support the government's plans as outlined in the ESP. The Project is designed to align with all existing and upcoming projects in education, including those financed by other development partners. The Project is also designed to build capacity and is implemented through the government's agencies so that the government is equipped to continue improving learning outcomes after the Project closes. This is the case at the central level, by working through the various MOE agencies, as well as at the regional level, as the Project utilizes existing channels for implementation, such as distribution of learning materials by regional offices. The Project also provides an opportunity for training to build capacity, such as in procurement and FM, and technical assistance in technical areas such as EMIS.

79. **The estimated cost of this Project is US$44 million over a 5-year period, and the recurrent costs will be absorbed by the government after the Project closes**. The total cost of the ESP 2021-2025 for the education sector over the five-year period is about US$1,633 million,[76] including only the government financing for education. Total expenditure for the sector as a percentage of GDP is projected to increase, from 5.6 percent in 2018 to 5.9 percent in 2025.[77] The projected increase in the education budget incorporates the continued financing of the interventions in the Project. The government has indicated a continued commitment to the Education sector.

[75] During the Project lifetime, the PIU may be subsumed within a wider education sector development unit under the MOE. This unit is in planning phases, with the eventual intent to lead the implementation of all development partner projects in the education sector.
[76] Estimated using cost figures from the ESP 2021- 2025 (exchange rate December 31, 2020)
[77] ESP 2021-2025

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis (if applicable)

80. **The interventions proposed are technically sound, supported by evidence, and expected to have high returns through:** (i) improved learning conditions for secondary school students, in terms of teacher capacity, appropriate learning materials, support for retention, and improved learning environment; as well as (ii) improved TVET programs to improve access to the labor market.

81. Structured programs that provide comprehensive teacher training and pedagogical materials that are well-aligned to the curriculum have shown to have a sizable effect on students' cognitive skills. Popova, Evans and Arancibia[78] review the existing body of evidence on what kind of in-service teacher training interventions are most effective in low- and middle-income countries. The analysis of a set of 26 programs suggests that programs providing textbooks alongside teacher training is associated with a test score gain of 0.36 standard deviations (significant with 95 percent confidence). In Mongolia, students whose teachers have received training and whose classrooms have acquired books improved their cumulative score by 34.9 percent of a standard deviation and students treated only with books improved their total score by 20.6 percent of a standard deviation.[79] In Brazil, a decentralized schooling system intervention that provided a new curriculum, teaching materials and teacher training yielded an impact that corresponds to 0.1 standard deviations for 4th grade students and 0.29 for 8th grade students.[80]

82. **EWS are cost-effective tools to reduce student dropout.** In an EWS pilot program in Guatemala, implemented in 17 percent of the total primary schools, the dropout rate in the transition from primary to lower secondary school was reduced by 4 percent (1.3 percentage points) among schools assigned to the program, and by 9 percent (3 percentage points) among program compliers.[81] These programs have significant potential, as well as being cost effective, given that the average cost was only US$3 per student. Further, Hansen[82] finds that high school graduation rates increased 1-2 percentage points for districts that more frequently accessed the risk data of the Massachusetts Early Warning Indicator System.

83. **Physical characteristics of the student learning environment have significant impact on student learning and school outcomes.** Quality of school facilities positively impact student attitude towards learning, increase student engagement and improve teaching effectiveness. Barret, et. al[83] review current research studies on how school infrastructure affects students' learning outcomes and identified key associated factors. The authors find that providing access is not sufficient to positively affect student academic outcomes, but rather that high quality and safe learning spaces are needed to improve learning. The impact of quality learning environments has the potential to go beyond the current student age-population, with evidence supporting that the intergenerational effects of school construction can persist 43 years after the program.[84]

[78] 2016
[79] Fuje and Tandon, 2015.
[80] Leme, et. al, 2012; Popova, Evans and Arancibia, 2016.
[81] Haimovich, Vazquez and Adelman, 2021.
[82] 2018.
[83] 2019.
[84] Akresh, Halim and Kleemans, 2021.

84. **TVET programs have the potential to improve labor market opportunities for youth, with increased levels of formal employment and monthly earnings.** A systematic review of 26 studies assessing the effectiveness of 20 different TVET interventions in developing countries found a significant and positive effect of TVET on paid and formal employment, as well as and monthly earnings.[85] A World Bank-financed project in Mozambique, seeking to improve the quality and relevance of technical and vocational training shows that graduates of Competency-Based Training (CBT) courses had higher earnings than non-CBT graduates. Around 31 percent of CBT graduates have a monthly income of MZN$10,000 whereas only 23 percent of non-CBT graduates earned equivalent amounts.

85. **Regional evidence further strengthens the rationale for investing in TVET.** In LAC, the introduction of the *Jóvenes programs*[86], offering a package of services for low-skilled youth (including counseling, training, job-search assistance, and workplace internships) significantly increased participant employability, especially for women. The increase in employability for participating youth range from 5 to 20 percentage points as compared to the control group. The programs also showed significant earnings gains, which increased by 10 to 26 percent on a monthly basis.[87] Short-cycle programs (SCPs), which are similar to short technical and vocational post-secondary courses, shows positive academic and labor market results in the region. Although students in SCPs earn lower wages than bachelor graduates—as expected—they obtain better outcomes than dropouts from bachelor's programs. This includes lower unemployment rates (3.8 versus 6.1 percent), higher formal employment rate (82 versus 67 percent), and higher wages (by 13 percent).[88] To minimize risks related to the TVET activities, the focus is placed on strengthening the enabling environment of the TVET sector to support the government in improving sector performance, aligned with labor market needs. The collaboration with other partners involved in the TVET sector will contribute to the impact of the intervention.

86. **The development impact of the Project is expected to be high**. The cost-benefit analysis shows that Project interventions would yield substantial benefits, with a Net Present Value of US$156.1 million, a benefit-to-cost ratio of 4.2 and an internal rate of return of 16.1 percent (discount rate of 5 percent). The economic analysis follows a cost-benefit approach, which accounts for the cash flow generated by a person over the course of his or her productive lifetime. The underlying assumption is that project activities will improve students' learning outcomes and retention (subcomponent 1.1), expand the capacity to deliver secondary education (subcomponent 1.2) and enhance efficiency of the TVET system (component 2), which in turn lead to higher earnings and economic private returns in labor market. A sensitivity analysis also confirms that the Project is a worthy investment. The cost-benefit ratio ranges from 3.1 (discount rate of 7 percent) to 5.9 (discount rate of 3 percent). The economic analysis does not capture all private and social outcomes; therefore, it provides a conservative estimate of the Project's benefits.

B. Fiduciary

(i) Financial Management (FM)

[85] Tripney and Hombrados, 2013.
[86] Countries include Argentina (Proyecto Joven), Chile (Chile Joven), Colombia (Jóvenes en Acción), the Dominican Republic (Juventud y Empleo), Panama (ProCaJoven), and Peru (ProJoven).
[87] Kluve 2016 and Almeida and Behrman, 2012.
[88] Ferreyra, et. al, 2021.

87. **The Project FM would be managed by the PIU in the Planning Unit of the MOE**. An FM assessment of the project was conducted in March 2022 in accordance with the Financial Management Manual for the World Bank IPF Operations (OPCS5.05-DIR.01 issued February 10, 2017). It concluded that the PIU in the Ministry of Education (MOE) has a FM system in place, which is able to provide, with reasonable assurance, accurate and timely information on the status of the funds as required by the World Bank. The PIU will share resources with the existing education projects financed by the Bank, which includes a Finance Officer and a Finance Assistant, both with degrees in accounting and extensive experience with Bank requirements. They have been satisfactorily managing the FM aspects of the ongoing projects. The agreed FM arrangements for the ongoing projects will continue to be applied to this Project. These are further elaborated under the implementation arrangements (Annex 1). An FM section reflecting the FM procedures for the project will also be included in the Project Operations Manual. The PIU will submit interim financial reports (IFRs) every six months, within 45 days of the close of the six-month period. An annual audit will be conducted by the Auditor General of Guyana and a copy of the audit report, along with the audited financial statements and the management letter, will be submitted to the World Bank within six months of the close of the financial year.

(ii) Procurement

88. **Procurement will be carried out in accordance with the World Bank's "Procurement Regulations for Investment Project Financing (IPF) Borrowers" (Procurement Regulations) dated November 2020, with due consideration to "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants," dated October 15, 2006, revised January 2011 and as of July 1, 2016.** In accordance with paragraph 5.9 of the Procurement Regulations, the Bank's STEP system will be used to prepare, clear, and update Procurement Plans and monitor all procurement transactions for the Project. A procurement assessment was carried out during the preparation of the Project and completed in March 2022. A simplified Project Procurement Strategy for Development (PPSD) has been prepared to define the applicable procurement arrangements, appropriate selection methods (including market approach), and type of review to be conducted by the World Bank. The Bank's Standard Procurement Documents will be applied to all procurement activities until the Bank concludes a portfolio-wide assessment of the national legislation with a view to accepting national procurement procedures.

89. **The PPSD describes how procurement arrangements will enable delivery of value for money in achieving the PDO**. The planned procurement activities include consultancies for policy development and curriculum review as well as design and supervision of works, supply of IT equipment, textbooks and furniture, non-consulting services to deliver training, and works for the renovation or construction of secondary schools. The Procurement arrangements do not include complex arrangements requiring specialized skills and draw on experience and lessons learned from other projects financed by the Bank in the education sector in Guyana. Specifically, for the procurement of specialized IT equipment, an open and international approach to the market will be used. Some of the consulting services and construction of works as well as goods will be procured locally as recommended in the PPSD. A design-build contract arrangement is being considered for the construction/renovation of schools, where practical, to reduce some of the delays experienced in school construction under the GSEIP (P147924).

90. **Procurement will be carried out by the PIU under the MOE Planning unit, using the same arrangement and resources as ongoing projects.** The PIU includes a Procurement Officer, who has previous experience in World Bank procurement. Although the MOE has previous experience in Bank-

financed projects, faulty engineering designs have caused delays in works contract execution under the GSEIP (P147924). Concerns about implementation of works activities are further compounded based on the findings of Guyana's Audit Office with respect to the award and management of contracts by the MOE, particularly civil works contracts, including overpayments, certification of incomplete works as complete, poor management of advance and performance guarantees, and implementation of contracts prior to their award. The following proposed mitigation measures shall be enhanced to ensure smooth implementation of the Project, including training of PIU staff in the Regulations, use of STEP and contract management; detailing of processes for procurement planning and publication of contract awards in the Project Operational Manual; and the inclusion of specific reporting on procurement in Project Reports, using a specific template and linked to the IFRs. Additionally, delays on ongoing projects signal that additional procurement resources may be necessary in order for the PIU to efficiently implement another project, including maintaining STEP thoroughly updated. Accordingly, the PIU shall closely monitor workloads in procurement to react to the needs of the project in a timely manner.

91. **Advance Procurement and Retroactive Financing**: The Borrower may wish to proceed with some procurement processes before signing the Financing Agreement. In such cases, if the eventual contracts are to be eligible for Bank financing, the procurement procedures, including advertising, shall be consistent with Sections I, II and III of the Procurement Regulations. The Borrower undertakes such advance procurement at its own risk, and any concurrence by the Bank on the procedures, documentation, or proposal for award of contract, does not commit the Bank to finance the contract in question. All contracts awarded as advance procurement should comprise the signed Letter of Acceptance of the World Bank's Anticorruption Guidelines and Sanctions Framework. If the contract is signed, reimbursement by the Bank of any payments made by the Borrower under the contract prior to signing the Legal Agreement is referred to as retroactive financing and is only permitted within the limits specified in the Legal Agreement.

92. **The Bank will carry out procurement post reviews on an annual basis with an initial sampling rate commensurate with the risk rating of the Project.** Annual audits will include construction audits of 100 percent of construction and design and supervision contracts. This rate will be adjusted periodically during implementation based on the agencies' performance and risk. The Bank will also carry out procurement supervision missions on a semi-annual basis. The PIU will upload procurement and contract information in STEP, which will provide the Bank with a list of all contracts for goods, works, and consultants' services awarded under the Project. The post review contract sample will be selected from STEP.

C. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

D. Environmental and Social

93. **The Environmental and Social Review Summary (ESRS) includes the World Bank due diligence assessment of potential E&S risks of the Project.** Under the Project, nine (9) ESSs of the World Bank Environmental and Social Framework (ESF) are relevant, namely, ESS1: Assessment and Management of Environmental and Social Risks and Impacts; ESS2: Labor and Working Conditions; ESS3: Resource Efficiency and Pollution Prevention and Management; ESS4: Community Health and Safety; ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement; ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources; ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities; ESS8: Cultural Heritage and; and ESS10: Stakeholder Engagement and Information Disclosure. The MOE has prepared an ESCP and a draft of the Stakeholder Engagement Plan (SEP), including the requirements for a project level Grievance Redress Mechanism (GRM). The SEP includes a detailed mapping of vulnerable groups and a strategy to ensure that all relevant stakeholders are fully engaged in project activities and benefits. Consultations on SEP have been carried out and the ESCP and the draft SEP were disclosed on the Bank website on April 18, 2022.[89] Updated version of the SEP will be finalized, consulted, and disclosed within 60 days of project effectiveness. An Environmental and Social Management Framework (ESMF), a Resettlement Planning Framework (RPF), an Indigenous Peoples Planning Framework (IPPF), and Labor Management Procedures (LMP) will be prepared by the client. The RPF will set out a screening system to assess land availability and to ensure that land acquisition, resettlement and restrictions of access caused by the project are managed, in line with the World Bank Standard 5 of the ESF. The IPPF will include a mapping of indigenous peoples in the Project area. Final versions of the ESMF, RPF, IPPF, and LMP will be prepared, consulted, and disclosed within 60 days of project effectiveness.

94. **The Project will include the construction and renovation of secondary school buildings, improvement of the quality and environment of secondary and TVET education and strengthening of the institutional capacity**. The Project would finance the renovation and construction of six schools in the targeted regions. The potential EHS impacts are expected to be of moderate scale, temporary (mainly during construction), reversible, and localized on its immediate surroundings, and can be mitigated and controlled with standard good construction industry practices, EHS management plans and procedures that are easily accessible. Site-specific environmental and social assessments (ESAs) and environmental and social management plans (ESMPs) will be developed during Project implementation.

95. **The MOE has extensive experience in implementing Bank-funded projects, and recently started implementing a technical assistance project processed through the ESF.** In order to strengthen the MOE's capacity on environmental and social risk management, including on EHS issues, a number of capacity building measures were discussed and agreed during the Project preparation. These measures are detailed in the ESCP and include stakeholder mapping and engagement, specific aspects of environmental and social assessment, emergency preparedness and response, and community health and safety. The measures will also include: (a) designation of a MOE official as the E&S Focal Point for the Project who will oversee the E&S issues of the Project and ensure necessary coordination within the government and with the Bank; (b) recruitment of an Environmental Officer and a Social Development Officer in the PIU, who will ensure adequate contract management on E&S issues and carry out the monitoring of the implementation of ESHS requirements by contractors and subcontractors; and (c) ensuring adequate time and resources for ESHS staff from the supervision consulting firms and contractors. In addition, the bidding and contracting documents will include the applicable ESF

[89] Link to SEP: https://imagebank2.worldbank.org/search/33801871; Link to ESCP: https://imagebank2.worldbank.org/Search/33801827

requirements. As part of the ESMF preparation, an assessment will be carried out on local legislation and MOE's capacity to implement and monitor construction works in line with Good International Industry Practice as required by the World Bank EHS Guidelines, which notes the importance of issues such as life and fire safety. The Bank will provide necessary capacity building training on ESF to the relevant PIU staff and to the MOE's designated Focal Point.

96. **The Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) Risk Rating risk for this project is moderate.** The Project will carry out renovation or construction activities in underserved areas in the West Demerara and regions 4, 5, 6 and 10. The construction workforce for the Project could represent a SEA/SH risk if the correct mitigation measures are not in place and if there is no proper supervision during the construction of the schools. GBV risks will be assessed as part of the Social Assessment (SA) of the Project and based on the findings, the appropriate mitigation measures will be implemented. The Project will have a code of conduct, adequate training to Project workers, awareness raising, and a GRM. The team will gather additional information during appraisal and, if needed, a GBV Action Plan will be developed.

97. **Citizen engagement.** Effective citizen engagement has been critical to the Project design and will continue to be prioritized under project implementation. The Project will promote active engagement of all citizens throughout the project life cycle. During project preparation, stakeholder engagements were held, and the Project will continue to include timely dissemination of project documents and information to all project beneficiaries. Through the stakeholder engagement process, the Project will ensure that all beneficiaries are able to provide feedback on project design and implementation and that feedback is integrated into the project plans where feasible. Specifically, feedback from students, parents, and staff and will be followed up by the PIU to ensure that appropriate actions are taken on the feedback received from beneficiaries. In addition, a citizen engagement indicator has been included in the Results Framework: the Project will undertake two participant satisfaction surveys, one to assess teacher satisfaction with training and coaching under Component 1 and one to TVET teachers and trainers on the professional development and training under Component 2. The feedback from the surveys will be used for decision-making and inform implementation improvements during the Project lifetime.

98. **Gender.** The Project aims to contribute to close the identified enrollment gaps between boys and girls at the secondary level and encourage equitable enrollment in GSSs. Interventions under the Project will be targeted to regions with the largest gender gap in survival rates, which are gender skewed, with more boys affected nationally and in most of the regions, and girls in other regions of the country. The interventions will be refined using the findings and recommendations from the ongoing study on the causes of the drop out in secondary enrollment. This analysis is expected to identify the specific drivers of challenges to access and student dropout, including specific causes by gender and geographic location.[90] Progress towards closing the gap will be monitored using the following Intermediate Results Indicator (IRI): Number of regions reaching gender parity in survival rates to grade 9. Gender considerations will also be central in developing the school facilities strategy and in the construction and renovation of the select GSSs, as well as promoting improved participation of girls in male dominated TVET programs.

99. **Climate.** Given Guyana's vulnerability to climate change, the Project design incorporates climate considerate actions for each sub-component and is expected to generate climate co-benefits. Under

[90] See para 41 for details on this study

Component 1, teachers will be trained on the new curriculum, which include modules related to climate change, mitigation and adaptation. The school facilities strategy will incorporate standards to ensure climate resilient and energy efficient design of GSSs to be constructed or renovated. Under Component 2, the new TVET strategy will include climate friendly considerations and emphasize green jobs, and the revision and development of new TVET courses for the secondary and post-secondary level will focus on green skills, climate change mitigation aspects and adaptation to subsequent risks. The new TVET courses will also be included in the training of TVET trainers and teachers. A detailed description of climate change adaptation and mitigation action under the Project is available in the table A4.1. A summary of Climate Actions by Project Subcomponent and Results Indicator, in Annex 4.

V. GRIEVANCE REDRESS SERVICES

100. Communities and individuals who believe that they are adversely affected by a World Bank supported project may submit complaints to existing project-level grievance redress mechanism or the World Bank'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 World Bank's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of World Bank 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

VI KEY RISKS

101. **The overall risk of the Project is Moderate.** The risk rating is driven by moderate risks related to technical design, institutional capacity for implementation, and substantial fiduciary and environmental and social risks. The Financial management risk is rated as moderate, whilst procurement risks are rated as substantial, for an overall fiduciary risk of substantial. The Environmental and Social Risk Classification is Substantial under the World Bank ESF based on the type, sensitivity and scale of project interventions, nature and magnitude of potential E&S risks and impacts, and client capacity and ownership.

102. **The overall fiduciary risk rating is Substantial.** Although the MOE has previous experience in implementing Bank financed projects, the main project risks are associated with weaknesses and delays in procurement processing and contract management, particularly related to procurement of works, that still need to be addressed. Proposed mitigation measures include the appointment of a dedicated procurement officer in the PIU to strengthen fiduciary capacity, the establishment of clear roles and responsibilities for various stakeholders at MOE and PIU level and the provision of training on contract management. The Bank will carry out procurement post reviews on an annual basis with an initial sampling rate commensurate with the risk rating of the Project. This rating will be adjusted periodically during Project implementation based on the agencies' performance and Project risks. The Bank will also carry out procurement supervision missions on a semi-annual basis.

103. **Based on the MOE's current capacity to manage E&S risks and its previous track record in the timely management of EHS issues during the construction of the two secondary schools under the GSEIP (P147924), the environmental risk is considered Substantial**. These risks, however, will be mitigated with the following measures in place: (i) the development of an Environmental and Social Management Framework (ESMF) and clear guidance on environmental and social screening, preparation of a management plan, supervision, monitoring; and reporting requirements; (ii) the appropriate environmental and social assessments and EHS management plans for each school being constructed under the Project, and the inclusion of such management plans in the bidding and contract documents for such works; (iii) the supervision consulting firm and each contractor for the different subprojects will be required to hire dedicated ESHS officers; and (iv) the appointment of a dedicated environmental officer in the PIU to carry out the subproject specific ESIA and regular supervision of the Project to ensure compliance with the EHS management plans.

104. **The social risk is classified as Substantial, based on possible negative impacts due to resettlement issues and exclusion of vulnerable groups**. The primary social risks identified for this Project mainly relate to: (i) possible resettlement, loss of land, assets, and income, access to assets or housing resulting in adverse impacts to livelihoods; and (ii) social exclusion and exacerbating inequalities between indigenous and non-indigenous students and teachers if cultural adaptation and the specific needs of these groups are not taken into account. The risk of exclusion and inequality could particularly present itself in inadequate trainings and textbooks impeding students and teachers in the secondary level, particularly those in indigenous communities and students with disabilities, to fully access Project benefits. To manage and mitigate the possible social risks and impacts mentioned above, the Project will be designed to consider and foster further social inclusion of vulnerable groups so they can access Project benefits. The vulnerable groups that have been identified as more likely to be excluded from the Project benefits include indigenous and female students, teachers, students who live with disabilities, and immigrant populations attending secondary education.

105. **The potential environmental and social risks for each school construction site will be mitigated through site-specific environmental and social assessments (ESAs) and environmental and social management plans (ESMPs)**. The ESA and ESMP will be developed for each new secondary school to identify potential risks and impacts related to the construction activities for the adjacent communities and will propose mitigation measures to avoid exacerbating differences or inequalities between communities. In areas where IPs are present, these measures will be guided by site specific Indigenous Peoples Plans (IPPs) to be developed during implementation following the guidance of the IPPF. Similarly, if any resettlement, land acquisition or restriction of access is caused by the construction of the new schools, a RAP would be prepared, consulted upon, adopted and implemented prior to the start of civil works.

VI. RESULTS FRAMEWORK AND MONITORING

Results Framework
COUNTRY: Guyana
Guyana Strengthening Human Capital through Education Project

Project Development Objectives(s)

The Project Development Objective (PDO) is to improve: (i) access and learning conditions in secondary education; and (ii) access to technical and vocational education and training aligned with identified labor market needs

Project Development Objective Indicators

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Improve access and learning conditions in secondary education							
Share of secondary school teachers meeting standards in student-centered teaching practices (using Teach at the secondary level) (Text)		Baseline to be established		Baseline + 10 percentage points	Baseline + 15 percentage points	Baseline + 20 percentage points	Baseline + 20 percentage points
Improved survival rates to Grade 9 (Percentage)		0.90	0.90	0.91	0.92	0.93	0.93
Improved survival rate for boys to Grade 9 (Percentage)		0.89	0.89	0.90	0.91	0.92	0.92
Students enrolled in enhanced General Secondary Schools (Number)		0.00	0.00	1,000.00	2,600.00	4,000.00	4,000.00
Girls enrolled in enhanced		0.00	0.00	500.00	1,300.00	2,000.00	2,000.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
General Secondary Schools (Number)							
Improve access to TVET aligned with identified labor market needs							
Youths completing a new or enhanced TVET program in priority sectors (Number)		0.00		600.00	1,800.00	3,600.00	3,600.00
Youths completing a new or enhanced secondary TVET program in priority sectors (Number)		0.00		500.00	1,500.00	3,000.00	3,000.00
Youths completing an enhanced post-secondary existing TVET program in priority sectors (Number)		0.00		100.00	300.00	500.00	500.00
Youths completing a new post-secondary TVET program in priority sectors (Number)		0.00				100.00	100.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Improve service delivery and enhance the learning environment at the secondary level							
Teachers recruited or trained (CRI, Number)		0.00	525.00	1,545.00	2,013.00	2,068.00	2,068.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Number of teachers recruited (CRI, Number)		0.00					0.00
Teachers recruited or trained - Female (RMS requirement) (CRI, Number)		0.00	368.00	1,082.00	1,409.00	1,448.00	1,448.00
Number of teachers trained (CRI, Number)		0.00	525.00	1,545.00	2,013.00	2,068.00	2,068.00
Teachers trained and having benefitted from CPD including at least one coaching and mentoring session (Number)		0.00	500.00	1,500.00	1,928.00	1,928.00	1,928.00
Principals having benefitted from capacity building and leadership training (Number)		0.00	0.00	60.00	100.00	100.00	100.00
Students benefiting from direct interventions to enhance learning (CRI, Number)		0.00	15,000.00	30,600.00	41,800.00	64,344.00	64,344.00
Students benefiting from direct interventions to enhance learning - Female (CRI, Number)		0.00	7,500.00	15,300.00	20,900.00	32,172.00	32,172.00
Share of students from grade 7 to 9 receiving the set of core textbooks (Percentage)		0.00	0.00	50.00	80.00	80.00	80.00
Availability and use of an Early Warning System to combat dropout at the secondary level (Text)		No system available	Concept for EWS and related training program on use validated	EWS system operational and training implemented for teachers on use and guidance/counseling activities	EWS system operational and training implemented for teachers on use and guidance/counseling activities	EWS system operational and training implemented for teachers on use and guidance/counseling activities	EWS system operational and training implemented for teachers on use and guidance/counseling activities
Comprehensive education facilities strategy implemented		Last strategy dated 2009 –	Terms of Reference for	Strategy validated by the	Strategy implemented	Strategy implemented	Strategy implemented

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
(Text)		Existence of tools but no comprehensive strategy	the consultancy validated and contract signed	MOE			
Climate – Inclusiveness. Schools built or rehabilitated according to minimum quality standards (Number)		0.00	0.00	1.00	3.00	6.00	6.00
Gender: regions reaching gender parity in survival rates to grade 9 (Number)		5.00	5.00	6.00	7.00	8.00	8.00
Strengthen skills development and technical and vocational training							
New TVET sector policy implemented (Text)		Current TVET policy expired in 2021	Terms of Reference for the consultancy validated and contract signed	TVET sector policy approved by the relevant authorities and disclosed to relevant stakeholders	TVET sector policy implemented	TVET sector policy implemented	TVET sector policy implemented
CTVET reform implemented (Text)		CTVET only covers TVET institutions under MOE	Assessment of CTVET functions and capacity is conducted and task force established to review the CTVET mandate	Regulation to support the TVET Act developed approved	CTVET reform implemented and CTVET staff trained	CTVET reform implemented and CTVET staff trained	CTVET reform implemented and CTVET staff trained
Rapid labor market survey results and reports are available and publicly disclosed (Text)		Concept and methodology to be prepared during the first year of project implementation	Findings validated and published		Findings validated and published for the second labor market survey		Findings from previous surveys are available.
Tracer study results are available and published (Text)		No tracer study available	Concept and methodology to be prepared	Findings validated and published		Findings validated and published for a second batch of tracer studies	Findings from previous surveys are available.
TVET Management Information		TVET data are not	TVET data are not	Software for TVET-MIS	TVET-MIS operational.	TVET-MIS operational.	TVET-MIS operational.

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
System, linked to the EMIS, is operational (Text)		integrated in the EMIS	integrated in the EMIS	developed and training undergoing	Relevant data published.	Relevant data published	Relevant data published
Integrated digital platform on training opportunities operational (Text)		Digital Plateform on training opportunities is not available	Concept document and Terms for Reference for the Digital Plateform on training opportunities validated	Pilot for the digital Plateform is operational	Digital Platform on training opportunities is operational	Digital Platform on training opportunities is operationnal	Digital Platform on training opportunities is operationnal
Secondary TVET curricula and related materials reviewed and updated to include socio-emotional competences (Number)		0.00	2.00	7.00	12.00	15.00	15.00
Secondary TVET teachers benefitting from a professional development activity (Number)		0.00	20.00	30.00	60.00	100.00	100.00
Post-Secondary TVET teachers benefitting from a professional development activity (Number)		0.00	5.00	15.00	25.00	40.00	40.00
New or existing post-secondary TVET programs in priority areas developed or upgraded and implemented (Number)		0.00	5.00	10.00	15.00	20.00	20.00
Strengthen Institutional Capacity and Project Management							
Community Engagement: Survey of participant satisfaction administered, and feedback addressed (Text)		No survey undertaken		Satisfaction survey administered to teachers to assess satisfaction with teacher training and coaching Satisfaction survey administered to TVET teachers and trainers on	Feedback from the survey integrated in teacher training and coaching programs Feedback from the survey integrated in teacher and trainers' professional		Feedback from the survey integrated in teacher training and coaching programs Feedback from the survey

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
				the professional development and training, with specific emphasis on digital and socioemotional skills.	development activities		integrated in teacher and trainers' professional development activities

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Share of secondary school teachers meeting standards in student-centered teaching practices (using Teach at the secondary level)	This indicator will assess the implementation of student-centered teaching practices through classroom-observations using the Teach secondary tool. Baseline to be established in Year 1	Annual	Formal assessments results at the end of each training course	Classroom observation. The assessment results will be assigned by master trainers and shared with NCERD copying the Project M&E Specialist at the MOE Planning Unit.	NCERD, PIU
Improved survival rates to Grade 9	Survival rates: the percentage of a cohort of students enrolled in grade 7 who survive (enroll) to grade 9, taking into account dropout rates, and	Annual	MOE Annual Digest of Education Statistics	Regular MOE data collection	MOE Planning Unit

	proportion of outbound and inbound students. * Proportion of inbound/outbound students = the number of students that are transferring in/out a specific grade during a specific school year, expressed as a percentage of the number of children enrolled in that grade during the same school year. Not a flow indicator.				
Improved survival rate for boys to Grade 9	Survival rates: the percentage of a cohort of boys enrolled in grade 7 who survive (enroll) to grade 9, taking into account dropout rates, and proportion of outbound and inbound students. * Proportion of inbound/outbound students (boys) = the number of boys that are transferring in/out a specific grade during a specific school year, expressed as a percentage of the number of boys enrolled in that grade during the same school year. Not a flow indicator.	Annual	MOE Annual Digest of Education Statistics	Regular MOE data collection	PIU

Students enrolled in enhanced General Secondary Schools	An enhanced GSS is defined as a new or renovated school with an improved learning environment, including learning-centered design, inclusive and disability friendly layout, gender related risk considerations, climate risk resilient facilities, sustainable energy use, and adequate connectivity needs. The minimum quality standard for an enhanced GSS will be defined in the education facilities strategy	Annual	MOE Planning Unit Construction Completion Report	Construction reports and field visits	PIU
Girls enrolled in enhanced General Secondary Schools	An enhanced GSS is defined as a new or renovated school with an improved learning environment, including learning-centered design, inclusive and disability friendly layout, gender related risk considerations, climate risk resilient facilities, sustainable energy use, and adequate connectivity needs. The minimum quality standard for an enhanced GSS will be defined in the education facilities strategy	Annual	MOE Planning Unit Construction Completion Report	Construction reports and field visits	PIU

Youths completing a new or enhanced TVET program in priority sectors	Enhanced TVET certification is defined and consist of i) a recognized and competency-based skills qualification (e.g. CVQ) in a selected sector, i.e. an economic sector identified as a priority through a labor market needs assessment or by MOE in collaboration with CTVET; and ii) apprenticeship or employability training if not included in the accreditation	Annual	MOE Annual Digest of Education Statistics CTVET	Regular MOE data collection CTVET	MOE Planning Unit CTVET
Youths completing a new or enhanced secondary TVET program in priority sectors	Enhanced program at secondary level	Annual	MOE Annual Digest of Education Statistics CTVET	Regular MOE data collection CTVET	MOE Planning Unit CTVET
Youths completing an enhanced post-secondary existing TVET program in priority sectors	Enhanced program at post-secondary level	Annual	MOE Annual Digest of Education Statistics CTVET	Regular MOE data collection CTVET	MOE Planning Unit CTVET
Youths completing a new post-secondary TVET program in priority sectors	New program at post-secondary level	Annual	MOE Annual Digest of Education Statistics CTVET	Regular MOE data collection CTVET	MOE Planning Unit CTVET

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Teachers recruited or trained		Annual	Training monitoring reports	Data consolidation including : i) Secondary teachers in grades 7-9 trained in the new curriculum , ii) secondary TVET teachers benefitting from a professional development activity and, iii) Post-Secondary TVET teachers benefitting from a professional development activity	PIU
Number of teachers recruited					
Teachers recruited or trained - Female (RMS requirement)		Annual	Training monitoring reports	Data consolidation including : i) Secondary teachers in grades 7-9 trained in the new curriculum , ii) secondary TVET teachers benefitting from a professional development activity	PIU

				and, iii) Post-Secondary TVET teachers benefitting from a professional development activity	
Number of teachers trained		Annual	Training monitoring reports	Data consolidation: this includes i) Secondary teachers in grades 7-9 trained in the new curriculum , ii) secondary TVET teachers benefitting from a professional development activity and, iii) Post-Secondary TVET teachers benefitting from a professional development activity	PIU
Teachers trained and having benefitted from CPD including at least one coaching and mentoring session	Cumulative number of teachers in Grade 7-9 trained in the new curriculum. The training will be followed by a coaching and mentoring program to support teacher's continuous professional development. Teachers will receive at least one coaching and mentoring	Annual	Training monitoring reports	Session reporting	NCERD, PIU

	session annually.				
Principals having benefitted from capacity building and leadership training	Principals will undertake an instructional and culturally responsive leadership and managerial training. The program will be developed by a consultant and delivered through synchronous and asynchronous modalities, as well as three intensive in-person workshops during a six-month period. Principals will be certified when i) all mandatory modalities have been taken, and ii) passed the final assessment	Annual	Training monitoring reports	Project implementation progress reports	PIU
Students benefiting from direct interventions to enhance learning		Annual	MOE Annual Digest of Education Statistics	Regular MOE data collection. Cumulative number of students benefitting from one of the interventions under component 1 and 2: all secondary level students from grade 7 to 11, and targeted secondary and post-secondary level students	MOE Planning Unit PIU

Students benefiting from direct interventions to enhance learning - Female		Annual	Training monitoring reports	Regular MOE data collection. Cumulative number of girls benefitting from one of the interventions under component 1 and 2: all secondary level girls from grade 7 to 11, and targeted secondary and post-secondary level girls.	MOE Planning Unit PIU
Share of students from grade 7 to 9 receiving the set of core textbooks	The core set of textbooks will include at least one English and one mathematics textbook, included in the the list of textbooks agreed with the MOE and included in the POM. The list may be revised and updated accordingly in the POM.	Annual	Textbook distribution report	Randomized school visits Monitoring through the new EMIS system, when established	MOE Book Distribution Unit PIU
Availability and use of an Early Warning System to combat dropout at the secondary level	The Early Warning System is operational, the associated training is developed, and the EWS is in use in at least 100 schools	Annual	Project implementation progress reports	Project implementation progress reports	PIU
Comprehensive education facilities strategy implemented	The strategy will include a criteria and an evidence-based mechanism to	Annual	MOE		PIU

	identify school facility construction and renovation needs across Guyana. The final strategy will incorporate key standards and criteria for school facilities, including learning-centered design, climate risk resilient facilities, energy use, and connectivity needs, and would identify funding needs for construction and maintenance. The Strategy will be validated by MOE. The strategy will be considered as implemented when used to inform decision-making for construction and renovation of education facilities.				
Climate – Inclusiveness. Schools built or rehabilitated according to minimum quality standards	An enhanced GSS is defined as a new or renovated school with an improved learning environment, including learning-centered design, inclusive and disability friendly layout, gender related risk considerations, climate risk resilient facilities, sustainable energy use, and adequate connectivity	Annual	Project implementation progress reports	Construction reports and field visits	PIU

	needs. The minimum quality standard for an enhanced GSS will be defined in the education facilities strategy				
Gender: regions reaching gender parity in survival rates to grade 9	Boys survival rate/girls survival rates at grade 9. Gender parity is considered achieved within 0.98 and 1.02	Annual	MOE Annual Digest of Education Statistics	Regular MOE data collection	PIU
New TVET sector policy implemented	The new TVET policy for the 2022-2032 period will identify specific, prioritized goals and targets for TVET development, including strengthening apprenticeship as a means of skills acquisition, including guidelines on internships. The Policy will be aligned with the Caribbean Community (CARICOM) strategy and qualification framework.	Annual	Project implementation progress reports		PIU MOE CTVET
CTVET reform implemented	An assessment of the CTVET functions and capacity is conducted, resulting in a plan to strengthen the role of CTVET, staff development and interaction with key stakeholders, with emphasis on collaboration with the private sector. The	Annual	Project implementation progress reports	Assessment of CTVET capacity and role	PIU MOE CTVET

	assessment and plan will inform the development of the regulation to support implementation of the CTVET Act. The CTVET Act will be endorsed by the MOE. The act will be reviewed to be consistent with other existing Acts (BIT)				
Rapid labor market survey results and reports are available and publicly disclosed	The rapid labor market survey will focus on key economic sectors by using a sample of enterprises. Key economic sectors will be identified by the MOE	Twice in Project's life	Project implementation progress reports		PIU CTVET
Tracer study results are available and published	The tracer studies will focus on graduates from different streams of secondary vocational schools and TVET institutions. The studies will comprise a representative sample of graduates and will draw on existing user-friendly tracer methodologies. A minimum of 1,200 graduates will be surveyed	Twice in Project's life	Project implementation progress reports		PIU CTVET

TVET Management Information System, linked to the EMIS, is operational	The TVET-MIS provides information on enrollment and graduation for different TVET streams. The MIS includes information and data on the number of teachers and their qualifications for each school and TVET institution, class size, pass and dropout rates, student/teacher ratios, and school/institution facilities. The TVET-MIS/LMIS is integrated and harmonized with the EMIS to inform overall sector decision-making	Annual	Project implementation progress reports		PIU MOE CTVET
Integrated digital platform on training opportunities operational	The digital platform informs potential beneficiaries on training opportunities in the form of a website, with a related application. The digital platform will be linked with the EMIS, and contain information about the availability of training centers and types of programs offered by different regions, and contact information of these centers. The platform will	Annual	Project implementation progress reports		PIU MOE CTVET

	also contain aggregated results of labor market outcomes of different programs from the tracer studies. The digital Platform covers at least 80 percent of existing training offering.				
Secondary TVET curricula and related materials reviewed and updated to include socio-emotional competences	The relevant existing TVET secondary school curricula is updated to include topics such as communication, problem-solving, entrepreneurship, conflict-resolution, and teamwork. Online and blended learning will also be strengthened in the implementation of the curricula as suited. Curriculum may be a complete subject or part of a subject (specific modules). The revision includes the revision/production of the curricula, curriculum guides and revision of learning materials (including online content when relevant)	Annual	Project implementation progress reports		PIU MOE CTVET

Secondary TVET teachers benefitting from a professional development activity	Beneficiaries includes secondary TVET teachers that have undertaken training programs for new and upgraded TVET subjects and for upgrading pedagogical, digital and socioemotional competencies; and teachers that participate in study and exchange visits to other countries in the region	Annual	Project implementation progress reports		PIU MOE CTVET
Post-Secondary TVET teachers benefitting from a professional development activity	Beneficiaries include post-secondary teachers exposed to new training program and internships and arrangements with TVET institutions in the region. The training will include the introduction of new TVET subjects and the upgrading of pedagogical, digital and socioemotional competencies of teachers	Annual	Project implementation progress reports		PIU MOE CTVET
New or existing post-secondary TVET programs in priority areas developed or upgraded and implemented	New TVET programs are developed or existing ones updated in fields such as digital technologies, oil & gas, and climate resilient agriculture. The selected The two beneficiary TVET institutions have the	Annual	Project implementation progress reports		PIU MOE CTVET

	facilities, materials as well as qualified teaching staff to deliver the courses				
Community Engagement: Survey of participant satisfaction administered, and feedback addressed	Two survey will be implemented. The first will cover teacher benefiting from training under the component 1. The second will cover teachers and trainers benefitting from professional development under component 2.	Once in Project's life.			

ANNEX 1: Implementation Arrangements and Support Plan

Financial Management (FM)

1. **An FM assessment of the project was conducted in accordance with the Financial Management Manual for the World Bank IPF Operations (OPCS5.05-DIR.01 issued February 10, 2017).** It concluded that the PIU in the Ministry of Education (MOE) has a FM system in place, which should be able to provide, with reasonable assurance, accurate and timely information on the status of the funds as required by the World Bank.

2. **The PIU is already managing three World Bank projects – P147924 (Guyana Sector Education Project); P159519 (Guyana Education Sector Improvement Project); and P174244 (Guyana Education Sector Program Project).** Although disbursements under P174244 is yet to be made, the other two projects have sufficient FM arrangements and are currently running satisfactory for FM. It is expected that similar arrangements will be followed for P177741. Agreed financial management procedures are described below.

3. **Background.** The objective of this US$44.0 million project is to improve access to quality secondary education, improve access to quality technical and vocational education; and training to improve skills aligned with labor market needs. It consists of three components. Component 1 (estimated US$35 million) will support the larger secondary education reform agenda in Guyana by helping improve education service delivery through teacher and principal capacity building, financing of textbooks, and targeted interventions addressing capacity and demand driven challenges to access and retention. It will also support the expansion of access and improvement of the learning environment through the development of an infrastructure strategy and the construction of key identified general secondary schools. Component 2 (estimated US$7.0 million) focusing on strengthening skills development and technical and vocational training will aim to increase the provision of labor market-relevant skills in Guyana by strengthening the enabling environment for technical and vocational education and training (TVET), as well as supporting the improvement of skills and labor-market relevant TVET offerings. Another component on project Management and M&E (estimated US$2.0 million) will support the management of the education system through improved M&E, as well as operational expenditure for the project management, including auditing activities. The operational items to be financed out of this component will be duly agreed and included in the financing agreement.

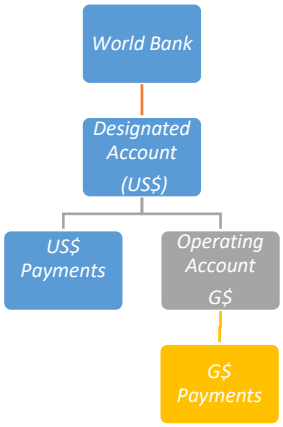
Financial management and accountability arrangements: planning, budgeting, funds flow, accounting, internal controls, financial reporting and auditing

4. **Planning and Budgeting.** A budget and workplan for the life of the project will be prepared by the PIU. It will be revisited periodically and updated as needed to reflect implementation progress. Annual budget of the project will be discussed and agreed with the World Bank. It will be approved and included in the government's estimates of revenue and expenditures and reflected under MOE's allocation in the budget.

5. **Funds Flow**. The project funds will be disbursed through advances to the Designated Account.

Direct Payments, Special Commitments and Reimbursements will be permitted. The DA will have a variable ceiling (based on expenditure forecasts for the next one-year period), and the minimum value of applications for direct payments will be US$200,000. Advances will be disbursed by the World Bank to a segregated Designated Account (DA), opened at the Bank of Guyana. DA account will be used to finance U.S. dollar currency expenditures. Funds will be periodically transferred from DA to segregated local currency operating account to finance local currency expenditures. The operating account will also be opened and maintained at the Bank of Guyana.

Figure A1.1: Project Flow of Funds



6. **Accounting and Internal Controls.** Project transactions will be accounted for and reported on using the cash basis of accounting. PIU currently has installed QuickBooks (an off the shelf accounting software), which will be used for documenting expenditures for the project. A chart of accounts will be designed to capture the transactions by components, subcomponent, and activities. A fixed assets register will be maintained, and annual physical verification of fixed assets will be conducted. The FM tasks and activities will be guided by the operational manual. This will include a project-specific chart of accounts, and financial management procedures and processes. It will cover in detail: (i) roles and responsibilities of the FM staff; (ii) internal controls including procedures to manage and control fixed assets and supplies acquired with loan proceeds; (iii) content and format of the interim financial reports and financial statements; and (iv) auditing arrangements. It will be finalized by project negotiations and will then be reviewed and cleared by the World Bank. The financing agreement terms and conditions, including the definition of the operating cost; and the disbursement financial information letter, will be the guiding factors for FM financial management provisions for the project.

7. **Reporting.** Advances will be disbursed to the project based on yearly cash forecast and it will be submitting six-monthly unaudited interim financial reports (IFR) within 45 days after the end of each six-month period in the agreed formats. Variance analysis (actual versus budgeted expenditures) would be included in the IFR. The World Bank will document expenditures from the IFRs, which will also include additional request for funds based on the next twelve months cash forecast. The IFRs will contain at least: (i) a statement of sources and uses of funds (with expenditures classified by component) and a cash balance; (ii) a statement of budget execution for each component and subcomponent; (iii) a reconciliation of the Designated Account, and (iv) forecast of expenditure for the next twelve months.

8. **External Audit Arrangements.** An annual audit of the project financial statements will be conducted by the Supreme Audit Institution, i.e., Audit Office of Guyana. The Audit Office, headed by Auditor General, is currently auditing all the World Bank projects in Guyana. The project audit shall be conducted following international standards of Supreme Audit Institutions, on the terms of reference agreed with the World Bank. The audit report, annual financial statements and management letter will be submitted to the World Bank not later than six months after the close of each financial year. Audit report and audited financial statements will be disclosed on MOE's website, and the World Bank will also make them available to the public in accordance with the World Bank's Policy on Access to Information.

9. **FM implementation support will include on-site and off-site supervisions.** At project inception training sessions will be provided to the project's FM staff on the World Bank FM and disbursements procedures. As circumstances permit, on site missions will be carried out twice a year and calibrated based on assessed risks and project performance. In case of lack of physical access to project facilities once implementation begins, virtual FM implementation support monitoring will be conducted using information technology (IT) tools. Off-site implementation support will comprise a review of copies of the general ledger and accounts from the accounting software, desk review of Interim Financial Reports (IFRs) and desk review of the audit report presented to the Bank.

10. **Conclusions of the financial management risks and agreed mitigation measures.** The PIU is already managing FM for the World Bank projects satisfactorily. Necessary internal controls will be included in the Financial Management Manual and agreed with the World Bank before project negotiations. The FM residual risk rating is assessed as moderate.

11. **The overall disbursement arrangements will follow standard disbursement policies and procedures, which will be included in the Disbursement and Financial Information letter.** The minimum application size for Direct Payments and Reimbursements will be US$200,000.

Procurement

12. **Procurement will be carried out in accordance with the World Bank's Procurement Regulations for IPF Borrowers ("Procurement Regulations") dated November 2020.** Due consideration will be given to "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants," dated July 1, 2016, and other provisions stipulated in the Financing Agreement. In accordance with Paragraph 5.9 of the Procurement Regulations, the World Bank's Systematic Tracking and Exchanges in Procurement (STEP) system will be used to prepare, clear, and update Procurement Plans and monitor all procurement transactions for the Program. The Bank's Standard Procurement Documents will be applied to all procurement activities until the Bank concludes a portfolio-wide assessment of the national legislation with a view to accepting national procurement procedures. Subject to the Bank's acceptance of the national procedures, in cases where local procurement procedures are used, the borrower will be required to use procurement procedures which are consistent with Section V, Paragraphs 5.3 – 5.6 of the Bank's Procurement Regulations on National Procurement Procedures using procurement documents and forms of contract acceptable to the Bank. The first version of the procurement plan has been produced based on information provided in the PPSD.

13. **The Project Procurement Strategy for Development (PPSD) for the Program describes how**

procurement arrangements will enable the delivery of value for money in achieving the PDO. It draws on experience and lessons learned from other education projects in the country financed by the World Bank. Procurement arrangements will be commensurate to the local market's capacity. Most of the consultancies will be procured from the international market. Construction of schools in remote areas of the country are unlikely to attract foreign participation and may have higher costs. Additionally, based on lessons learned from previous similar procurements, a design-build approach will be considered for these contracts, where practical, and sustainability considerations will be embedded in the design.

14. **Procurement of works, goods, non-consulting services, and consulting services for the Project will include a wide range of contracts.** Several small works contracts are planned for the construction and renovation of schools. Goods will involve the procurement of textbooks, learning materials, and IT equipment. Non-consulting services will include information campaigns. Consulting services will include teacher training on the new curriculum for grades 7-9 with targeted mathematics training, including teacher coaching and mentoring; development and implementation of an instructional leadership and managerial program for principals; technical assistance and capacity building for the establishment of an early warning system, student counseling and guidance; development of a comprehensive national infrastructure strategy; development of a new TVET policy and strategy; development of TVET-Management Information System (MIS); rapid labor market survey, tracer studies, development of an integrated digital platform on training; update to the curriculum of existing course offerings at secondary level, professional development for TVET teachers and trainers; development of new post-secondary TVET programs; monitoring and evaluation; and project management.

15. **Solar panels.** Borrowers must include in applicable procurement documents that include solar panels/components for the "core functions of a project" as defined in the World Bank Environmental and Social Framework: (i) applicable provisions in the invitation for bids, instruction to bidders and qualification requirement; (ii) Forced Labor Performance Declaration; (iii) Forced Labor Declaration; and (iv) strengthened contract clause on Forced Labor. All procurements that apply the declaration will be subject to Bank prior review and Bank's no objection. The Bank's prior review will also include procurement documents prior to issue; Subcontractors/ suppliers/ manufacturers of solar panels/components prior to Employer (Borrower) approval, and same for post award if there are any changes to Subcontractors/ suppliers/ manufacturers of solar panels/components.

16. **The Project will require training and operating costs.** The Project will finance training such as workshops and study tours, as needed. Training will proceed according to training plans, which the implementing entities will revise semi-annually and as needed and submit to the Bank for "no objection" before implementation. Operating costs will mean incremental costs incurred by the implementing agencies on account of Project implementation, management, and monitoring. They will include project implementation support personnel, salaries of locally contracted employees, dissemination of Project-related information and publications, office rent and utilities, office and equipment insurance, maintenance and repair, vehicle insurance, local travel, communication, translation and interpretation, bank charges, and other miscellaneous costs directly associated with the Program. All operating costs will be based on periodic budgets to be approved by the Bank and procured using administrative or personnel hiring procedures acceptable to the Bank.

17. **The overall residual procurement risk rating is Substantial.** Although the MOE has previous

experience in WB financed projects, main project risks are associated with the weaknesses and delays in procurement processing and contract management, particularly related to procurement of works, that still need to be addressed. The proposed mitigation measures include training on contract management and enhanced audit coverage.

18. **The Bank will carry out procurement post reviews on an annual basis with an initial sampling rate commensurate with the risk rating of the Program.** This rate will be adjusted periodically during Program implementation based on the agencies' performance and Program risk. The Bank will also carry out procurement supervision missions on a semi-annual basis. The MOE shall upload all procurement and contract information in STEP, which will be used to provide the Bank with a complete list of all contracts for goods, works, and consultants' services awarded under the Project. The post review contract sample will be selected from STEP.

19. **STEP.** In accordance with paragraph 5.9 of the WB Procurement Regulations, the World Bank's Systematic Tracking of Exchanges in Procurement (STEP) system must be used to prepare, clear, and update Procurement Plans and monitor all procurement transactions for the Project.

20. **Procurement Notices.** The Borrower shall prepare and submit to the World Bank a General Procurement Notice before beginning any procurement activity under the project, and the World Bank will arrange for its publication in United Nations Development Business (UNDB) Online and on the World Bank's external website. For open, international competitive procurement, the Borrower shall publish Specific Procurement Notices for all goods, non-consulting services, and the Requests for Expressions of Interest for consulting services on its free-access website and in at least one newspaper of national circulation in the Borrower's country, in the official gazette, and in UNDB Online.

21. **Standard Procurement Documents (SPDs).** The World Bank's Standard Procurement Documents (SPDs) must be used for all project contracts subject to international competitive procurement. In addition, since Guyana does not have standard procurement documents approved by the Bank, the Bank's SPDs shall be used for project contracts not subject to open international market approach as well.

22. **Project Operations Manual (POM) and procurement reporting.** The procurement functions, roles, responsibilities and proceedings are further detailed by the Borrower in the Project Operations Manual (POM). A procurement report will be required covering the same periods covered by the interim financial reporting (IFRs), containing at least the following information: STEP contract number; MOE contract number; Supplier name; Contract date; Final contract amount; Date of WB's NO to contract; Total amount paid to Supplier during reporting period; WB's share of amount paid to Supplier during reporting period. The reporting period covered by the report shall be the same as that of the IFRs. When the contract falls under Operations Cost, or Training, or another non-procurable category as defined in the legal agreement, the STEP contract number will be replaced by OP or TR or some other acronym that represents the expenditure type.

ANNEX 2: Economic Analysis

1. **This section describes the economic rationale for the Project.** First, it describes the rationale for public investment. Second, it presents the value-added of the World Bank's assistance. Third, it describes the development impact of Project's activities and finally, it summarizes the results of a cost-benefit analysis.

Rationale for Public Sector Provision

2. **Education is a fundamental human right and a powerful driver of development.** It enables citizens to acquire new knowledge, develop critical and logical thinking, and learn soft skills that can help improve their lives. Education also generates a variety of positive externalities for society. Education is critical for human capital accumulation, which in turn is a key driver of growth and productivity; and contributes to reducing poverty, improving nation's health and enhancing social life. Education is additionally critical in raising awareness about major challenges to society. In a context of positive social externalities, public provision of education is widely used to address market failures.

Value added of Bank's Support

3. **The World Bank has extensive technical and operational experience in supporting governments to improve education service delivery**. The Bank education experience cuts across levels of education and include a wide range of education systems in improving access to, quality and relevance of all levels of education. Moreover, the proposed Project builds on and complements other Bank-financed projects in Guyana, including the ongoing Secondary Education Improvement Project (P147924, IDA Credit No. 5473-GY), the ongoing Guyana Education Sector Improvement Project (P159519, IDA Credit No. 6009-GY) and the ongoing Guyana Education Sector Program Project (P174244, Grant No. B5951-GY).

Development Impacts

4. There exists robust evidence in the global education literature that the proposed Project activities and design have significant potential to improve educational outcomes.

Component 1

5. **Structured programs that provide comprehensive teacher training and pedagogical material, well-aligned to the curriculum have shown to have a sizable effect on students' cognitive skills**. Popova, Evans and Arancibia (2016) review the existing body of evidence on what kind of in-service teacher training interventions are most effective in low- and middle-income countries. The analysis of a set of 26 programs suggests that programs providing textbooks alongside teacher training is associated with a test score gain of 0.36 standard deviations (significant with 95 percent confidence). In Mongolia, students whose teachers have received training and whose classrooms have acquired books improved their cumulative score by 34.9 percent of a standard deviation and students treated only with books improved their total score by 20.6 percent of a standard deviation (Fuje and Tandon, 2015). In Brazil, a decentralized schooling system intervention that provided new curriculum, teaching materials and teacher training – yielded an impact that corresponds to 0.1 standard deviations for 4th grade students and 0.29 for 8th

grade students (Leme, et. al, 2012; Popova, Evans and Arancibia, 2016).

6. **Early warning systems are cost-effective tools to reduce student dropout.** In an early warning system pilot program in Guatemala, implemented in 17 percent of the total primary schools, the dropout rate in the transition from primary to lower secondary school was reduced by 4 percent (1.3 percentage points) among schools assigned to the program, and by 9 percent (3 percentage points) among program compliers (Haimovich, Vazquez and Adelman, 2021). These programs have significant potential, as well as being cost effective, given that the average cost was only US$3 per student. Further, Hansen (2018) finds that high school graduation rates increased 1-2 percentage points for districts that more frequently accessed the risk data of the Massachusetts's Early Warning Indicator System (EWIS).

7. **Physical characteristics of the student learning environment have significant impact on student learning and school outcomes**. Quality of school facilities positively impact student attitude towards learning, increase student engagement and improve teaching effectiveness. Barret, et. al (2019) review current research studies on how school infrastructure affects students' learning outcomes and identified key associated factors. The authors find that providing access is not sufficient to positively affect student academic outcomes, but rather that high quality and safe learning spaces are needed to improve learning. The impact of quality learning environments has the potential to go beyond the current student age-population, with evidence supporting those intergenerational effects of school construction can persist 43 years after the program (Akresh, Halim and Kleemans, 2021).

Component 2

8. **TVET programs have the potential to improve labor market opportunities for youth, with increased levels of formal employment and monthly earnings**. A systematic review of 26 studies assessing the effectiveness of 20 different TVET interventions in developing countries found a significant and positive effect of TVET on paid and formal employment, as well as and monthly earnings (Tripney and Hombrados, 2013). A World Bank project in Mozambique, seeking to improve the quality and relevance of technical and vocational training through (i) the development of an Institutional Framework, (ii) establishment of a Standards-based Qualification and assessment system and (iii) quality improvement in training institutions shows that graduates of Competency-Based Training (CBT) courses had higher earnings than non-CBT graduates. Around 31 percent of CBT graduates have a monthly income of MZN$10,000 whereas only 23 percent of non-CBT graduates earned equivalent amounts.

9. **Regional evidence further strengthens the rationale for investing in TVET.** In Latin America, the introduction of the *Jóvenes* programs,[91] offering a package of services for low-skilled youth (including counseling, training, job-search assistance, and workplace internships) significantly increased participant employability, especially for women. The increase in employability for participating youth range from 5 to 20 percentage points as compared to the control group. The programs also showed significant earnings gains, which increased by 10 to 26 percent on a monthly basis (Almeida and Behrman, 2012).[92] Short-cycle programs (SCPs), which are similar to short technical and vocational post-secondary courses, shows positive academic and labor market results in the region. In LAC, although students in SCPs earn lower

[91] Countries include Argentina (Proyecto Joven), Chile (Chile Joven), Colombia (Jóvenes en Acción), the Dominican Republic (Juventud y Empleo), Panama (ProCaJoven), and Peru (ProJoven).
[92] Kluve 2016.

wages than bachelor graduates—as expected—they obtain better outcomes than dropouts from bachelor's programs. This includes lower unemployment rates (3.8 versus 6.1 percent), higher formal employment rate (82 versus 67 percent), and higher wages (by 13 percent) (Ferreyra, et. al, 2021).

Cost-benefit analysis

10. **The Economic Analysis of the Project is evaluated using a standard cost-benefit analysis.** The analysis used a cost-benefit economic model that accounts for the cash flow generated by a person over the course of his or her productive lifetime. The underlying assumption was that the project interventions improve students' learning outcomes and retention (subcomponent 1.1), expand the capacity to deliver secondary education (subcomponent 1.2) and enhances the efficiency of the TVET system (component 2), which in turn lead to higher earnings and economic private returns in labor market. Net benefits were calculated through comparison of "with" and "without" project scenarios. The Project is implemented over a 5-year period and economic benefits and costs are in constant 2022 prices. The subcomponent 1.2 (construction of GSS) is assumed to create recurrent expenses per student enrolled to cover teacher salaries and ancillary services. Project's assumptions are summarized in Table A2.1.

Table A2.1 Main Parameters for the Cost-Benefit Analysis

Parameters	Unit	Value
Exchange Rate (2022/03/15)	US Dollar to Guyanese Dollar	209.22
Earnings per year (2022)	US$	5,197
Project Impact		
Provision of teaching training and learning materials – Grade 7-9[93][2]	Standard deviation (learning)	0.29
Provision of learning materials – Grade 10-11[94]	Standard deviation (learning)	0.18
Reduction of dropout rates[95]	Percentage	4
Renovation of GSSs[96]	Standard deviation (learning)	00.58
Return of another year of secondary education[97]	Percentage	7.2
Enhanced quality and relevance of TVET[98]	Percentage	15
Returns on academic achievement (returns to 1 SD increase in student achievement)[99]	Percentage	12.0
Years of labor market participation	Years	25
Number of Beneficiaries per year		
Subcomponent 1.1: Learning and retention in secondary	Students	60,000
Subcomponent 1.2: Construction of GSSs	Students	1,000
Subcomponent 1.2: Renovation of GSSs		3,000
Component 2: TVET	Students	600
Number of Years		

[93] Lower bound estimate
[94] Fuje and Tandon (2015)
[95] Haimovich, et al. (2021)
[96] Author calculations based on PISA 2018 for LAC countries
[97] Guyana PER (2021)
[98] Average impact of *Jovenes* Programs in LAC (Almeida and Behrman, 2012)
[99] Lazear (2003)

Subcomponent 1.1: Learning and retention in secondary	Years	5
Subcomponent 1.2: Construction of GSS	Years	25
Component 2: TVET	Years	10
Recurrent expenses		
Per student cost of operating GSS (2022)[100]	US$	1,024.5

11. **The Cost-Benefit Analysis shows that the benefits of the proposed interventions under the Project outweigh total costs**. The net present value (NPV) of total quantifiable benefits in the baseline scenario (discount rate of 5 percent) totals US$ 56.1million, with a benefit-to-cost ratio of 4.2 and an internal rate of return of 16.1 percent (Table A2.2). A sensitivity analysis also confirms that investing in the Project is worthwhile. The NPV with a discount rate of 3 percent is US$270.6 million and totals US$90.7 million with a discount rate of 7 percent. The benefit-to-cost ratio ranges from 3.1 to 5.9 (Table A2.3). However, the model underestimates the true economic benefits of the Project. The analysis captures the improved student's learning outcomes, access and retention, but it does not quantify other private and social outcomes of project's activities such as improved health and well-being, lower criminality, better-informed voters, lower teenage pregnancy rates, and lower dependence on welfare. As such, it represents the lower bound of positive economic benefits.

Table A2.2 Summary of Costs and Benefits (US$) for Base-Case Scenario (Discount rate of 5%)

	Net Present Value (US$ million)	Benefit Cost Ratio	Internal Rate of Return
Component 1: Improve Service Delivery and Enhance the Learning Environment at the Secondary Level	151.5	4.9	17.5%
Component 2: Strengthen Skills Development and Technical and Vocational Training	7.8	2.4	12.4%
Total	**156.1**	**4.2**	**16.1%**

Note: Total includes cost of non-quantifiable activities.

Table A2.3 Sensitivity Analysis

Discount Rate	Net Present Value (US$ million)	Benefit Cost Ratio
3%	270.6	5.9
5%	156.1	4.2
7%	90.7	3.1

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[100] Projected using data from Unesco UIS (2022) and inflation rates.

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ANNEX 3: TVET offerings in Guyana

Box A3.1. Detailed Description of TVET offerings in Guyana

TVET is provided at three levels in Guyana: i) at secondary schools, ii) by post-secondary TVET institutions, and iii) at the tertiary level by the University of Guyana.

General Secondary Programs are a mix of academic and (light) pre-vocational subjects. Upper secondary school, which lasts two years, admits students who have gained at least five passes with high grades in the National Grade 9 Assessment. Upper secondary education aims to prepare students to obtain either the CSEC in grade 11, or a Caribbean Advanced Proficiency Examination certificate at the end of grade 12, required for transitioning to tertiary education. The pre-vocational students fall in four categories: agricultural science, home economics, visual arts, and industrial technology.

In 2008, the MOE introduced the **Secondary Competency Certificate Program** (SCCP). The SCCP, which is implemented in Grades 9 and 10, has been characterized as an alternative pathway in education linking school to work. The initiative is intended for students who are less geared towards academic subjects, often at risk of dropping out. It aims to provide opportunities for secondary school students to exit with at least one skilled certificate, although the SCCP does not directly quality for post-secondary TVET. SCCP students must take a selection of core academic subjects along with a pre-vocational elective (industrial technology, home economics, visual arts, or agricultural science). The program has no stipulated starting or finishing point due to students being given the opportunity to work and acquire relevant skills and competences at their own pace. Upon completion of Grade 10, SCCP students have access to pursue the CSEC, post-secondary TVET programs, or to enter into an apprenticeship program. Currently, 43 secondary schools and PICs offer the SCCP. Vocational specializations include agricultural science, furniture-making, electrical installation, masonry, fabric decoration, catering/commercial production, and home management.

Another pathway is the piloting of the CVQ (Caribbean Vocational Qualification) program at selected secondary schools. Upon completion of the CVQ program, students have three options: (i) to continue their secondary education by pursuing the CSEC Certificate; (ii) to further their technical vocational education; or (iii) to enter the job market. The CVQ pilot initiative, which was launched in January 2022, intends to increase the number of secondary graduates who pursue post-secondary TVET programs, as well as reduce the high dropout rate in senior secondary education. Currently, eight secondary schools are providing the CVQ program. TVET subjects offered are crop production, furniture-making, commercial food preparation, and fabric decoration. The CVQ program is expected to gradually replace the SCCP.

Post-secondary vocational education is offered at ten public TVET institutions, offering full-time and part-time courses at the certificate and diploma level. Other TVET institutions include the *Guyana School of Agriculture*, which falls under the Ministry of Agriculture, and the *Guyana Mining School and the Forestry Training Center* under the *Ministry of Natural Resources*. In general, the TVET institutions maintain close ties with the private sector. The Division of Health Science Education under the Ministry of Health offers a comprehensive package of healthcare and medico-technician diploma and certificate programs. For medical degree programs, most youth attend them abroad, especially in the United States.[101]

The University of Guyana has two campuses that provide higher education courses leading to graduate and post-graduate degrees, certificates, and diplomas. The Faculty of Engineering & Technology provides several TVET-related programs. Most students leave with a diploma or a bachelor's degree, but few students obtain a master's degree.

[101] Although the GESIP is currently supporting the University of Guyana's medical programs to maintain accreditation.

ANNEX 4: Summary of Climate Actions

Table A4.1. Summary of Climate Actions by Project Subcomponent and Results Indicator

Indicator	Subcomponent	Climate Actions Incorporated
	1.1 Improve service delivery to support student retention and learning at the secondary level Total Subcomponent (US$12M) Teacher Training, Textbooks (US$10M)	**Mitigation:** The new curriculum emphasizes environmental stewardship (reducing food waste, energy efficiency, and recycling) and climate change (awareness and mitigation/adaptation measures), integrated into social studies and science for grades 7 and 9, which will be included in the teacher training. The rollout of the new curriculum for grades 7-9, teacher training, and the distribution of textbook aligned with the new curriculum may lead to increased climate-friendly choices and behaviors that contribute to reducing Greenhouse Gas (GHG) emissions for future generations. **Mitigation**: Teacher training includes content on climate change mitigation (e.g., GHG reduction) in teacher training materials. **Adaptation**: Teacher training integrates content on climate change adaptation in teacher training materials; and trains teachers to prepare and carry out evacuations at the onset of climate-induced emergencies, such as cyclones and floods.
Climate IRI "Classrooms built or rehabilitated according to climate-resilient design standards (Number)".	1.2 Developing an education facilities strategy for secondary education and constructing selected GSS Total Subcomponent:US$23M Education Facilities Strategy: US$40,000K Construction/Renovation: US$22.96M	**Education Facilities Strategy** **Mitigation**: The Education Facilities Strategy will apply to schools nationwide and be aligned with priorities in the ESP to optimize the school network. The strategy would incorporate key standards and criteria for school facilities, aligned with international best practices, and include requirements to be considered climate risk resilient facilities and energy and water efficient. **Adaptation**: The Education Facilities Strategy will improve sector-wide capacity to address vulnerabilities due to increased risk of flooding and climate variability, including: • (i) school infrastructure design for resilience for flooding, and for effective sheltering from heavy rain; (ii) energy efficiency (natural ventilation, usage of LED-lamps and sensor lighting) and renewable energy technologies, given power shortages sometimes caused by climate-related events; and (iii) water efficient technologies such as rain capture or water-efficient latrines. • training on disaster risk management in school infrastructure for education sector staff. **Construction/Renovation** **Mitigation:** The school construction and renovation of GSS will include

		the following GHG-mitigation measures: • infrastructure design and technologies to include (i) energy efficiency measures (natural ventilation, usage of LED-lamps and sensor lighting); (ii) utilization of renewable energy such as solar power, thereby reducing GHG emissions; and (iii) water efficient technologies. • local materials will be prioritized when available to help stimulate the local economy and reduce GHG emissions associated with transportation. • selection of construction firms to prioritize sustainable management of construction and demolition waste to properly reduce, reuse, recycle, and dispose of waste to reduce GHG emissions. **Adaptation**: The supported schools will see improvement: • (i) The facilities will be built in locations, and with material and design, that can withstand natural disasters, flooding, and storms and can be used for effective sheltering, protect major equipment, and allow for continued education delivery; (ii) energy efficiency (natural ventilation) and renewable energy technologies, such as solar power, given power shortage sometimes caused by climate-related events; and (iii) water efficient technologies such as rain capture or water-efficient latrines. • Emergency response plans responding specifically to climate-induced natural disasters will be developed and implemented, in line with school protocols and in a participatory manner with inputs from vulnerable groups that will, in turn, increase preparedness to natural disasters caused by climate change. • Training for teachers and school staff on the functioning and maintenance of technologies mentioned, along with awareness raising about climate change risks that motivate these technologies.
	2.1 Strengthening the enabling environment and information system for TVET. US$2M	**Mitigation:** The TVET Strategy to be financed under the Project will incorporate: • Climate friendly considerations, such as guidelines and criteria for usage of material and equipment in labs and waste management. • Emphasis on green jobs training and green skills relevant to the Guyanese context (water conservation, sustainable forestry and agriculture, environmental remediation, sustainability, recycling, renewable energy, etc.)
	2.2 Improving skills development and TVET offerings at the secondary and post-	The Project will finance an update of the curriculum of selected existing TVET course offerings at the secondary level. All offerings will be screened to include relevant climate change mitigation aspects and adaptation to subsequent risks (including the usage of green technology,

	secondary levels Total: (US$5M) Update of secondary TVET curricula US$1.4M Development and introduction of a limited number of new post-secondary TVET programs in the identified priority sectors US$3.3M	skills relevant to the green economy, sustainable techniques in, for example, construction and agriculture and disaster risk management). **Mitigation:** • supplemental modules on climate change adaptation based on climate change screening of existing modules **Adaptation:** • supplemental modules on climate change adaptation based on climate change screening of existing modules Potential for adaptation and/or mitigation co-benefits if new climate-related subjects and programs to be added can be confirmed/guaranteed and detail on green construction technologies can be provided. Detailed programs to be added will be confirmed based on the labor market analysis to be performed early in Project implementation. However, it has been agreed with the government that energy sectors (particularly oil and gas), climate-resilient agriculture and low-carbon technology, and digital development would be prioritized. **Mitigation:** • The post-secondary level training is expected to develop skills in sectors such as renewable energy and energy efficiency, which will contribute to climate change mitigation. **Adaptation:** • Adaptation measures will be incorporated in the upgrading and retrofitting of education facilities such as schools, laboratories, and training centers (e.g., water harvesting and recycling for facilities in arid climates, drainage improvement and terracing for flood control, using roofing material that can sustain strong winds and rains, etc.).