

TC Document

I. Basic Information for TC

▪ Country/Region:	JAMAICA
▪ TC Name:	Digital Transformation for School Management
▪ TC Number:	JA-T1195
▪ Team Leader/Members:	Hobbs, Cynthia Marie (SCL/EDU) Team Leader; Rieble-Aubourg, Sabine (SCL/EDU) Alternate Team Leader; Arias Ortiz, Elena (SCL/EDU); Benedettelli, Veronica (VPC/FMP); Blasco, Ivana (SCL/EDU); Casco, Mario A. (ITE/IPS); Centeno Lappas, Monica Clara Angelica (LEG/SGO); Elacqua, Gregory Michael (SCL/EDU); Emilio Laguillo (SCL/EDU); Jainauth-Umrao, Naveen (VPC/FMP); Samuels, Rochelle Kaye (CCB/CJA); Thailinger, Agustina (SCL/EDU)
▪ Taxonomy:	Client Support
▪ Operation Supported by the TC:	.
▪ Date of TC Abstract authorization:	07 Jul 2021
▪ Beneficiary:	Ministry of Education, Youth and Information (MOEYI). Jamaica
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	OC Strategic Development Program for Social Development(SOC)
▪ IDB Funding Requested:	US\$200,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	24 months (24-month execution period)
▪ Required start date:	01 Dec 2021
▪ Types of consultants:	Individual
▪ Prepared by Unit:	SCL/EDU-Education
▪ Unit of Disbursement Responsibility:	SCL/EDU-Education
▪ TC included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Productivity and innovation; Social inclusion and equality

II. Objective and Justification

- 2.1 **Objective of the TC.** The general objective of this TC is to assist the Ministry of Education, Youth and Information (MOEYI) to develop processes and systems able to capture and analyze detailed school-level income, expenditure and student management data in order to manage school resources more effectively and efficiently. This will provide a comprehensive view of how schools manage and allocate resources and collect and use information, allowing Jamaica's MOEYI to administer the education budget more equitably and efficiently. This will benefit MOEYI authorities who will have a more comprehensive overview of allocation and spending of resources to schools, and also will benefit school directors and bursars who will be able to better track their income and use of resources. The project will include: (i) the analysis of current school income, expenditure and student management processes and the development of a framework plan for the digital transformation and improvement of Jamaica's school management system; (ii) assistance in the design of a prototype

application for school management or the adaptation of an existing one (such as OpenEMIS); (iii) the design and piloting of training for a sample of teachers and policy actors to equip them with skills in strategic fiscal and student management and essential knowledge on storage, management and protection of data. These activities will complement the results of the IDB-led Jamaica's Education Management Information Systems (EMIS) and school financing studies which demonstrate the need for better systems to enable more equitable distribution and management of public resources (see below), a long-standing problem exacerbated by current events.

- 2.2 The eruption of the COVID-19 pandemic has impacted the economy worldwide. According to the International Monetary Fund (IMF)¹, global GDP fell by 3.3 percent in 2020. The most affected region was Latin American and the Caribbean (LAC), where GDP fell by 7 percent. Likewise, expected GDP growth for the area in 2021 is equal to 4.6 percent, quite below the expected 6 percent for the world economy. This situation has implied a strong drop in public income, resulting in budget cuts for most countries. Jamaica's economy is highly dependent on tourism and single-market commodities, two sectors strongly affected by the pandemic. In 2020, Jamaica experienced a GDP contraction of 10.2 percent (versus an expected 5.6 percent negative change).² This has had serious implications on Jamaica's fiscal situation³, and on available resources for public spending in capital investments for education over the next three years⁴, especially compared to other areas such as health.
- 2.3 Potential budget restrictions to education could have serious implications for student learning. Studies show that increases in per-pupil spending have statistically significant positive effects on student outcomes, both in the short run -such as test results, school attendance and graduation rates- and the long run -such as adult wages and poverty level, and intergenerational mobility (Card & Payne, 2002; Machin et al., 2007; Jackson et al., 2015; Lafortune et al., 2018; Biasi, 2018; Candelaria & Shores, 2019; cited in Bertoni, et al., 2020). These positive effects seem to be stronger for more disadvantaged students (Bertoni, et al., 2020).
- 2.4 A recent request from Jamaica's MOEYI regarding school financial management highlighted the challenges the central MOEYI has had in obtaining adequate financial reports from public schools. According to the Ministry, this is because MOEYI's current platform is not being used by all schools, which could relate to the data collection systems or to the schools' timely submission of data. Further, the IDB-financed study on Jamaica's EMIS identified differences in use by school, whereby well-financed schools sometimes buy their own software to meet their needs while poorly financed schools use paper-based collection of data,⁵ creating inequities in access to and use of data from and by school management. This hinders the MOEYI's effective use of data for strategic planning and decision-making. The existence of a system that

¹ See: <https://www.imf.org/en/Publications/WEO/Issues/2021/03/23/world-economic-outlook-april-2021/>.

² IMF Country Report No. 20/167; <https://www.imf.org/en/Countries/JAM>.

³ Jamaica's Country Development Challenges Update, CDC UPDATE (IDB, 2021).

⁴ Estimates of Expenditures 2021/2022 (Ministry of Finance and the Public Service, 2021).

⁵ IDB Report (Chapelet, 2019).

provides homogenous and up-to-date information on income, expenditures and student management from each school would improve the MOEYI's capacity to manage resource allocation and make timely decisions with comprehensive and high quality school level financial data.

- 2.5 In 2019, Jamaica was the first Caribbean country to participate in the IDB's Digital Education project on EMIS. This in-depth analysis of the EMIS identified the characteristics of daily management processes, how they were carried out, and the extent to which they took advantage of automation and digital technologies to improve efficiency (Arias Ortiz et al., 2019). According to the analysis, Jamaica's EMIS was in an incipient state of development. Although the MOEYI has made efforts to introduce software and systems, the study showed that many of them were not interoperable and did not allow for efficient sharing and management of data and strategic management decision-making. The study also highlighted the importance of the monitoring of physical infrastructure and equipment, management of schools and tools for strategic management, and made recommendations on how to develop a fully integrated EMIS.⁶ Despite the comprehensive review, the study did not provide the in-depth analysis of school management of finances and student information required by the MOEYI in order to address the shortfalls highlighted in their request.
- 2.6 The IDB, in cooperation with the MOEYI, also carried out a school finance study in Jamaica from 2018-2020. Some 200 randomly selected and representative primary and secondary schools reported information on yearly income by source, types of expenditure and number of students in the Programme for Advancement Through Health and Education (PATH)⁷ (Chegwin et al., forthcoming). The MOEYI uses a per capita funding formula to distribute funds to primary and secondary schools and has developed policies over the last several years to promote equity among schools.⁸ However, the study observed that despite a seemingly progressive allocation of public funds among institutions (in this case, secondary schools), high socio-economic status (SES) schools have access to private sources of income and other resources (from parents, alumni associations, etc.) that are not accurately reported to the MOEYI nor accounted for during the financial allocation process. This distorts the perception of each school's real income and assets, impeding an equitable distribution of public funds. Moreover, private contributions to schools -such as infrastructure improvements, specialized teachers and coaches, and learning aids (computers, technology)- are captured and stored by independent MOEYI information systems. Since these systems are not interoperable, they are not capable of providing a fulsome picture of the status of each school. In this regard, the study observed that there was no centralized data protocol to collect, integrate and analyze school-level information

⁶ Idem.

⁷ Jamaica's conditional cash transfer program.

⁸ MOEYI (2018). Bulletin 90-2018. Funding Arrangements - Infant, Primary, All Age and Junior High Schools (2018-2019); MOEYI (2018). Bulletin 91. Funding arrangements for secondary institutions - 2018/2019; MOEYI (2020). Bulletin 134-2020. Funding Arrangement for Infant, Primary, All Age and Junior High Schools - 2020/2021.

to guide education policy and financial planning, and this lack of robust and real-time information could limit the equitable allocation of resources.

- 2.7 The proposed activities will benefit from work done by the Education Division on the improvement of the efficiency and equity of education spending in LAC: Brazil (BR-T1339; BR-T1466), Chile (CH-R1002; CH-T1170), Colombia (CO-T1406); Peru (PE-R1002); Regional (RG-T2997). Moreover, the Bank has carried out extensive work on improving education management processes, such as with the EMIS study in 18 countries and cities (RG-T3008). Finally, the proposed activities are aligned with the loan operation JA-L1072, which aims to implement a National Identification System (NIDS) in Jamaica.
- 2.8 This TC aligns with IDB's Vision 2025's medium term goals of promoting social progress and strengthening good governance and institutions. It is consistent with IDB's Second Update of the Institutional Strategy (UIS) (AB-3190-2) and is aligned with the development challenge of productivity and innovation by emphasizing the use of technology to increase the efficiency of management processes and strengthen digital skills of policy makers and education sector actors. This TC is aligned to the social inclusion and equality development challenge by enhancing tools for more equitable distribution of funds among schools. This TC aligns with the OC Strategic Development Program for Social Development contained in the document GN-2819-1 by focusing on strengthening the MOEYI's efforts to become more effective and efficient in programming of resources to ensure that schools receive funds as needed. The operation is consistent with the social pillar of IDB's subregional program for the Caribbean, Build Forward, which promotes smart and resilient investments for transformation, and is aligned with IDB Group's Country Strategy with Jamaica 2016-2021, under the strategic area of reinforcing human capital protection and development, by focusing on the expansion of a school management system that improves the allocation of resources to lower performing schools and the management of the education sector. Finally, it aligns with the Education Division's Skills Development Sector Framework Document, approved in 2020, under the line of action to actively promote the generation and use of evidence-based decision making.

III. Description of Activities and Outputs

- 3.1 **Component 1. Analysis and framework plan for school management system (US\$70,000).** This component will analyze and systematize information on how MOEYI and schools collect and use school level income and expenditure data; what system(s) are in place and how they are used and will look at student information related to progress and learning. Additionally, this component will support the elaboration, with key stakeholders, of a roadmap describing the inputs and processes necessary for improvement and digital transformation of Jamaica's school management system. TC resources will be used to contract technical assistance for three activities: (i) A diagnosis will analyze the current state of income, expenditure and student management processes at the school level, focusing on the flow of information between schools and the central MOEYI. The consultant will use the

detailed analysis from the IDB's EMIS, school financing, and school level expenditure data collection and use studies as a starting point. (ii) A series of workshops, designed and led by a consultant, will help define the features that the school management system should have and the objectives it will need to fulfill (using a methodology, for example, like Future State/Critical Success Factors (FS/CSF)). The workshops will bring together critical actors (from schools, MOEYI, Ministry of Finance (MOF), Ministry of Labour and Social Security (MLSS), Office of the Prime Minister) to collectively determine the normative, human and physical factors, and processes needed to develop an efficient system. The workshops will be online or in-person, depending on the national health conditions at the time. The expected output will be a framework plan with a roadmap describing costs, time, and reach of the necessary processes to attain an efficient and effective school management system. (iii) Logistical support for organization and coordination of the workshops will include hiring of a consultant to act as the workshops' scribe and responsible party for the reporting, dissemination, and communication of results, as well as liaising with the consultants who will carry out the other phases of the project.

- 3.2 **Component 2. Prototype application for school management (US\$70,000).** This component will assist in the design of a prototype application or adaptation of an existing one (such as OpenEMIS) to address the needs of the Jamaican schools for management and data collection of income, expenditures, and student information. TC resources will be used to contract a consultant to help the MOEYI define the necessary features that the school management application should have in order to meet the above-mentioned purpose. This work will support the creation of a single and integrated database on school level income and expenditure data and student information, allowing for the conversion of data that is currently dispersed in different databases, both physical and digital, and with different degrees of precision across schools. This will enable mapping of school-level expenditure and student management data from different perspectives, such as teacher and school staff salaries, infrastructure (physical and digital) and utilities, school materials, fees and private contributions, student well-being programs (school feeding and transportation), and others to make management of the education budget more equitable and efficient. The expected output is an application for school management, ready to be deployed in all Jamaican schools.
- 3.3 **Component 3. Training of school leaders (US\$60,000).** This component will consist of the design and piloting of a professional development module to better equip policy makers and school leaders with practical skills in strategic financial and student data management. It will include the introduction of the prototype application/adaptation for data collection, training on its use, and instruction on the proper storage, management and protection of data according to specific guidelines. Training will be piloted in a small number of schools and for a small number of policy actors (to be determined by the MOEYI) who will then become trainers for the remaining relevant stakeholders. Training will be online or in-person, depending on the national health conditions at the time. TC resources will be used to contract technical assistance to design and develop

the program, including possible modifications to existing course materials to include Jamaican examples, and to deliver the training. The expected output is a training module and materials, and training sessions to master trainers. The program will be rolled out later by a local training agency, such as the MOEYI's National Centre for Educational Leadership responsible for training school principals, and the roll-out will be financed by the Government of Jamaica.

IV. Budget

Indicative Budget (US\$)

Activity/Component	Description	IDB/Fund Funding	Total Funding
Component 1. Analysis and framework plan for school management system	(i) Diagnosis; (ii) Workshops to develop the framework plan; (iii) Logistical support for development of the framework plan	70,000	70,000
Component 2. Prototype application for school management	Prototype	70,000	70,000
Component 3. Training of school leaders	(i) Training module and materials; (ii) Training sessions	60,000	60,000
Total			200,000

- 4.1 The total cost of the TC, needed to achieve the expected outputs, is US\$200,000, to be financed by the OC Strategic Development Program for Social Development (SOC). There is no local counterpart funding anticipated. The indicative budget is shown in the table above.
- 4.2 **Supervision, monitoring and evaluation.** The Education Division will be responsible for the supervision and oversight, led by the Team Leader for Jamaica operations in coordination with the MOEYI. The monitoring of the execution of the TC program will be carried out through the definition of an initial work plan and monthly follow-up meetings with the MOEYI. The Bank will work closely with the ministry's appointed team to ensure direct dialogue and involvement of relevant government authorities and stakeholders and will carry out regular progress checks based on the outputs and expected results shown in the Results Matrix (see Annex II). The Education TL also will liaise with the TL for JA-L1072, located in the COF, to ensure alignment of related activities.

V. Executing Agency and Execution Structure

- 5.1 This TC will be executed by the Bank's Education Division. This is per the request of the Ministry of Finance, given that in the absence of any loans or TC with the MOEYI, there is currently no Project Management Unit, hampering the institutional capacity of the Ministry to manage these funds. Further, the Bank has extensive experience in

these issues, including knowledge about Jamaica's EMIS and school financing mechanisms. Finally, Bank execution could capitalize on other programs financed and executed by the Bank, including Future State workshops, the IDB Fiscal Management Division's (FMM) expertise in developing financial prototypes, and similar training programs.

- 5.2 **Procurement.** The TC will be implemented over a period of 24 months. All activities to be executed under this TC have been included in the Procurement Plan (Annex IV) and will be contracted in accordance with Bank policies as follows: (a) AM-650 for Individual consultants; (b) GN-2765-4 and Guidelines OP-1155-4 for Consulting Firms for services of an intellectual nature; and (c) GN-2303-28 for logistics and other related services.

VI. Project Risks and Issues

- 6.1 One potential challenge to this operation is related to schools' hesitation regarding the use of a new management system. The workshops in Component 1 will be crucial to mitigate this risk since they will bring together critical actors to collectively determine the appropriate roadmap to a user-centered country-specific data collection application, as well as change management strategies to ensure the system is used by schools.
- 6.2 Another issue could be the sustainability of a new platform. In this regard, the workshops will identify key activities to ensure schools' use of the new platform and will build stakeholder buy-in. Moreover, the work of this TC is aligned with loan operation JA-L1072, which aims to implement a National Identification System (NIDS) in Jamaica and tie it to the MOEYI's EMIS. The two government agencies will be working together with similar aims, which strengthens the prospective sustainability in the use of the new platform.
- 6.3 The COVID-19 pandemic has increased the importance of data collection in order to support teaching and learning activities and the distribution of resources, which are now scarcer. This new platform will contribute to this issue.

VII. Environmental and Social Classification

- 7.1 This Technical Cooperation is not intended to finance pre-feasibility or feasibility studies of specific investment projects or environmental and social studies associated with them; therefore, this TC does not have applicable requirements of the Bank's Environmental and Social Policy Framework (ESPF).

Required Annexes:

[Request from the Client - JA-T1195](#)

[Results Matrix - JA-T1195](#)

[Terms of Reference - JA-T1195](#)

[Procurement Plan - JA-T1195](#)