

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**BARBADOS**

**SKILLS FOR THE FUTURE II: DIGITAL TRANSFORMATION FOR INCLUSIVE  
AND QUALITY EDUCATION**

**(BA-L1053)**

**LOAN PROPOSAL**

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REL#4	<a href="#">Procurement Plan</a>

OPTIONAL ELECTRONIC LINKS (OEL)	
OEL#1	<a href="#">Analysis of Project Cost and Economic Viability</a>
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OEL#3	<a href="#">Program Operation Manual (POM)</a>
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ABBREVIATIONS	
BSSEE	Barbados Secondary School Entrance Examination
CAPE	Caribbean Advanced Proficiency Examination
CBTF	Competency Based Training Fund
CSF	Community Systems Foundation
CSEC	Caribbean Secondary Education Certificate
CVQ	Caribbean Vocational Qualification
CXC	Caribbean Examinations Council
EA	Executing Agency
EMIS	OpenEducation Management Information System
ESC	OpenEMIS Steering Committee
ESEP	Education Sector Enhancement Program
ESMR	Environmental and Social Management Report
ESS	Environmental and Social Strategy
ETMU	Education Technical Management Unit
ETTC	Erdiston Teacher Training College
ICT	Information and Communications Technology
IDB	Inter-American Development Bank
IE	Inclusive Education
IEP	Individual Education Plan
LAC	Latin America and the Caribbean
METVT	Ministry of Education, Technological and Vocational Training
MFEAI	Ministry of Finance, Economic Affairs and Investment
MPS	Ministry of Public Service
NVQ	National Vocational Qualification
PCU	Project Coordination Unit
POD	Proposal for Operation Development
POM	Project Operations Manual
PP	Procurement Plan
PSC	Project Steering Committee
SESO	Social and Environmental Safety Officer
SN	Special Needs
SPF	Safeguard Policy Filter
SSF	Safeguard Screening Form
TA	Technical Assistance
TWGs	Technical Working Groups

**PROJECT SUMMARY**  
**BARBADOS**  
**SKILLS FOR THE FUTURE II DIGITAL TRANSFORMATION FOR INCLUSIVE AND QUALITY**  
**EDUCATION**  
**(BA-L1053)**

Financial Terms and Conditions					
Borrower			Flexible Financing Facility <sup>(a)</sup>		
The Government of Barbados			Amortization Period:		25 Years
Executing Agency			Disbursement Period:		5 Years
Ministry of Education, Technological and Vocational Training (METVT)			Grace Period:		5.5 Years <sup>(b)</sup>
Source	Amount (US\$)	%	Interest rate:		SOFR Based
			Credit Fee:		<sup>(c)</sup>
IDB (Ordinary Capital):	20,000,000	100	Inspection and supervision fee:		<sup>(c)</sup>
Total:	20,000,000	100	Weighted Average Life (WAL):		15.25 Years
			Currency of Approval:		Dollars of the United States of America
Project at a Glance					
<b>Project Objective/Description:</b> The general objective is to improve the quality and equity of education by supporting the transformation of the education system. The specific objectives are: (i) improve the quality of instruction by promoting student-centered classroom instruction approaches around relevant skills for the 21 <sup>st</sup> century; (ii) promote a more inclusive education system; (iii) create a sustainable, safe and accessible learning environment by upgrading physical and technological school infrastructure; and (iv) strengthen sector management.					
<b>Special Contractual Clauses prior to the first disbursement:</b> The executing agency will submit to the bank evidence of: (i) the appointment of a program coordinator, a procurement, and a financial specialist in accordance with the terms of reference previously agreed upon with the Bank (¶3.1), and (ii) the approval and entry into effect of the POM in the terms and conditions previously agreed upon with the Bank (¶3.2).					
<b>Exceptions to Bank Policies:</b> N/A					
Strategic Alignment					
<b>Challenges<sup>(d)</sup>:</b>		SI	<input checked="" type="checkbox"/>	PI	<input type="checkbox"/>
<b>Cross-Cutting Issues<sup>(e)</sup>:</b>		GE	<input checked="" type="checkbox"/>	and	DI
			<input checked="" type="checkbox"/>	and	ES
			<input checked="" type="checkbox"/>		IC
			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

<sup>(a)</sup> Under the Flexible Financing Facility (document FN-655-1), the borrower has the option to request modifications to the amortization schedule, as well as currency, interest rate, commodity, and catastrophe protection conversions. In considering such requests, the Bank will take into account operational and risk management considerations.

<sup>(b)</sup> Under the flexible repayment options of the Flexible Financing Facility (FFF), changes in the grace period are possible as long as the Original Weighted Average Life (WAL) and the last payment date, as documented in the loan agreement, are not exceeded.

<sup>(c)</sup> The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors during its review of the Bank's lending charges, in accordance with the relevant policies.

<sup>(d)</sup> SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

<sup>(e)</sup> GE (Gender Equality) and DI (Diversity); CC (Climate Change) and ES (Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

## I. PROJECT DESCRIPTION AND RESULTS MONITORING

### A. Background, problem addressed, and justification

- 1.1. Barbados is a small developing island, with an economy highly concentrated in the tourism sector and dependent on imports.<sup>1</sup> The population is estimated at 290,000 and Gross Domestic Product (GDP) per capita was US\$14,666 in 2021. Since the onset of the global crisis of 2008, growth has been sluggish. Annual real gross domestic product (GDP) growth between 2008 and 2019 has averaged -0.5%.<sup>2</sup> Recurrent fiscal deficits during the last two decades resulted in increasing levels of debt, which eventually led to an unsustainable situation. This prompted the Government of Barbados to launch in 2018 the Barbados Economic Recovery and Transformation Plan (BERT) to restore fiscal and debt sustainability, increase the country's international reserves, and promote sustained economic growth, and engage in an International Monetary Fund (IMF) Extended Fund Facility (EFF) four-year program, approved in October 2018.<sup>3</sup> Despite good progress under the program, the economic shock caused by the pandemic has been severe. Real GDP dropped 13.7% in 2020 and only grew 0.7% in 2021, and the unemployment rate peaked at 21%. Although the economy is starting to reactivate, it is doing so at a slow pace.<sup>4</sup>
- 1.2. **Education is a key priority in Barbados, with almost all school aged children and youth attending school.** A knowledge economy is one of the key pillars of the 2018 BERT. The country aims to become a regional reference for innovation and knowledge and the government recognizes the needs to better prepare its population for the fourth industrial revolution and new emerging challenges like climate change and a globalized economy. Quality education is key to the transformation strategy as it provides equal learning opportunities for everyone, and enhances social inclusion and mobility, ensuring that all people develop successful learning and labor trajectories. Barbados has achieved universal access in primary and one of the highest enrolments in secondary education among LAC countries, and access is equal for both girls and boys. Completion rates for primary and secondary education are also high and drop-out rates are negligible. Net enrollment rates for primary and secondary school were equal to 98% and 87% respectively, while primary and secondary school completion rate accounted for 93% and 90% respectively (CIMA 2018; Brisett 2021). The education system has about 45,109 students (Blackmann 2021).
- 1.3. **Nevertheless, learning remains a challenge, particularly for some boys.** Results of the 2020 Barbados Secondary Entrance Exam (BSSEE) taken at the end of primary education show that 88% of students master English (score equal

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<sup>1</sup> Tourism accounted for 29.5% of GDP and 37.4% jobs in 2019, [World Travel and Tourism Council Data](#). Imports as a share of GDP amounted to 39.6%.

<sup>2</sup> GDP figures are obtained from the IMF World Economic Outlook October 2022.

<sup>3</sup> The program ended on September 30, 2022, and total disbursements amounted to US\$435 million. IMF (2022) "Seventh Review Under the Extended Fund Facility Arrangement", IMF Country Report No. 22/176 (June 2022). The Bank assisted the Government in its efforts to regain fiscal sustainability and economic growth by providing budget support to strengthen macro-fiscal stabilization policies through the approval of a US\$100 million Special Development Lending (SDL) operation (4656/OC-BA of November 2018) and a policy-based loan of US\$80 million (4987/OC-BA of March 2020).

<sup>4</sup> Tourists' arrivals during the first half of 2022 were equivalent to 43% of those in the first six months of 2019.

or above 40) and 70% Mathematics. At the end of primary the gender difference in learning is already present, girls' mean score in English in the 2020 BSSEE was almost 73%, while boys' was 66% (IDB calculations). In mathematics, girls also outperform boys, but the difference is less marked. Once completing secondary education, students can take to the Caribbean Secondary Education Certification (CSEC) examination that is administered by the Caribbean Examinations Council (CXC) and enables them to access further education. In 2022, only 77% of the secondary education students took this exam, and 70.23% got a passing grade in English, and 39.31% in Mathematics. At this level we also see gender differences, girls outperformed boys in English at the CSEC 2022, with 74% passing grade versus 69% among boys (in Math the difference by gender disappears) (METVT various years). It is worth noting that during the last three years consistently more females choose to enter for CSEC (METVT data 2022).

- 1.4. **Students that graduate from secondary education, but do not take the CXC examinations have limited opportunities for continued training and employment.** Youth who do not possess a CSEC certification are less likely to be employed and have lower salaries than students with the CSEC certificate. The importance of a CSEC certificate has increased over time possibly due to employers' preference for employees with skills demanded by the labor market as secondary schools provide some skills certification by way of the National Vocational Qualifications (NVQs), the Caribbean Vocational Qualifications (CVQs), CSEC and the Caribbean Advanced Proficiency Exam (CAPE). However, nowadays the uptake of CXC certifications remains low. The CXC has introduced a suite of technical and vocational subjects (building construction; textile, clothing and fashion; electrical and electronic technology; mechanical engineering technology; digital media; performing arts; logistics and supply chain operations; biotechnology; animation and game design and green engineering), but very few students choose to take these examinations. While there has been a relatively high number of students sitting the CSEC examination in Information Technology (over 650 for the period 2015 to 2019, with a drop of just under 300 in 2020), the CAPE "new generation subjects" have not recorded high registrations. For example, the CAPE 2020 Animation and Game Design was taken by only 15 students, 10 students took the Green Engineering and 39 Art and Design (Downes 2022)<sup>5</sup>.
- 1.5. **Furthermore, graduates of secondary education, do not necessarily have the skills needed to succeed in current and future labor markets and for the country's growth strategy.** A study carried out by the IDB (Downes 2022), asked key stakeholders to identify the strategic and high growth sectors to propel economic development in Barbados over the next 10 to 15 years. Agriculture & Forestry, Manufacturing, ICT, Energy (EGW) and Tourism have been identified as the strategic and high growth sectors for the next 10 to 15 years supported by the Fishing & Maritime Activity and Arts, Entertainment & Recreation. These occupational areas would require skills development not only in the technical subject areas but also in problem solving, ICT, customer service, communication, creativity and innovation, adaptability/flexibility, and time management/reliability, also known as XXI century skills. In addition, the 2018 BERT agreement identifies the need to find new and innovative activities in tourism, international business and financial services, agriculture and

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<sup>5</sup> It is to be noted that many of these "new generation subjects" have no appropriate prerequisites at CSEC.

manufacturing, while at the same time exploring the rich potential within the renewable energy sector to assist the objective of targeting sustainable realistic growth projections. The recovery model is also anchored in technology embracing science, innovation and entrepreneurship in all sectors. Furthermore, the GoB has underlined the need to bolster an ambitious blue economy and renewable energy agenda, as stated in the Updated Nationally Determined Contribution<sup>6</sup> and the Integrated Blue Economy Policy Framework and Strategic Action Plan for Barbados, launched in 2021 with the support of the IDB. Skill development for these sectors is key to the success of this strategy.

- 1.6. **Barbados' education system requires strengthening of key areas to achieve a quality education that develops the skills needed to access today and tomorrow's labor market and enables Barbados' economic growth strategy.** These areas include: (i) update the current curriculum for primary and secondary education to include the areas identified as key for growth; (ii) STEAM and 21<sup>st</sup> century skills; (iii) improve classroom practices that are currently outdated and reinforce gender stereotypes; (iv) improve teacher training on new curriculum and new skills; (v) ensure that all students, including those with special needs, have equal learning opportunities; and (vi) provide a safe and adequate learning environments (METVT Strategic Plan 2022/27).
- 1.7. Barbados' primary and secondary education curriculum is dated and does not include new areas key to the country's economic development and changing global context. The METVT undertook the last curriculum reform in the early 2000s under the Education Sector Enhancement Program (ESEP; 1154/OCBA). An update of the curriculum will allow the integration of subject areas relevant to today's economy and society and should align with Barbados' vision as a knowledge economy and enable its strategy for sustainable and resilient economic growth. New subject areas include computer science as part of Science, Technology, Engineering and Mathematics (STEM) focus (i.e., coding, robotics and animation), climate change and green and blue economy, agricultural science, and financial technologies. Reforming the curriculum, will require updating standards for each subject area, training teachers and teacher trainers, new teaching and learning materials and updating the assessments given throughout primary and secondary education, and developing a mechanism that will allow the new curriculum to be constantly up to date. The curriculum is the main instrument which education systems use to translate society's skills requirements into content, skills, and competencies (Mateo-Diaz et al. 2022; Gouëdard et al. 2020).
- 1.8. **Many classroom practices in the Caribbean, including Barbados, are teacher centered, authoritarian, traditional in terms of gender roles, and abstract (Hobbs et al.2023, McLean 2022).** These practices are not appropriate to develop 21st century skills (i.e., teamwork, critical thinking, and problem-solving) that rely on a student-centered approach with active student participation in the class and practical applications (Winthrop 2018; Fadel et al. 2015). The current practices also contribute to a higher sense of disengagement among boys (Bristol 2015). Available research indicates that teachers can have more negative perceptions of the behavior of boys than that of girls (Parry 2000 cited in Hobbs et al 2023); and

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<sup>6</sup> <https://unfccc.int/sites/default/files/NDC/2022-06/2021%20Barbados%20NDC%20update%20-%202021%20July%202021.pdf>.



tend to have higher expectations of boys than girls (Gayle 2002; USAID 2011, Parry 2000). Boys in the Caribbean are early on socialized to become “providers” and might have to contribute to family income which can translate into academic underperformance and dropping out of school (Bailey 2009). Consequently, teacher training programs must be updated to ensure that the quality of instruction is improved and that teachers can teach the new subject areas, employ student-centered pedagogies, and teach in different modalities (online, in person, hybrid) (METVT Strategic Plan 2022).

- 1.9. **Lack of an inclusive education (IE) strategy and interventions leave students with special needs (SN) at a learning disadvantage.** Although Barbados is signatory to international agreements on special education (UN 1989; UN 2006, UNESCO 1960), compared to Trinidad and Tobago, Jamaica, and some other small Caribbean islands, it has never finalized and approved its Special Education Policy drafted in 2011 (Blackmann 2022). It has however, provided mechanisms to address the needs of children with Special education needs, for example, infrastructure at the Irving Wilson and Ann Hill Schools, training of teachers at the Mount St. Vincent University, and provision of assistive devices. In the current system, students with SN attend four special schools and seven special education units, where places are limited and therefore making it more likely that some children are excluded from education, and only a few SN students attend regular schools. During the academic year 2021/22, 710 students (525 males and 185 females) were enrolled in the SN schools (METVT 2022); and approximately 15 students with a diagnosed disability (and in METVT's database) attend regular school which are not well equipped to provide services to these students. Furthermore, actual data about students with special needs (SN) is very limited and broad, restricting the development of an IE strategy. According to the 2016 Living Condition survey, 1.4% of children age 5-11 and 1.8% of 12-18 year-olds have a disability, however, the information is limited to physical disabilities and does not include other learning disabilities (EDU own calculations). Qualitative research among teachers carried out in Trinidad and Tobago and Barbados found that their attitudes regarding inclusion, instruction of children with special needs and managing the behavior of children with disabilities in regular education settings highlights negative attitudes, lack of time to attend to the children with disabilities, and feeling ill prepared for managing an inclusive classroom due to insufficient training, support by principals, and by the Ministry (Blackmann 2022). Inclusive education requires data on number of students and type of disabilities, human resources, funds, equipment and materials, parent support and training, teacher training and professional development (Adjodha-Andrews, Blackmann 2022). While data is not available to estimate the gap in completion rates across disability status in Barbados, in the region overall, students with disabilities are 10 percentage points less likely to complete secondary education (Hincapie et al, 2019). Countries such as Chile that have implemented IE policies, have significantly improved the identification of students with disabilities and learning difficulties as well as increased the graduation rate of secondary school for this population (Contreras et al. 2022).
- 1.10. **Outdated physical and digital infrastructure, vulnerable to natural disasters and climate change leading to unfit and unsafe learning spaces.** Climate

change projections<sup>7</sup> indicate that mean annual temperature will rise by 1.3°C (0.9°C to 1.97°C) and annual precipitation will decrease by 47.8 mm (-290.1 mm to 153.1 mm) by 2040 to 2059 and underline the need to ensure that the design of schools take these variables into account and limit their impact on children's learning. The METVT undertook in 2019 an assessment of the 68 public primary and 21 secondary schools<sup>8</sup> and it shows that the country's infrastructure is "aging" (Caribbean Quarterly Economic Bulletin 2021). Based on the results, the METVT has prioritized the rehabilitation of 22 of the 68 public primary schools due to their deteriorated physical conditions. The METVT prioritized further 10 of the 22 schools for urgent rehabilitation. To this end, an infrastructure audit was carried out in 2022 of the 10 primary schools considered as most urgent due to their dilapidated physical conditions, financed under BA-T1067 (ATN/OC-18479-BA Skills for the Future II). Its results showed that substantial rehabilitation work is required to meet Barbados' updated construction codes, enhance climate resilience, and increase comfort. In particular, the audit of these 10 schools confirmed the urgent need to rehabilitation due to: (i) lack of maintenance; (ii) retrofit for sustainability and local construction codes; (iii) missing architectural finishes; (iv) lack of accessibility to people with disability; (v) student discomfort due to high levels of noise and heat; and (vi) insufficient storage capacity. According to the audit report<sup>9</sup>, the most common defects are moisture ingress, classroom discomfort and the lack of weather resistance in equipment, materials and building methods. The effect of Barbados' harsh weather conditions and the lack of maintenance have reduced the lifespan of the schools' roof sheets, metal structure, coral stone walls, masonry, etc. The last major infrastructure and technology upgrades within schools were done in early 2000 under the ESEP. Given the increased impact of climate change in Barbados, schools also need to be outfitted to improve their resilience and to include energy and water efficiency measures. Evidence indicates that improving school infrastructure with proper comfort conditions in the classrooms (light, ventilation, etc.), and adequate sanitary conditions has positive effects on attendance and completion of academic cycles, teacher motivation and learning (Cuesta 2016; Duarte 2017; Pirog and Kioko 2010).

- 1.11. **The digital infrastructure available at schools is dated, insufficient and is not adequate for learning.** Just 1 of the 10 audited schools had stable internet speed, and all the schools will need to be re-cabled to provide a stronger network backbone and increase the bandwidth. Currently, internet services to schools are provided by the two main telecom companies, but services vary across the companies and have been rather slow and unreliable. Some schools are seeing improved internet services because of ongoing negotiations between METVT and the providers. Reliable school connectivity is key to improve learning by providing students access to digital learning resources (Economist 2021; Laddawala et. al. 2022). As part of the infrastructure component, the internet connectivity within schools will be improved, while the METVT is negotiating with the telecommunication providers to increase bandwidth and internet speed.

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<sup>7</sup> Projections represent the model ensemble median under the high emissions scenario (RCP 8.5) and the range of values in parentheses represent the 10th to 90th percentile.

<sup>8</sup> The audit of the 21 secondary schools was completed in 2019 financed by IDB C&D resources.

<sup>9</sup> Refer to the Infrastructure Analysis ([OEL#4](#)) and the audit Report ([Link](#)) for more information about selection criteria, physical condition of buildings, geographic location, vulnerability and number of students

- 1.12. **Lack of a cohesive sector management system hampers decision making.** In 2017 the METVT implemented the OpenEducation Management Information System (EMIS) to improve sector management. However, results of a recent diagnostic assessment show that although the METVT acquired the core system of the OpenEMIS, the functionality of the 6 core process modules <sup>10</sup> are not yet fully implemented; parallel data-systems are still being used and are not integrated; and two key structural conditions (technological infrastructure and a governance and institutional framework) need to be strengthened to allow full usage of the system. Key priorities to be addressed include: (i) the need to define a single, common methodology for unique identifiers for schools, education personnel, and learners; (ii) digitization of all paper based records and processes and subsequent uploading into the relevant OpenEMIS records; (iii) detailed definition of the business requirements of the EMIS and strengthening of the EMIS to fulfill these requirements; (iv) cataloguing and auditing of all existing systems for e-learning and digital content delivery and subsequent streamlining and integrating them into a coherent online learning strategy for schools; (v) documenting all data analytics and reporting requirements for different users and provision of ongoing training to ensure effective use of data for planning and decision-making; and (vi) elaboration of a comprehensive EMIS policy and accompanying governance structure (Butcher 2022). Among the six modules, the METVT prioritized the module on human, financial, and budgetary resources for advancement as it requires the digitization of paper-based personnel files. Based on the diagnostic, a 3-year implementation plan was developed for the METVT to have an effective OpenEMIS that generates and distributes integrated, relevant, timely, reliable, and easy to interpret data to decision makers and other education stakeholders.
- 1.13. **Strategy of the program.** To improve the quality, equity, inclusiveness and sustainability of the education system, this program will seek to transform the education system working on key areas that include improving teaching practices with an updated curriculum focusing on key areas in secondary education including computer science, fintech, climate change, and blue and green economy; promoting more inclusiveness of students with special needs with a new inclusive education across the entire education system or specified schools that will be strengthened; improving the quality and sustainability of school infrastructure by fostering low carbon and resilient schools, and providing safe and adequate learning spaces; and strengthening sector management with further implementation of OpenEMIS modules.
- 1.14. **Previous Bank Experience and results achieved in Barbados.** Together with the Caribbean Development Bank, the IDB supported the ESEP which financed the rehabilitation of schools and outfitting with a basic technology package. Main lessons learnt included the importance of preparing and budgeting annual school maintenance plans to ensure that schools are kept in adequate conditions, hence Component 3 will include such support. The Skills for the Future (2739/OC-BA, US\$20 million, approved in 2012 and closed in 2019) aimed to improve the quality and relevance of post-secondary education through a Competency-Based Training Fund (CBTF) (for more details, see [PCR](#)). The CBTF, the flagship of the

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<sup>10</sup> The core process modules include Physical infrastructure and equipment, educational institutions, human and financial/ budgetary resources, students and learning, digital content for teacher training and student learning, and tools for strategic management.

operation, supported 31 partnerships between training providers (both public and private) and businesses to design and deliver training aligned with the demands of business and to foster close collaboration between the two partners, thereby making training more demand driven. The CBTF resulted in 31 new occupational standards and content delivered in various economic sectors including emerging fields, such as, maintenance and repair of electric vehicles, fablabs (new design and tailoring), 3Dprinting, Computer Numerical Control machine tooling, and installation and maintenance of photovoltaic energy systems, and animation. The project trained and certified 2,866 adults in different industries according to the National/Caribbean Qualification Framework and allowed the public training institutions to introduce new training programs. At the secondary education level, the project provided school grants to 12 secondary schools to improve the teaching of Mathematics and English and to support schools in the implementation of the NVQs or CVQs to allow more students to leave secondary students with a certification. Schools implemented CVQs/NVQS in a few emerging areas, such as agriculture and hydroponics to provide students with skills in areas of their interest. Also at the secondary level, targeting youth-at-risk, a sports-for-development program (A Ganar) provided 1,122 young persons, mostly young men, with social-emotional/ life skills and internships to gain work experiences again in close collaboration with the business sector. Several participants obtained employment or were allowed to return to secondary schools and get their certification from the CXC.

- 1.15. The Bank has been collaborating with the METVT in strengthening the teaching of STEAM subjects. The technical cooperation grant ([BA-T1053](#); ATN/OC-16958-BA) supports the creation of a Lab school for Science, Mathematics, and Literacy (STREAM) at the Early Childhood Level and aims to change classroom practices from teacher-centered to student-centered approaches (McLean 2022). To date, approximately 30 teachers have been trained in more child-centered pedagogies. The regional technical cooperation grant “Code Caribbean: Promoting STEM for Innovation in the Caribbean” ([RG-T3278](#); ATN/JF-17294-RG and ATN/CF-17296-RG) support both the Ministry of Education in Belize and Barbados to pilot a Computer Science program in select grades as part of their focus of STEM subjects. After delays due to the pandemic, the piloting of the computer science curriculum in lower secondary education in Barbados started in the school year 2022/23. The pilot will inform the scaling up of the program to additional grades under the proposed operation. During September 2021-May 2022, the regional TC “Teacher Training on Digital Education and Distance Learning Pedagogies” as well as student-centered pedagogies ([RG-T3793](#); ATN/OC-18451-RG) trained 200 teachers in Trinidad and Tobago and Barbados with 97% graduation rate of Barbadian teachers. In parallel, the IDB collaborated with the METVT, the National Transformation Initiative, and Coursera to launch the 21<sup>st</sup> century educators hub which provides curated content from Coursera for teachers on digital skills, socio-emotional skills via the ETTC.<sup>11</sup> In summary, over the past years, the Bank has supported the teaching of new skills – Skills for the Future – in the education and training system in Barbados.
- 1.16. **Lessons learnt.** The following lessons learnt from the most recent experience (2739/OC-BA or BA-L1016) have been integrated across the components and

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<sup>11</sup> <https://www.nti.org.bb/21st-century-educators-hub-launched/>.

provided with resources: (i) Previous evaluations showed the importance of face-to-face interaction to obtain information needed for monitoring and evaluation, therefore financial and human resources have to be budgeted for data collection required for evaluations accordingly for the Monitoring and Evaluation plan (REL#2); (ii) the IDB team will provide multiple training sessions on procurement and financial procedures for PCU staff over the course of the program (project management component); and (iii) the curriculum should be viewed as a dynamic process to be reviewed and updated regularly (Component 1). To this end, a mechanism where key stakeholders meet regularly will be created to ensure that METVT receives feedback on changing skill requirements (¶1.20).

- 1.17. **Strategic Alignment.** The program is consistent with the Second Update to the Institutional Strategy (UIS) 2020-2023 (AB-3190-2) and is strategically aligned with the development challenges of Social Inclusion and Equality by targeting vulnerable regions and expanding students' access to quality basic education. The program is aligned with the cross-cutting issues of: (i) gender equality by promoting actions to improve learning outcomes among boys; (ii) climate change and environmental sustainability, by including climate change and agriculture in the curriculum redesign and building sustainable schools; (iii) institutional capacity and rule of law by improving the METVT's capabilities to provide quality services; and (iv) diversity by promoting a more inclusive education (IE). The program will contribute to the Commitment for Results Framework (GN-2727-12) by measuring the number of students benefited by education projects, and agencies with strengthened digital technology and managerial capacity. Furthermore, according to the joint MDBs approach on climate finance tracking, 27.06% of total IDB funding for this operation result in climate finance<sup>12</sup> due to the reforms in the curricula introducing two courses on climate change and blue economy, and sustainable agriculture and the design and implementation of resilient and low carbon measures which will ensure that the refurbishing of the 10 schools will allow them to be resilient to extreme weather events and cover part of their energy consumption with the installation of solar PV panels.
- 1.18. The operation is consistent with the Sector Framework Document for Skills Development (GN-3012-3) by ensuring access to high-quality and relevant learning opportunities throughout life, the IDB Group Climate Change Action Plan 2021-2025 (GN-2848-9), and the Climate Change Sector Framework Document (GN-2835-8) by developing educational content on the blue and green economy and promoting the inclusion of mitigation and adaptation measures for low carbon and resilient schools. It is aligned with the current IDB Barbados Country Strategy 2019-2023 (GN-2953-1), which prioritizes safeguarding social outcomes and fostering public sector efficiency and is included in the Update of the Annex III of the 2022 Operational Program Report (GN-3087-2).

## **B. Objective, components, and cost**

- 1.19. **Project Objectives.** The general objective is to improve the quality and equity of education by supporting the transformation of the education system. The specific objectives are: (i) improve the quality of instruction by promoting student- centered

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<sup>12</sup> <https://www.worldbank.org/en/topic/education/brief/teach-helping-countries-track-and-improve-teaching-quality>.

classroom instruction approaches around relevant skills for the 21<sup>st</sup> century; (ii) promote a more inclusive education system; (iii) create a sustainable, safe and accessible learning environment by upgrading physical and technological school infrastructure; and (iv) strengthen sector management.

1.20. **Component 1: Curriculum Reform and Development (US\$4.86 million).**

This component will contribute to improve the quality of instruction by introducing and integrating four new subject areas into secondary education curriculum aligned with Barbados' current and future skills for labor markets needs and with the country's growth strategy: (i) Computer Science (inclusive of coding and robotics, animation, digital literacy and gaming); (ii) Climate Change, Blue and Green Economy; (iii) Sustainable Agricultural Science; and (iv) Financial Technology (Fintech). These new subject areas will complement current METVT efforts using its own resources to update the existing curriculum in core subject areas of primary and secondary education (English, Mathematics, Social Studies, Science, Civics) and other areas.

1.21. This component will finance the following activities for the four new subject areas:

(i) **Curriculum design.** Technical assistance to design an overall strategy for the curriculum redesign, permanent update mechanisms, implementation, and assessment; (ii) **Curriculum Framework.** Update the current curriculum framework to include new standards for teaching and learning; (iii) **Curriculum writing.** Stipends for curriculum writing teams consisting of current teachers and technical experts, led by the curriculum writing officers; (iv) **Pilot design and implementation.** The new curricula will be introduced in Form 1 nationwide in secondary schools and will be monitored and evaluated, before continuing with other secondary grades; (v) **Professional Development (Pro-D) for administrators, teachers, teacher trainers and curriculum officers training** supported at the school level with coaching. The Pro-D training will include the development of new instructional methods needed to implement the curriculum; (vi) **Student and teacher assessments.** To accompany the revised curriculum, innovative assessments (including certifications) will be developed to assess students on new and updated areas and a wider range skill (competency-based skills). In addition, teachers' classroom practices will be observed regularly to inform adjustments of the implementation of the new curriculum; (vii) **Materials and lesson plans for curriculum implementation.** Updating of existing and development of new teaching and learning materials (eg. Textbooks, teacher guides, digital books, videos, learning platforms, equipment, etc.); (viii) **Monitoring, evaluation and continuous update and improvement.** To allow for the continuous monitoring of the curriculum, the METVT will establish a mechanism where key stakeholders (i.e., administrators, teachers and students) can provide constant feedback about the curriculum implementation. This, combined with continuous teacher and student learning assessment will inform regular updates to the curriculum. This mechanism will also include engagement of the private sector to ensure relevance of the curriculum to develop skills currently on demand by the economic sectors; and (ix) **Communication activities** to inform administrators, teachers, teacher trainers, students, families and other stakeholders of the new curriculum and its implementation.

1.22. **Gender considerations.** The new curriculum and teacher training will be developed to ensure gender balance and awareness, with special focus on boys'



disengagement (to eliminate possible gender biases) and student-centered pedagogies that support all students equally. The loan will finance a study on classroom practices and provide recommendations for curriculum design and teacher training.

- 1.23. **Component 2: Inclusive Education (US\$1.2 million).** This component will promote a more inclusive education (IE) system by providing technical assistance for: (i) the development of an IE policy; and (ii) the implementation of a set of special needs services in five randomly selected primary schools including: (i) development and administration of a screening instrument to identify SN student and their disabilities; (ii) based on screening results, development of individualized education plans (IEP) to guide education services for these students; (iii) Pro-D for the teachers in the selected primary schools in using more inclusive teaching approach and work with IEPs; (iv) capacity building and training of faculty at the Erdiston Teacher Training college for SN education; (v) provision of assistive technologies (high and low tech) for the selected schools to provide comprehensive services aligned with students IEPs; and (vi) supply of furniture to the five schools.
- 1.24. **Component 3: Physical and Digital Upgrade for Sustainable Infrastructure with a Resiliency Focus (US\$9.29 million).** This component will improve the quality and sustainability of the physical and digital infrastructure by upgrading 10 primary schools prioritized by the METVT, to meet sustainable and resilient best practice standards, and building code requirements, including: (i) a standardized package of rehabilitation works with cost-effective measures to improve energy and water efficiency following the EDGE<sup>13</sup> guidelines and increase resilience and low carbon infrastructure: investments include: photovoltaic panels; rainwater harvesting; water storage (roof upgrades and repair); accessibility for people with disabilities; green measures; and retrofit to local codes package for all the subsystems (electricity, water, sanitation, safety, and security); and (ii) upgrading of connectivity within schools. Loan resources will also be used to strengthen the technical capacity of METVT's Education Technical Management Unit (ETMU) responsible for infrastructure projects, to ensure the mainstreaming of climate standards and to develop school maintenance plans.
- 1.25. **Component 4: Improved Sector Management (US\$2 million).** This component will improve sector management by providing technical assistance to the METVT for the continued implementation of its OpenEMIS covering 12 public Nurseries, 68 primary and 21 secondary schools. The loan resources will support: TA to METVT will work to advance the different modules of the OpenEMIS with a particular focus on the full development of the module of human and financial resources to allow management of HR matters through the system. This will require the digitalization and data entry of all human resources records first before using the information in the OpenEMIS.
- 1.26. **Project Management, Monitoring and Evaluation, Audit and Contingency (US\$2.6 million).** This component will finance the operational expenses for

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<sup>13</sup> <https://edgebuildings.com/>. A compliance report of 20% reductions in water and energy consumption will be requested, no certification is expected.

implementation, TA for evaluations, change management and communication efforts.

### C. Key results indicators

- 1.27. **Expected results.** The main result indicators for specific development objective 1 include: (i) % of secondary education teachers applying student-centered teaching approaches; (ii) % of secondary education teachers applying gender-balanced teaching approaches; (iii) # of secondary students benefitted from the four new curricula subjects. For the specific objective 2; (iv) % of SN students in pilot schools receiving services according to their individualized learning plans; for specific objective 3: (v) # of primary students benefitted from upgraded school infrastructure; (vi) % of primary schools with universal accessibility; (vii) % improvement in primary school comfort factors; and for the specific objective 4: (viii) EMIS HR module functionalities improved.
- 1.28. **Beneficiaries and selection criteria.** The curriculum reform introducing the four new subject areas will initially benefit an estimated 13,200 secondary students. Eventually, all approximately 20,000 secondary students will benefit from the new subject areas. The number of students involved in the inclusive education pilot is estimated at 900 students in the five treatment schools. The METVT will provide the list of schools selected for Component 2 to the Bank for non-objection. Selection criteria for the 10 schools (5 control and 5 treatment schools) include: a) leadership, b) primary schools, and c) students with disability currently enrolled. Once the rehabilitation of the 10 primary schools is completed, an initial group of 1,806 students will benefit from upgraded physical and technological school infrastructure and 15% of primary schools will be more climate change resilient and sustainable. The staff in all 68 primary schools and administrators at METVT will benefit from the expanded HR module in the EMIS system.
- 1.29. **Cost-benefit Analysis.** The program is expected to increase student performance by improving the quality and equity of education by supporting student-centered classroom instruction approaches in secondary education, promote a more inclusive education and create a sustainable, safe and accessible learning environment in primary schools. The ex-ante economic analysis of the benefits of the program indicates that the Net present Value (NPV) is positive. The NPV reaches 86.43% (US\$162 million) of the total benefits of the program in a conservative scenario. Furthermore, the Internal Rate of Return (IRR) yielded a 17.46% on the investment. A sensitivity analysis conducted also produced positive returns. The impacts for the program are improved pedagogy, educational services, and a learning environment, leading to an increase in the academic performance and a continuation of education and expected lifetime earnings of primary and secondary students.

## II. FINANCING STRUCTURE AND MAIN RISKS

### A. Financing instruments

- 2.1 This is a specific investment loan for a total amount of US\$20 million financed by the Inter-American Development Bank (IDB) using Ordinary Capital resources and



no counterpart contribution. The disbursement period is 60 months. Table II.1. shows the estimated overall budget (an itemized budget is available). Table II.2. shows the expected disbursement schedule.

- 2.2 The Government of Barbados and the Bank agreed that a specific investment loan is the most suitable instrument as the scope of the various components is well defined and fixed, and the project's physical and technical individuality.

**Table II.1. Summary of Program costs (in US\$)<sup>14</sup>**

Components	IDB	Total	%
<b>Component 1. Curriculum reform and Development</b>	<b>4,860,000</b>	<b>4,860,000</b>	<b>24.30</b>
1.1 Curriculum update	1,350,000	1,350,000	6.75
1.2 Teacher Training	370,000	370,000	1.85
1.3 Materials and equipment	2,940,000	2,940,000	14.70
1.4 Classroom observations	200,000	200,000	1.0
<b>Component 2. Inclusive education</b>	<b>1,200,000</b>	<b>1,200,000</b>	<b>6</b>
2.1. Inclusive education strategy	40,000	40,000	0.2
2.2 Initial screening and assessment in classroom	590,000	590,000	2.95
2.3 Equipment and material	370,000	370,000	1.85
2.4 Assessment of inclusive education	200,000	200,000	1.0
<b>Component 3. Physical and Digital Upgrade of Sustainable Infrastructure with a resiliency focus</b>	<b>9,292,000</b>	<b>9,292,000</b>	<b>46.5</b>
3.1 Physical upgrade	9,100,000	9,100,000	45.5
3.2 METVT strengthening	192,000	192,000	1.0
<b>Component 4. Improved sector management</b>	<b>2,000,000</b>	<b>2,000,000</b>	<b>10</b>
4.1 OpenEMIS action plan	1,200,000	1,200,000	6.0
4.2 Digitization and data entry of HR records	687,280	687,280	3.4
4.3 Advisory Services	112,720	112,720	.6
<b>Project Management, Monitoring and Evaluation, and Audit</b>	<b>1,648,000</b>	<b>1,684,000</b>	<b>8.2</b>
Project Management	1,278,000	1,278,000	6.4
Financial Audit	300,000	300,000	1.5
Evaluation	70,000	70,000	.3
Contingency	1,000,000	1,000,000	5
<b>Total</b>	<b>20,000,000</b>	<b>20,000,000</b>	<b>100</b>

**Table II.2. Disbursement calendar**

Source	1		2			3		4		5		
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
IDB	3,127,959	15.64	8,569,588	42.85	5,490,116	27.45	1,586,794	7.93	1,225,544	6.13	20,000,000	100.00
%	3,127,959	15.64	8,569,588	42.85	5,490,116	27.45	1,586,794	7.93	1,225,544	6.13	20,000,000	100.00

## B. Environmental and social safeguard risks

- 2.3 According to the Bank's Environmental and Social Policy Framework (ESPF), the program is classified as Category "C". The project will finance the rehabilitation of 10 primary schools and is considered to have minimal environmental and social impact for which effective mitigation measures are known and readily available. Nevertheless, an environmental and social management system (ESMS) commensurate to the level of impacts and risks will need to be in place, including the following measures: (i) the procurement documents for contractors will require the development of a waste management plan, code of conduct for workers, and an occupational health and safety plan for workers on the construction sites; (ii) the

<sup>14</sup> Costs by subcomponent or activity are indicative.

development of a disaster risk management plan enclosing design measures for each school to improve resiliency; and (iii) development of a stakeholder engagement plan to inform school communities and other key stakeholders about the repairs and other activities planned. The timing of the repairs will be planned to minimize any disruption to school operations and potential impacts on students.

- 2.4 Barbados is highly exposed to hurricanes, floods, heavy storms, and droughts, all which can be exacerbated with climate change impacts. Considering the activities of infrastructure interventions included in Component 3, the criticality and vulnerability of the infrastructure component of the project is classified following the criteria shown in the [criticality chart for schools](#): (i) physical characteristics are buildings with no singular structural elements, (ii) the schools are located in favourable topographic and geological conditions, and (iii) level of service is moderate because schools have up to 410 students and could be shelters in case of catastrophic events. Therefore, the criticality is rated as Moderate. The due diligence concluded that the interventions in the schools will comply with national and local legislation regarding disaster and climate change, including the Barbados Building Code, the 2021 Physical Development Plan, and local best practices. Structural interventions in the schools will include small to medium sized civil works or infrastructure, which are not expected to increase the current conditions of natural hazards or of vulnerability to surrounding communities or the environment. Measures to increase resilience have been included in the design, such as roof ventilation and reinforcement to stand category 3 hurricanes, permeable paving, and stormwater management systems to prevent floods from runoffs and in some cases new levels to reduce the building vulnerability to floods. Also, measures to increase temperature comfort of building users (students and teachers) are considered due to increasing temperatures related to climate change. The disaster and climate change analysis concluded that for this Moderate risk operation there is no need to continue to a complete qualitative risk assessment for the operation, Step 4 of the Disaster and Climate Change Risk Assessment Methodology (DCCRAM), as there are no significant gaps, appropriate measures have been identified and it is possible to attain a tolerable risk level from these primary school upgrades. The Program will prepare a Disaster and Climate Change Risk Management Plan that encloses the measures included in the design to reduce vulnerability and increase resilience of the primary schools. This Plan will be the instrument to ensure the execution of those measures during construction and maintenance phases.

### **C. Fiduciary risk**

- 2.5 Based on previous experience in executing IDB loans and the assessment on fiduciary aspects, the METVT has the capacity to execute this new loan. However, the following risks have been identified: (i) If the PCU doesn't have the necessary institutional capacity to carry out procurement processes according to IDB policies and they are unable to contract a procurement specialist by the end of 2022 it may cause the delay of project start up activities currently scheduled for Q1 2023 by approximately 3 months, and (ii) If the PCU lacks updated knowledge of Bank financial management policies, procedures and practices and they are unable to contract a financial management specialist by Q1 2023 it may cause the delay of project activities currently scheduled to be undertaken in Q3, especially the

development of adequate financial records and the semi-annual progress report which is a contractual obligation Overall, the fiduciary risks are considered medium-high and will be mitigated through: (i) recruitment in timely manner of the procurement and financial officer suitably skilled and qualified, preferably with experience in managing IDB and donor funded projects; (ii) continuous technical supervision and tailored trainings as required for financial management and procurement staff responsible for fiduciary activities under the operation; and (iii) strengthening procurement management and procedures best practices through the incorporation of lessons learnt from delays/bottlenecks encountered in previous procurement processes in the country and conditions prior to first disbursement to ensure timely availability of key fiduciary personnel for the PCU.

#### **D. Other risks and key issues**

- 2.6 **Creation of the PCU.** If officers that should comprise the Project Coordination Unit are not contracted by the Ministry of the Public Service (MPS) by the start of Q1, 2023 it will delay the coordination of project start up activities which will delay the implementation of these activities by at least three months. This risk is rated high. This pertains particularly for the procurement and financial officer of the PCU. If the activities are on the critical path of the project, this could cause an associated delay in the schedule for the entire project. To mitigate this risk the METVT has started to contact the MPS about the need to create the unit and contract staff. The Bank will support the early configuration of the PCU, helping to accelerate the contracting of some key members for the project start-up. In addition, the hiring of key staff is a condition prior to the first disbursement (¶3.1).
- 2.7 If the procurement activity to select the consultants to undertake the data collection for classroom observations is not completed by June 2023 it will cause the delay the development of the baseline that will be used to monitor the results of the project by four months and possibly eliminate the opportunity to for the first data collection milestone in September 2023. This risk is rated medium-high. To mitigate this risk, the IDB team will assist EA with draft Tors to facilitate the hiring of consultants.
- 2.8 **Teacher support for curriculum reform.** If teachers are not adequately trained on the revised curriculum, they may not use the content and approaches to the full extent which will compromise the overall objective of the project that students are better equipped with 21st century skills. This risk is rated high. To mitigate this risk, loan resources will be used to provide the Erdiston Teacher Training College (ETTC) with technical assistance to support the development of a training plan and training of a core group of teacher trainers as well as provide coaches to provide continued support for teachers at the school level.
- 2.9 If training for maintenance of low carbon and resilient infrastructure is not completed by the executing agency by the end of year 2 of the project, GHG emissions reductions and resiliency standards will not be met and maintained which will impact the ability of the project to achieve the objective of climate change resilience causing a decrease in the projected quality of the outputs of the project by at least 50%. This risk is rated medium-high. To mitigate this risk, The METVT will develop an overall training plan for this project including a specific training on

maintenance of low carbon and resilient infrastructure and will send annual maintenance reports on the 10 primary schools.<sup>15</sup>

- 2.10 **Sustainability.** As stated, the program is aligned with the METVT Strategic Plan and Barbados National Sustainable Recovery Plan. To ensure that the newly constructed and rehabilitated schools will be maintained, maintenance plans will be developed, and school staff will be trained. The ETTC will integrate modules of inclusive education into its Bachelor of Education Program to ensure that future generations of teacher trainees will learn more about inclusive education and practices. An Internal Curriculum Review Committee will create a mechanism to review the curriculum on an ongoing basis. Once advances in its implementation, it is expected that the OpenEMIS will become the main information system of the METVT, which will be monitored by the Planning and International Relations division and the Information Technology and Quality Assurance Unit of the METVT.

### III. IMPLEMENTATION AND MANAGEMENT PLAN

#### A. Summary of implementation arrangements

- 3.1 **Project Implementation.** The Borrower is the Government of Barbados. The program will be executed by the METVT through a newly created Project Coordination Unit (PCU) that includes a Project Coordinator, Financial Specialist, Procurement Specialist, Monitoring and Evaluation Specialist, and IT Specialist. To ensure that the additional staff can effectively work, loan resources will be used to cover salaries of PCU consultants, provide office furniture, computers and printers, office supplies, and project management software and training. **As a special contractual condition precedent to the first disbursement of the loan proceeds, the executing agency will submit to the bank evidence of the appointment of a program coordinator, a procurement, and a financial specialist in accordance with the terms of reference previously agreed upon with the Bank.** This condition is necessary to guarantee adequate project execution. Prior Bank experience has shown that having key staff on board at the beginning of a project helps to facilitate start up activities.
- 3.2 The responsibilities of the PCU include: (i) preparation of the implementation plan; (ii) financial administration, accounting, and preparation of budgets and disbursement requests; (iii) preparation of procurement plan and procurement of consultancy services, including the selection and hiring of the external audit firm; (iv) preparation of biannual monitoring reports for which the structure will be agreed with the Bank and financial statements; and (v) monitoring of project activity progress. These responsibilities will be fully articulated in the Project Operations Manual (POM). The METVT will prepare the POM that defines the terms and conditions, and details the procedures for the operational, administrative, and financial management of the program. **As special contractual condition precedent to the first disbursement of the loan proceeds, the**

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<sup>15</sup> The METVT will ensure that the works and equipment included in the project shall be adequately maintained. The METVT will send annual maintenance reports to the Bank as was done under the ESEP operation, as well.

**executing agency will submit to the Bank evidence of the approval and entry into effect of the POM in the terms and conditions previously agreed upon with the Bank.** The condition is justified as prior Bank experience has shown that having a detailed operations manual helps the executing unit to better organize itself.

- 3.3 **The Education Technical Management Unit (ETMU)** of the METVT will be responsible for the infrastructure component (Component 3). The ETMU is an established unit in the METVT. As stated in ¶1.23 under the infrastructure component (Component 3), an engineer/ environmental and social specialist will be supported for the ETMU for the duration of the rehabilitation of the 10 schools. The ETMU will coordinate with the PCU on all administrative matters.
- 3.4 **Project Steering Committee (PSC).** The project will be supported by a PSC chaired by the Permanent Secretary METVT, and comprise relevant departments and agencies, Ministry of Finance, Economic Affairs and Investment (MFEAI), Erdiston Teacher Training College, and other tertiary institutions. The main purpose of the PSC is to address any bottlenecks encountered during project execution and provide policy direction for the project. The PSC will have overall responsibility for the coordination and guidance of the project and its Chairperson will be the Permanent Secretary. The Deputy Permanent Secretary shall be the Deputy Chairperson, appointed by the Chairperson, and will assume the responsibilities in the absence of the Chairperson. The PSC will have a membership comprising, but not limited to, the Chief Education Officer, the Director of Education reform, Public Investment Unit (PIU), the National Council of Parent-Teacher Associations (NCPTA), ETTC, the Barbados Union of Teachers; the Barbados Secondary Teachers' Union; the Barbados Association of Principals of Public Secondary Schools, the Association of Principals of Public Primary Schools, a Senior Education Officer, the Barbados Investment and Development Corporation (BIDC), as well as the PCU. Each organisation represented on the PSC will be required to nominate their representative and an alternate. Other persons may be invited to participate in PSC meetings based on the subject matter being addressed. These special invitees will, however, not be authorised to vote. The TORs for the PSC will be included in the POM.
- 3.5 **Technical Working Groups (TWGs).** . The METVT will establish four (4) TWGs to direct and guide the technical aspects of the Project. These will include work related to curriculum reform, teacher professional development, school rehabilitation and the activities related to OpenEMIS. The TWGs will be chaired by technical officers of the METVT. The terms of reference for the TWGs will be included in the POM. The PCU will coordinate the work of the TWGs. Members will be selected based on the technical skills required to facilitate the transfer of knowledge, the ownership of deliverables and sustainability of outcomes. Members for the TGWs will be selected based on technical skills required to facilitate the transfer of knowledge, the ownership of deliverables and sustainability of outcomes. The four TWGs will cover: a) Curriculum Reform and Development; (b) Inclusive Education; c) Upgrading of Physical and Digital Infrastructure, and (d) Improved Sector Management. The main functions of the TWGs include assisting the PCU in: (i) finalizing Tors, (ii) evaluating technical proposals; (iii) review of consultants' reports; (iv) sourcing relevant technical data for consultants; and (v) participating in relevant consultations with key stakeholders.

- 3.6 **OpenEMIS Steering Committee (ESC).** It is proposed that an OpenEMIS Steering Committee be established as the key OpenEMIS governing body in charge of implementation of the plan and governance of the OpenEMIS policy once it is approved by METVT. The ESC will be chaired by the Chief Education Officer (CEO). The Committee, which might meet quarterly during the initial three phases of implementation and then once every six months thereafter, would take responsibility for the administration and management of the OpenEMIS. Its composition might likely include representatives of internal METVT Units and external representation from Ministry of Innovation, Science and Technology.
- 3.7 **Procurement.** The procurement of goods works and services, and the selection of consultants financed by the Bank will be carried out in accordance with the Policies for the Procurement of Goods and Works financed by the IDB (document GN-2349-15) and the Policies for the Selection and Contracting of Consultants Financed by the IDB (document GN-2350-15), respectively. The Procurement Plan (PP) includes all the details on program procurement. The PCU will follow procurement processes of the program as described in the PP to be approved by the Bank, which will cover the entire duration of the program starting on the date that this program enters into effect. The PP will be updated through the semi-annual progress report, or whenever necessary or as required by the Bank.
- 3.8 In the procurement processes that include the supply and/or installation of solar panels, the Borrower, directly or through the Executing Agency (EA), shall ensure that all bidding documents and contracts include provisions that require applicants, bidders, contractors, consultants, representatives, staff members, subconsultants, subcontractors, goods suppliers and their representatives, contractors, consultants, staff members, subcontractors, subconsultants, service providers, concessionaires, and supervising entities, among other aspects, to comply with the ESHS Plans and the environmental and social instruments referred to therein, including procedures to prevent child labor and forced labor in the supply chain (GN-3062-1). Specific criteria will be defined on a case-by-case basis, considering market conditions and industry standards. Procurement processes that include silicon-based solar modules will be subject to ex-ante review and centralized monitoring to ensure that the EA performs due diligence on the bidders' compliance with criteria related to prevent child labor and forced labor and mitigate reputational impact..
- 3.9 The program will carry out a direct contracting of the Community Systems Foundation (CSF) for the support for Component 4 the OpenEMIS system. The CSF is the organization which provided the OpenEMIS to the Government of Barbados and which has been adopted by a number of countries in the LAC region (i.e., Trinidad and Tobago, Guyana, Belize, and Barbados). CSF in partnership with UNESCO, designed, developed and deployed OpenEMIS<sup>16</sup>, a high-quality Education Management Information System (EMIS) designed to collect and report data on schools, students, teachers and staff. The system was conceived by UNESCO, and developed by CSF, as a royalty-free system that can be easily customized to meet the specific needs of countries. OpenEMIS includes models

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<sup>16</sup> For more information on CFS and the OpenEMIS System (<https://www.communitysystemsfoundation.org/initiatives.html>) <https://news.openemis.org/>.

to determine vulnerability index for vulnerable populations like students with girls, students with disabilities and out-of-school children, among others.

- 3.10 The METVT has an existing contract with CSS that will expire in October 2022. The government intends to engage in a new contract with CSF to implement the action plan for the OpenEMIS in accordance with the Bank's policies for selection and contracting of consultants (GN-2350-15) Paragraph 3.11 and option (a) for tasks that represent a natural continuation of previous work carried out by the firm due to the continuity of service as the company provided the OpenEMIS system and trained METVT staff. CFS is the organization that updates the OpenEMIS and all countries having the system benefit. Therefore, it is of interest to have CSF continue the service and provide support to the existing system.
- 3.11 **Financial Audits.** Annual Audited Financial Reports of the Program are due 120 days after each calendar year (on April 30<sup>th</sup>) and one final Audited Financial Report at the end of the Program (due within 120 days after the last disbursement date or any extension thereof). All audits will be completed by an approved Auditor, under terms of Reference previously approved by the Bank.

## **B. Summary of arrangements for monitoring results**

- 3.12 **Monitoring and Evaluation.** The semi-annual progress reports prepared by the PCU will inform the Bank's Project Monitoring Reports (PMR). In addition, the Annual Operation Plan ([AOP](#)) and procurement plans will be used to monitor the implementation. A mid-term and final process evaluation will be conducted using loan resources. The final evaluation will inform the Project Completion Report (PCR).
- 3.13 The following evaluations will be conducted: (i) to evaluate whether secondary teachers modify their pedagogical approaches – to use more student-centered and gender-balanced pedagogies- after having received Pro-D and coaching in the new subject areas, classroom observations will be conducted using a structured classroom observation tool (such as the TEACH<sup>17</sup> instrument) using a before-and after methodology; (ii) the inclusive education pilot will be evaluated in a group of randomly chosen primary schools for treatment and control group; loan resources will be used to provide TA for the evaluation; and (iii) the comfort factors, that is, lighting, temperature, and noise, will be measured in the 10 primary schools that will be rehabilitated to measure improvements. Loan resources will be used for TA to conduct the study.

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<sup>17</sup> <https://www.worldbank.org/en/topic/education/brief/teach-helping-countries-track-and-improve-teaching-quality> TEACH is currently available for early childhood and primary education. A tool for secondary will be forthcoming. If not, the Teach Primary will be used for the lower secondary classes.

Development Effectiveness Matrix		
Summary		BA-L1053
I. Corporate and Country Priorities		
Section 1. IDB Group Strategic Priorities and CRF Indicators		
Development Challenges & Cross-cutting Issues	-Social Inclusion and Equality -Gender Equality and Diversity -Climate Change -Institutional Capacity and the Rule of Law	
CRF Level 2 Indicators: IDB Group Contributions to Development Results	-Students benefited by education projects (#) -Agencies with strengthened digital technology and managerial capacity (#)	
2. Country Development Objectives		
Country Strategy Results Matrix	GN-2953-1	Safeguarding social outcomes and fostering public sector efficiency
Country Program Results Matrix	GN-3087-2	The intervention is included in the 2022 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability		Evaluable
3. Evidence-based Assessment & Solution		8.8
3.1 Program Diagnosis		2.5
3.2 Proposed Interventions or Solutions		3.5
3.3 Results Matrix Quality		2.8
4. Ex ante Economic Analysis		10.0
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		1.5
4.2 Identified and Quantified Benefits and Costs		3.0
4.3 Reasonable Assumptions		2.5
4.4 Sensitivity Analysis		2.0
4.5 Consistency with results matrix		1.0
5. Monitoring and Evaluation		8.3
5.1 Monitoring Mechanisms		4.0
5.2 Evaluation Plan		4.3
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood		Medium Low
Environmental & social risk classification		C
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting, External Control, Internal Audit.
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project		

**Evaluability Assessment Note:** The general objective is to improve the quality and equity of education by supporting the transformation of the education system. The specific objectives are: (i) improve the quality of instruction by promoting student-centered classroom instruction approaches around relevant skills for the 21st century; (ii) promote a more inclusive education system; (iii) create a sustainable, safe and accessible learning environment by upgrading physical and technological school infrastructure; and (iv) strengthen sector management.

In general, the diagnosis is adequate, with a well-identified problem and clear determinants. The results matrix exhibits a vertical logic with clear specific objectives and SMART result indicators that allow demonstrating compliance (only 1 result indicator is not SMART). The economic analysis consisted of estimating the benefits of the program through a Cost Benefit Analysis (CBA) for Components 1 and 3, which represents 71% of the costs, and includes sensitivity analysis for the most critical parameters of the ex-ante CBA.

The program has a Monitoring and Evaluation Plan that specifies: (i) the evaluation questions; (ii) the methodologies for measuring the indicators; (iii) data requirements; and (iv) those responsible, as well as the estimated budget. It will not carry out an "Evaluation with Attribution", but different analysis strategies are proposed for the evaluation of each of the different components of the project.



**RESULTS MATRIX**

<b>Project Objective</b>	The general objective is to improve the quality and equity of education by supporting the transformation of the education system. The specific objectives are (i) Improve the quality of instruction by promoting student-centered classroom instruction approaches around relevant skills for the 21st century; (ii) promote a more inclusive education system; (iii) Create a sustainable, safe and accessible learning environment by upgrading physical and technological school infrastructure; and (iv) strengthen sector management.
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**General Development Objective**

Indicators	Unit of measurement	Baseline value	Baseline year	Expected year for achievement	Target	Means of verification	Comments
General development objective: The general objective is to improve the quality and equity of education by supporting the transformation of the education system							
I.1 % of secondary students who select CAPE subjects linked to the new curriculum areas	% - [students]/[students]	38%	2022	2030	increase	METVT report on CXC results	The new curriculum subject areas to be developed and implemented under the operation include Computer Science, Financial Technology (FINTECH, Agriculture, climate change/ blue & green economy. The full impact of the new subject areas will not be observed during the implementation period.
Boys							
Girls							
I.2 Secondary students mastering computational thinking skills		0		2027	tbd	METVT report	Baseline and endline data on computational thinking skills to be collected during implementation. As part of the curriculum reform, an assessment tool will be developed for Barbados.
Boys		0		2027	tbd		
Girls		0		2027	tbd		
I.3 Secondary students' household awareness of climate change	% households	0	2022	2027	tbd	Survey to be developed by IDB in collaboration with the Ministry of Education, Technological and Vocational Training (METVT).	Baseline and endline data to be collected during implementation. A survey at household level for the students receiving the new curricula will allow to understand the awareness creation based on the student's learning and measure the spillover effect in the families, especially in their understanding and actions they can perform.

**Specific Development Objectives**

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
<b>Specific development objective 1: Improve the quality of instruction by promoting student-centered classroom instruction approaches around relevant skills for the 21st century</b>											
R.1.1: Secondary Education Teachers applying student-centered teaching approach (in selected schools)	% - [teachers]/ [teachers]	0	2022					60%	60%	Report on class observations using a structured Classroom observation tool <sup>1</sup> by consultancy approved by the METVT	This indicator measures the implementation of student-centered learning pedagogies and 21st century skills. Teachers in Form 1, 2,3 in 9 secondary schools, will receive professional development. To assess changes in teaching methods, the METVT will apply the structured classroom observation tool at the secondary level to get information on pedagogical approaches. The baseline will have to be conducted in 2023. The instrument reports on: a) time on task, b) Quality of Teaching Practice (including Classroom Culture, Instruction, and Socioemotional skills.).
R.1.2: Secondary Teachers applying gender-balanced teaching approaches (in selected schools)		0						50%	50%	Report on class observations issued by consultancy and approved by the METVT	This indicator measures the implementation of student-centered learning pedagogies and 21st century skills. Teachers in Forms 1,2, 3 in 9 secondary schools will receive professional

<sup>1</sup> Frequently used classroom observations tools are: a) the Service Delivery Indicators (SDI); b) The Stallings Classroom observations system (Stallings); c) TEACH (World Bank); and d) the Classroom Assessment Scoring System (CLASS). For a recent review of the various instruments see: <https://riseprogramme.org/publications/identifying-effective-teachers-highlights-four-classroom-observation-tools>.

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
											development. To assess changes in teaching methods, the METVT will apply a structured classroom observation tool at the secondary level to get information on pedagogical approaches. The baseline will have to be conducted in 2023. Classroom observation tools report on: a) time on task, b) Quality of Teaching Practice (including Classroom Culture, Instruction, and Socioemotional skills).
R.1.3. Secondary Students benefited from 4 new curricula subjects	[students]	0	2022		3,300	3,300	3,300	3,300	13,200	Enrollment rates records from Ministry of Education, Technological and Vocational Training (METVT)	This corporate indicator measures students learning the new curriculum subjects. (by gender). The new curricula will be piloted in Forms 1,2,3, and 4 of secondary schools. A total of 13,200 students will benefit from the curriculum reform during the piloting phase.
Boy		0			1,650	1,650	1,650	1,650	6,600		
Girls		0			1,650	1,650	1,650	1,650	6,600		
Specific development objective 2: Promote a more inclusive education system											
R2.1 Special Needs students in pilot schools receiving services according to their Individual Education Plans (IEP)	% - [students]/[students]					80			80	Report by external consultancy approved by METVT	This indicator measures the % of students who were screened and diagnosed for a sensory, developmental, or physical disability in the 5 randomly selected primary schools for treatment. These schools

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
											will receive professional development for teachers, principals, assistive technologies (low and high tech) and materials and equipment to provide better services to students.
<b>Specific development objective 3: Create a sustainable, safe and accessible learning environment by upgrading physical and technological school infrastructure</b>											
R.3.1 Primary School Students benefitted by upgraded school infrastructure	[students]	0	2022		875	931			1,806	Enrollment rates Records from schools, METVT	This corporate indicator measures improvement and expanded access to upgraded infrastructure. The indicator will be segregated by gender. A total of 1,806 students will benefit from the infrastructure component which includes improved connectivity within the schools.
Boys		0			437	466			903		
Girls		0			438	465			903		
R.3.2 Percentage of primary schools with physical access for persons with disabilities.	% - [schools] / [schools]	51	2022		7%	7%			65%	Design report from Education Technical Management Unit/ METVT	This indicator measures the improvement of the learning environment in the 10 primary schools prioritized for rehabilitation. Available data shows that 51% of primary schools have at least one access point for Persons with Disability (PwD)(METVT data 2022) The selected schools will have facilities to ensure access. The 10 schools are part of the total 68 public primary schools in Barbados.

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
R3.3 Percentage improvement in primary school comfort conditions.	%	0	2022					6.0%	6.0%	Report on comfort conditions independent consultancy	This indicator measures the improvement of the learning environment. A composite index will measure the following comfort conditions: a) illumination levels in classrooms rehabilitated. B) external noise level in classrooms rehabilitated. C) room temperature in classrooms rehabilitated. During the first year of implementation METVT will report the baseline value, based on the report none of the prioritized schools meet minimum international standards and good practices
<b>Specific development objective 4: Strengthen sector management</b>											
R4.1 METVT is using the HR module of the OpenEMIS to digitize hiring process of primary education teachers and to manage key HR processes (leave requests, school transfers, application process, promotions).	[Score]	2	2022					4	4	Repeated EMIS Diagnostic Assessment. – Final report issued by independent consultancy approved by the METVT	This indicator measures the expanded use of the HR/ Finance module of the OpenEMIS system for management of HR and budgetary resources. The scoring from 1-4 is part of a methodology for assessing OpenEMIS systems (SCL/EDU). This methodology permits the classification of the processes and structural conditions according to their level of development as latent (1), incipient (2),

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
											emergent (3), or established (4). The value of 2 indicates that the module is incipient meaning that it partially addresses the central processes, but it needs reorientation. A score of 3 emergent indicates that the module it partially addressed the central processes, and its orientation is appropriate. A score of 4 indicates that the modules is established, that is it has a proper orientation and a coverage of more than 80% of the central processes and structural conditions that define it and its orientation is appropriate for the achievement of its objectives.

### Outputs

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
<b>Component 1: Curriculum Reform and Development</b>											
KP1.1 Number of new curriculum subject areas for secondary education developed	[Subject areas]	0	2022		4				4	Curriculum guides and list of materials required to teach the new subject areas. Reports by external consultancy validated by METVT.	The curriculum reform will cover all grades. However, the operation will focus on secondary education starting with Forms 1,2,3, and 4. The four subject areas include Computer Science, Agriculture, Fintech and Climate

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
											<p>Change/blue/green economy.</p> <p>The METVT will receive technical assistance to develop a curriculum framework, subject content, new student assessments, ICT strategy, professional development for student-centered and gender-balanced teaching approaches (student-centered), and curriculum guides. The METVT has experienced teachers who serve in curriculum writing teams by subject areas. These writers will serve as trainers and coaches. Curriculum content will be gender-balanced. The climate change and agriculture material will include information on the country's Blue economy agenda, as well as a climate change profile of Barbados, to create awareness on mitigation sector challenges (energy, transport and waste) as well on the vulnerabilities and measures to enhance resilience.</p>
KP 1.2 Loan resources dedicated to the provision of	[% loan resources]	0	2022		40	20	20	20	100	PCU report/ METVT	The new curriculum areas will be complemented with equipment and materials

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
materials and equipment for the new subject areas disbursed											needed to successfully implement them. In this first phase, Forms 1,2,3,4 will be targeted. Revised curriculum implies consolidating new areas into traditional areas and better transversal integration. The PCU will have procurement documents and delivery certificates for the materials provided to schools according to the lists prepared by the curriculum writing teams.
KP 1.3 Classroom observations for use of student-centered pedagogies completed.	[Classroom observation]	0	2023	1				1		Report by external consultancy approved by METVT	Classroom observations will be conducted in grades 6,7and 8. Baseline and endline information will be collected to measure if teachers apply more student-centered teaching approaches.



Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
<b>Component 2: Inclusive Education (IE)</b>											
KP2.1 Inclusive education pilot implemented in select schools	[School]	0	2022		5	5	5	5	5	Final report of pilot issued by the METVT	The pilot will be conducted in a group of 5 randomly selected primary schools (with 5 control schools). The aim of the pilot is to provide better services to students with a disability (sensory, developmental, or physical disabilities). Teachers at the selected schools for treatment will receive training on IE. Students will receive assistive technologies in the treatment schools, students will be screened and diagnosed.
KP2.2 Inclusive Education Module included in the Bachelor of Education program at Erdiston Teacher Training College.	[Module]	0	2022						1	Training module on Inclusive Education approved and integrated into BA program of the Erdiston Teacher Training College (ETTC)	The training provided in the 5 treatment schools for inclusive education will be integrated into the Bachelor of Education Program at the ETTC where trainees will get more hours of instruction about IE, as well as information about the screening tool developed.
KP 2.3 Evaluation of inclusive education pilot completed.	[Report]	0	2022	1				1	2	Report by external consultancy and approved by METVT	An evaluation will be conducted of the 5 pilot and 5 control schools to assess if the measures put in place to improve services for students with a disability have improved and could be scaled up.

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
Component 3: Physical and Digital Upgrade of Sustainable Infrastructure, with a Resiliency Focus											
KP3.1 Primary schools rehabilitated to include sustainability measures.	[School]	0	2022		5	5			10	Certificate of completion of Works and Certificate of compliance with EDGE, Education Technical Management Unit	All infrastructure interventions will include low carbon and resilient measures resulting in the EDGE certification.
KP.3.2 Consultancy to strengthen METVT Institutional capacity.	[Report]	0		1	1	1				Contract of engineer/ PCU records and approved reports of the consultant by METVT	The Education Technical Management Unit (ETMU) will get support from consultant (engineer/ social environmental expert) for the execution of the rehabilitation works of the 10 primary schools.
KP 3.3 Assessment of comfort factors in classroom completed	[Report]	xx		1			1		2	External consultancy report approved by METVT	External consultancy to conduct the measurement of the comfort factors.
Component 4: Improved Sector Management											
KP4.1 EMIS Policy developed and approved by METVT	Report	0	1		1				1	Policy (White Paper on EMIS) approved.	External consultancy will work with METVT To develop an Education Management Information System (EMIS) policy. An effective EMIS generates and distributes integrated, relevant, timely, reliable, and easy to interpret data to decision makers and other education stakeholders at all levels. Its contribution is manifested throughout the entire management process, from the

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
											formulation of policies to monitoring implementation and the evaluation of their effectiveness.
KP4.2 OpenEMIS Module for Management of human and financial/budgetary resources updated and all personnel records fully digitized.	[Module]	0	2022			1			1	Repeated OpenEMIS Diagnostic Assessment. – Final report issued by the consultancy including report on the HR / budget module approved by METVT	HR records in schools most pertain to teachers which are still in paper format and have to be digitized. Once digitized, the records must be uploaded into the OpenEMIS HR module. The information is then used to manage regular HR processes.
Project Management, Monitoring, and Evaluation											
PCU operating	[document]	0	2022	1	1	1	1	1	1	Project Progress Reports, PCU	The objective is to have a fully operational PCU with dedicated staff for the operation.
Project evaluations		0				1		1	2	Evaluation Reports, external consultancy	Mid-term and final evaluation.

**Country:** Barbados**Division:** EDU**Operation No.:** BA-L1053**Year:**2022**FIDUCIARY AGREEMENTS AND REQUIREMENTS****Executing Agency (EA):** Ministry of Education, Technological and Vocational Training**Operation Name:** Skills for the Future II**I. Fiduciary Context of Executing Agency**

1. Use of country system in the operation (Any system or subsystem that is subsequently approved may be applicable to the operation, in accordance with the terms of the Bank's validation).

<input checked="" type="checkbox"/> Budget	<input type="checkbox"/> Reports	<input type="checkbox"/> Information System	<input type="checkbox"/> National Competitive Bidding (NCB)
<input checked="" type="checkbox"/> Treasury	<input checked="" type="checkbox"/> Internal audit	<input type="checkbox"/> Shopping	<input type="checkbox"/> Others
<input checked="" type="checkbox"/> Accounting	<input checked="" type="checkbox"/> External Control	<input type="checkbox"/> Individual Consultants	<input type="checkbox"/> Others

**2. Fiduciary execution mechanism**

<input checked="" type="checkbox"/>	Particularities of the fiduciary execution	<p>The program will be executed by the Ministry of Education, Technological and Vocational Training (METVT) through a newly created Project Coordination Unit (PCU). The PCU will be working closely with the Education Technical Management Unit (ETMU)T which will be responsible for the infrastructure component and the Information Technology and Quality Assurance Unit (ITQAU) which will be responsible for technological infrastructure in schools.</p> <p>There will be a Project Steering Committee, (PST) established chaired by the Minister of METVT, and comprise relevant departments and agencies, such as Special Tenders Committee, the Solicitor's General Office, Ministry of Economic Affairs. The main purpose of the PST is to address any bottlenecks encountered during project execution</p>
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**3. Fiduciary Capacity**

Fiduciary Capacity of the EA	<p>The executing agency, the METVT, has a track record in the implementation of projects placed under its responsibility. Over the past five years, it has executed several public investment projects using reimbursable international cooperation funds, non-reimbursable international cooperation funds and domestic financing. These projects were IDB funded Skills for the Future 1 (Executed by Project Implementation Unit); ESEP II (Financed by CDB and executed by ETMU); China Aid Project, UWI Centre for Food Security and Refurbishment of schools, electrical upgrades to seven schools (ETMU execution unit, budget financed by government). Notwithstanding that in the last three years, this department has not had the experience of project procurement and financial management based on National legislation, the IDB's policies or Policies of other funders, the PACI reveals that the intended structure of the PCU and the governing structure and internal controls of the METVT, there exists adequate fiduciary capacity to successfully implement the operation.</p> <p>Project financial reporting will be produced through the CloudSuite accounting software system. This system is used by the METVT and provides a satisfactory range of financial reporting functionalities for a non-complex Bank funded operation.</p>
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#### 4. Fiduciary risks and risk response

Risk Taxonomy	Risk	Risk level	Risk response
Institutional	PROCUREMENT- If the PCU doesn't have the necessary institutional capacity to carry out procurement processes according to IDB policies and If the executing agency is unable to contract a procurement specialist by the end of 2022 it may cause the delay of project start up activities currently scheduled for Q1 2023 by approximately 3 months.	Medium-High	<p>The procurement Officer should be recruited and assigned to the program in a timely manner and be suitably skilled and qualified, preferably with experience in managing IDB and donor funded projects.</p> <p>continuous technical supervision and tailored trainings as required for procurement staff responsible for fiduciary activities under the operation</p> <p>strengthening procurement management and procedures best practices through the incorporation of lessons learnt from delays/bottlenecks encountered in previous procurement processes in the country and conditions prior to first disbursement to ensure timely availability of key fiduciary personnel for the PCU.</p>
Institutional	FINANCIAL MANAGEMENT – If the PCU lacks updated knowledge of Bank financial management policies, procedures and practices and they executing agency is unable to contract a financial management specialist by Q1 2023 it may cause the delay of project activities currently scheduled to be undertaken in Q3, especially the development of adequate financial records and the semi-annual progress report which is a contractual obligation.	Medium-High	<p>This risk will be mitigated by the appointment of a dedicated financial officer. This risk will be further mitigated by increased training and FM supervision. Responsible party: PCU/Borrower Timeline for implementation: Prior to 1st disbursement of loan.</p> <p>continuous technical supervision and tailored trainings as required for financial management staff responsible for fiduciary activities under the operation</p>

**5. Policies and Guides applicable to operation:** The procurement of goods works and services, and the selection of consultants financed by the Bank will be carried out in accordance with the Policies for the Procurement of Goods and Works financed by the IDB (document GN-2349-15) and the Policies for the Selection and Contracting of Consultants Financed by the IDB (document GN-2350-15), respectively and with the provisions established in the loan contract and the procurement plan

**6. Exceptions to Policies and Rules:** not applicable

## II. Aspects to be considered in the Special Conditions of the Loan Agreement

**Pre-first disbursement conditions:** The project's Operating Regulations (OR) has been approved with the terms previously agreed with the Bank, including fiduciary management, inter-institutional governance arrangements, among others as required by the Project Team, and the PCU has been created, and staffed with the following officers dedicated to the operation; a Project Coordinator, a Procurement and Financial Officer appointed with terms of reference satisfactory to the Bank.

**Exchange Rate:** For purposes of Article 4.10 of the General Conditions, the Parties agree that the applicable exchange rate shall be indicated in paragraph (b)(i) of said Article. For purposes of determining the equivalency of expenditures incurred in Local Currency chargeable to the Additional Resources or of the reimbursement of

expenditures chargeable to the Loan, the agreed exchange rate shall be the exchange rate on the effective date on/in which the Borrower, the Executing Agency, or any other person or legal entity in whom the power to incur expenditures has been vested makes the related payments to the contractor, supplier, or beneficiary.

**Type of Audit:** Annual Audited Financial Statements (AFS) of the operation are to be submitted to the Bank within 120 days after the close of each fiscal period, in addition to Final AFS, which are due for submission to the Bank within 120 days of the close (last disbursement date) of the program. The AFS should report on the overall program, in the expressed currency of the Loan. The AFS of the program should include, in addition to the basic financial statements, an internal control report.

### III. Agreements and Requirements for Procurement Execution

<input checked="" type="checkbox"/>	Bidding Documents	For procurement of Works, Goods and Services Different of Consulting executed in accordance with the Procurement Policies (document GN-2349-15), subject to ICB, the Bank's Standard Bidding Documents (SBDs) or those agreed between EA and the Bank will be used for the particular procurement. Likewise, the selection and contracting of Consulting Services will be carried out in accordance with the Policies for the Selection and Contracting of Consultants (document GN-2350-15) and the Standard Request for Proposals (SRP) issued by the Bank or agreed between the EA and the Bank will be used for the particular selection. The revision of the technical specifications, as well as the terms of reference of the procurements during the preparation of selection processes, is the responsibility of the sectorial specialist of the project. This technical review can be ex-ante and is independent of the procurement review method.
<input checked="" type="checkbox"/>	Direct Contracting and Single Source Selection	<p>The following direct contracting has been identified:</p> <p>The METVT has an existing contract with Community Systems Foundation (CFS) that will expire in 2023. The government intends to engage in a new contract with CFS to implement the action plan for the OPEN EMIS in accordance with the Bank's policies for selection and contracting of consultants (GN-2350-15) Paragraph 3.11 and option (a) for tasks that represent a natural continuation of previous work carried out by the firm due to the continuity of service as the company provided the OPEN EMIS system and trained METVT staff. It is expected that the consultancy to implement the action plan of the OPEN EMIS will cost US\$1,276,000. CFS is the organization that updates the OPEN EMIS and all countries having the system benefit. Therefore, it is of interest to have CFS continue the service and provide support to the existing system.</p> <p>The CFS is the organization which provided the OPEN EMIS to the Government of Barbados and which has been adopted by a number of countries in the LAC region (i.e., Trinidad and Tobago, Guyana, Belize, and Barbados). CSF, in partnership with UNESCO, designed, developed and deployed OpenEMIS10, a high-quality Education Management Information System (EMIS) designed to collect and report data on schools, students, teachers and staff. The system was conceived by UNESCO, and developed by CSF, as a royalty-free system that can be easily customised to meet the specific needs of countries. OpenEMIS includes models to determine vulnerability index for vulnerable populations like students with girls, students with disabilities and out-of-school children, among others.</p>
<input checked="" type="checkbox"/>	Recurrent Expenses	The recurrent expenses required to put the project into operation approved by the Project Team Leader, which are financed, will be made following the executing agency's administrative procedures. Such procedures have been reviewed and accepted by the Bank, provided that they do not violate the principles of value for money, economy, efficiency, equality, transparency and integrity: See Guidelines for the treatment of recurring expenses and document GN-2331-5 Expense Eligibility Policy and updates.)
<input checked="" type="checkbox"/>	Procurement supervision	Procurements above the NCB threshold, selection of consulting firms, as well as single sourcing of Individual consultants will be reviewed ex-ante. All individual

		consultants selected competitively will be reviewed ex-post. Ex-post reviews will be performed every six months according with the Supervision plan of the project
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### Main Acquisitions

Description of the procurement	Selection Method	New Procedures/Tools	Estimated Date	Estimated Amount 000'US\$
<b>Goods</b>				
Procurement of Teaching and Learning Equipment for the 4 subject areas of the curriculum	International Competitive Bidding (ICB)		04/13/2023	2,100,000
Photovoltaic Solar Panels	ICB		10/27/2023	512,117
<b>Works</b>				
Procurement of Construction works for the Primary Schools upgrade	ICB		03/28/2024	7,223,729.91
<b>Consulting Firms</b>				
Firm to support the design and overall strategy for the curriculum redesign, permanent update, implementation, etc.	Quality- and Cost-Based Selection (QCBS)		03/20/2023	1,200,000
Firm for the Design and Supervision of school upgrades	QCBS		03/20/2023	1,264,152.73
Firm to support EMIS Action plan designed to achieve full use of modules of the EMIS system	Single Source Selection		06/17/2023	1,200,000
<b>Individuals</b>				
PEU personnel	Selection of individual consultant (3 CV)		01/01/2023	1,110,000

18-month PA18 procurement plan [\[link\]](#)

### **IV. Agreements and Requirements for Financial Management**

<input checked="" type="checkbox"/>	Programming and Budget	Each year, the MINISTRY OF FINANCE, ECONOMIC AFFAIRS AND INVESTMENT approves estimates of income and expenditure from ministries and other agencies for inclusion in the National Budget for the following fiscal year, April 1 to March 31.
<input checked="" type="checkbox"/>	Treasury and Disbursement Management	<p>•Conditions Precedent to first disbursement include the- development of a Project Operations Manual (POM) and the creation of a PCU, with the appointment of personnel for critical functions such Project Coordinator, Finance Officer, and Procurement Officer. The Project Cash Flow is characterized by advances and direct payment to suppliers and will use a dedicated account. The disbursement mechanism shall be using the online disbursement methodology by default, with a paper-based method as a contingency. The operating currency will be USD, with the ability to make expenditure in local currency. The exchange rate to be used in the transaction will be the effective exchange rate on the date of payment of the expense in the local currency.</p> <p>A separate bank account will be established for the disbursement and management of resources disbursed to the loan and will be used to conduct all financial activities related to the loan resources in accordance with the terms and conditions specified in the Project Operations Regulations. The METVT commits to maintaining strict control over the utilization of the resources disbursed to ensure the easy verification and reconciliation of balances between the PCU's records and IDB records.</p>

		<p>Bank policies allow for the following disbursement methodologies will be used for the program:</p> <ul style="list-style-type: none"> <li>a. Reimbursement of Payments Made (will be predominantly used for the disbursements by the Bank to the designated account for the CEF).</li> <li>b. Direct Payment to Supplier.</li> <li>c. Advance of Funds (only to provide for the liquidity needs, and to facilitate the day-to-day operations).</li> </ul> <p>The project will provide adequate justification of the existing Advance of Funds balance, whenever 80% of said balance has been spent. Advances will normally cover a period not exceeding 180 days and no less than 90 days.</p>
<input checked="" type="checkbox"/>	Accounting, information systems and reporting	<p>Project accounting will be performed using the CloudSuite accounting software package, in accordance with the Financial Administration and Audit Rules and IFRS; IDB's financial management requirements; the modified cash basis of accounting, which is a comprehensive basis of accounting other an IFRS. It is expected that the accounting system will facilitate the recording and classification of all financial transactions, provide information related to: planned vs. actual financial execution for the operation; the financial execution plan for the next 180 days that will be attached to each request for Advance of Funds. Additionally, the list of commitments will also accompany any request for Advance of Funds.</p>
<input checked="" type="checkbox"/>	Internal Control and Internal Audit	<p>The management of the project, at the level of both the Borrower and PCU level, will assume the responsibility for designing and implementing a sound system of internal control for the project.</p>
<input checked="" type="checkbox"/>	External control: external financial audit and project reports	<p>For each fiscal year during project execution, the METVT will be responsible to submit AFS for the loan. The Auditor will be contracted in accordance with the terms of reference agreed between the Borrower and/or the EA and the Bank. These Financial Statements will be audited by an independent public accounting firm approved by the Bank. This includes the Supreme Audit Institution of Barbados. A final AFS is to be submitted to the Bank within 120 days from the date of last disbursement.</p>
<input checked="" type="checkbox"/>	Project Financial Supervision	<ul style="list-style-type: none"> <li>• Financial Supervision will be developed based on the initial and subsequent risk assessments carried out for the program. Financial, Accounting and Institutional Inspection visits will be performed at least once per year, covering, among other things, the following topics: <ul style="list-style-type: none"> <li>a. Review of the bank reconciliation and supporting documentation for Advances and Justifications.</li> <li>b. Review of compliance with the POM.</li> <li>c. Conducting ex-post Reviews.</li> </ul> </li> </ul>



DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-\_\_\_/22

Barbados. Loan \_\_\_\_/OC-BA to the Government of Barbados  
Skills for the Future II: Digital Transformation for  
Inclusive and Quality Education

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Government of Barbados, as borrower, for the purpose of granting it a financing aimed at cooperating in the execution of the project "Skills for the Future II: Digital Transformation for Inclusive and Quality Education". Such financing will be for the amount of up to US\$20,000,000, from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on \_\_\_\_ 2022)