



# **SECOND BASIC EDUCATION IMPROVEMENT PROGRAM (2nd BEIP) – PHASE I (SU-L1019)**

## **Project Completion Report**

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### Electronic Links

1. [Development Effectiveness Matrix \(DEM\)](#)
2. [Final version of the Progress Monitoring Report \(PMR\)](#)
3. [PCR Checklist](#)

### Optional Electronic Links

1. [QRR Results and Procedures Report](#)
2. [Minutes of the project's Exit Workshop](#)

## Acronyms and Abbreviations

IDB	Inter-American Development Bank
BEIP	Basic Education Improvement Project
MOESC	Ministry of Education, Science and Culture
PMU	Project Management Unit

## BASIC INFORMATION (US\$ AMOUNT)

PROJECT NUMBER (S): *SU-L1019*

TITLE: SECOND BASIC EDUCATION IMPROVEMENT PROJECT (2<sup>ND</sup> BEIP)

LENDING INSTRUMENT: INVESTMENT LOAN

COUNTRY: SURINAME

BORROWER: REPUBLIC OF SURINAME

LOAN (S): INVESTMENT

SECTOR/SUBSECTOR: PRIMARY EDUCATION

DATE OF BOARD APPROVAL: 21 JUNE 2012

DATE OF LOAN CONTRACT EFFECTIVENESS: 01 SEP 2012

DATE OF ELIGIBILITY FOR FIRST DISBURSEMENT: 11 OCT 2012

### LOAN AMOUNT (S)

ORIGINAL AMOUNT: US\$13,700,000.00

CURRENT AMOUNT: US\$13,700,000.00

PARI PASSU: 0.00%

TOTAL PROJECT COST: US\$13,855,765.63

### MONTHS IN EXECUTION

FROM APPROVAL: 51 MONTHS

FROM CONTRACT EFFECTIVENESS: 48 MONTHS

### DISBURSEMENTS PERIODS

ORIGINAL DATE OF FINAL DISBURSEMENT: 25 AUG 2016

CURRENT DATE OF FINAL DISBURSEMENT: 25 AUG 2016

CUMULATIVE EXTENSION (MONTHS):

SPECIAL EXTENSIONS (MONTHS):

### DISBURSEMENTS

TOTAL AMOUNT OF DISBURSEMENTS TO DATE: US\$13,700,000.00

### REDIRECTIONING. HAS THIS PROJECT?

RECEIVED FUNDS FROM ANOTHER PROJECT [No] WHICH? [PROJECT NUMBER]

SENT FUNDS TO ANOTHER PROJECT [No] WHICH? [PROJECT NUMBER]

EX POST ECONOMIC ANALYSIS METHODOLOGY: NOT IMPLEMENTED

EX POST EVALUATION METHODOLOGY: DIFFERENCES-IN-DIFFERENCES LINEAR REGRESSION

DEVELOPMENT EFFECTIVENESS CLASSIFICATION:

STATEMENT OF THE DEVELOPMENT OBJECTIVES OF THE PROJECT/PROGRAM: THE SECOND BASIC EDUCATION IMPROVEMENT PROGRAM (2ND BEIP) IS A MULTIPHASE OPERATION WITH THE WITH THE GOAL OF SUPPORTING THE GOVERNMENT OF SURINAME IN ITS EFFORT TO INCREASE THE LEARNING OUTCOMES OF STUDENTS AND IMPROVE THE INTERNAL EFFICIENCY AND QUALITY OF THE EDUCATION SYSTEM.

## I. EXECUTIVE SUMMARY

The Second Basic Education Improvement Program (2nd BEIP) is a multiphase operation with the goal of supporting the Government of Suriname in its effort to increase the learning outcomes of students and improve the internal efficiency and quality of the education system. The multiphase operation was designed in two phases: Phase I focused on developing the curriculum framework for the entire basic education system and on increasing learning outcomes of students in pre-primary and primary education; and Phase II focused on improving learning outcomes in the junior secondary grades. Phase I was approved in 2012 for \$14,450 million, with \$13.7 million in IDB resources and \$750,000 in counterpart resources. Phase II was approved in December 2015 for \$ 20 million. This Project Completion Report (PCR) covers Phase I, which was executed between September 2012 and December 2016.

To achieve the development objectives, Phase I had four main components: (i) improving student learning outcomes in basic education in grades 4 to 8 with an emphasis in Dutch and Mathematics and in teaching approaches; (ii) information and communications technology (ICT) in education and implementing pilots to test different strategies for utilizing ICT; (iii) increasing access to education through school construction and expansion and construction of teacher housing in the interior; and (iv) improving management of the education system at the Ministry of Education, Science and Culture (MOESC<sup>1</sup>) and school level. The main achievements by component include:

1. **Component 1. Improve student learning outcomes in basic education.** Phase I made significant progress in the areas of curricular reform and teacher training and the provision of textbooks and teacher guides. The program was able to redesign and implement the curriculum for grades 3, 4, 5 and 6; (ii) train 6,000 teachers in the new curriculum; and (iii) distribute 440,000 textbooks and teacher guides. From the originally planned activities of Phase I, the redesign of curriculum of the last two grades of primary education was left pending. Phase I was originally designed and budgeted to use local experts to develop the curriculum. However, during the first years of execution, it became clear that there were not enough local experts with the technical skills to carry out the redesign of the curriculum. As a result, the MOESC decided to purchase the licenses for the curriculum from a Dutch publishing company and adapt it locally through available experts. This decision significantly increased the costs of this activity, leading to a budget shortfall to complete the original goal of redesigning the whole primary education curriculum under Phase I. Phase II, currently in execution, is designing the curriculum for the remaining two grades to ensure that the curriculum for primary education is fully redesigned and implemented in the school with teachers adequately trained and all the materials distributed as well as designing a strategy for the reform of junior secondary education. Altogether, Phase I and II will achieve the objectives of the multiphase operation of improving student learning in primary education and will set the stage for the reform of junior secondary education by advancing on a strategy and a curriculum framework for this level.
2. **Component 2. Information and Communication Technology in education.** Regarding the component of ICT in education, Phase I was instrumental in developing an ICT policy that was adopted by the MOESC and provides clear guidelines on how the use of

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<sup>1</sup> Until recently, MOESC was known as the Ministry of Education and Community Development (MOECD). However, the new name will be used throughout the report. The MOESC is responsible for the planning, administration, monitoring, evaluation and policy development of the education system. Basic education has four levels: two years of pre-primary school for children aged 4-5, and six years of primary school (grades 3-8) for children aged 6-11, followed by four years of junior secondary (grades 9-12) for children aged 12-15, and three years of senior secondary (grades 13-15) for children aged 16-18.

technology can complement the delivery of the curriculum. As a first step implementing the ICT strategy, an ICT unit has already been created within the MOESC. To complement the policy, this component planned for the use of pilots for testing different methodologies to deliver technology in the classrooms, however due to limited progress in the design of the pilots and the rapid advance of component 1 together with the need of funds for this first component, a technical decision was made to prioritize the activities associated with the curriculum redesign. During Phase II, activities are included to support the implementation of the ICT policy including: the development of content consistent with the new curriculum to be delivered using ICT, training of teachers for the use of ICT and strengthening of the capacity of the ICT unit at the MOESC.

3. **Component 3. Increase access to basic education in the interior and improve facilities of the MOESC.** Phase I has successfully built 2 new schools, renovated 12 schools in the interior (21 new classrooms and 20 renovated classrooms) and built 20 new houses for teachers. These new schools, classrooms and teacher housing have allowed students in the interior to have access to environments that allow for better learning. At the same time, the teacher housing has enabled teachers to live close to the schools that otherwise are very hard to reach given their remoteness in the interior of the country. This component had originally planned for the construction of the In Service Teacher Training Institute (CENASU), the bidding documents were advanced and are ready to go to tender. However, the construction itself was put on hold as funds were redistributed to the curriculum development to fund this time sensitive activity. This component was very successful in executing on time, on budget and with good quality construction. Phase II continues improving school infrastructure in the interior as well as the construction of CENASU (component 2).
4. **Component 4. Improvement of the management of the MOESC and school level.** In the area of institutional strengthening progress was slow; high turnover at the upper management levels of MOESC along with low budgets for MOESC operations have hindered progress in this area. Within Phase I an assessment of the capacity and needs for the MOESC was done and informs the activities of Phase II. This component had planned to design and implement an Education Management Information System (EMIS) to connect schools with the central MOESC. During execution the MOESC authorities decided to cancel this activity and reassign the funds to other components. This decision has hindered the development of an information system that allows on time tracking of schools and reception of information for decision making. Within this component, a very successful social marketing campaign was developed. This campaign allowed all stakeholders (parents, teachers, principals, MOESC personnel) to be informed of the changes and be involved in the reform. Phase II continues with the strengthening of the capacity of the MOESC, in particular the ICT unit and the Research and Planning Unit to improve monitoring and evaluation.
5. **Project Management.** Regarding the overall management of the project, a Project Management Unit (PMU) was installed and fully staffed. This unit has been instrumental in executing the project on time and properly following IDB procurement and reporting procedures. At the same time, an Advisory Committee was established. This committee has representation from all main stakeholders in education, including key MOESC departments and thus, contributes to create ownership of the project ok key MOESC staff. During Phase II, similar execution mechanisms are being used and, furthermore, more activities are planned to increase the capacity of the MOESC departments to take over some activities currently done at the PMU, like teacher coaching, curriculum revision and monitoring and evaluation.

## II. Introduction

The IDB is supporting Suriname in its effort to improve education continuously since 2003. In 2003, the Bank approved the First Basic Education Improvement Program (BEIP) (1521/OC-SU) for US\$14 million (of which 12.5 million were loan resources) to support the Government of Suriname in carrying out the education reform process<sup>2</sup>. The program's objective was to develop a new mandatory Basic Education System to all school-aged children from ages 4 to 16. After some adjustments during the implementation of the Program, the Government prioritized the first eight years of schooling (pre-primary and primary levels, ages 4 to 12) in 2011. This program was followed by the Second BEIP, approved in 2012 as a multi-phase program with the objective of *increasing the learning outcomes of students in the education system of Suriname from pre-primary through junior secondary, and to improve the internal efficiency and quality of the basic education system*.

Phase I was financed by a US\$13.7 million loan (SU-L1019) and US\$750,000 in counterpart funds and focused on developing the curriculum framework for the entire basic education system, on increasing learning outcomes of students in grades 3 to 8 and improving access to preschool and primary education in the interior. To that end the Program defined four specific objectives:

- (i) *Component 1.* Improve student learning outcomes in basic education in grades 3-8<sup>3</sup>. Core activities under this component of the project included two subcomponents: Subcomponent 1.1: Redesign of curriculum, testing and examination, and Subcomponent 1.2: Provide schools with appropriate textbooks and learning materials. This component benefits all primary schools, as the new curriculum is set to be adopted country-wide. The new curriculum aimed at improving learning outcomes, especially in low performing students, and in Dutch and mathematics skills of students in grades 3 to 8<sup>4</sup>.
- (ii) *Component 2.* Information and Communication Technology (ICT) in Education. The purpose of this component was to provide cost-effective means to reach students in the interior through ICT. As such, it would help alleviate the problems of quantity and quality of teachers in the interior. Its initial focus is on the development of the legal and regulatory foundation for ICT in education, as none exists. *This component was suspended after the second year of operation.*
- (iii) *Component 3.* Increase access to basic education in the interior and improve MOESC facilities. The Program would finance: (i) a diagnostic on school construction and expansion in the interior; (ii) construction of 4 schools in the interior, equipped with furniture, classroom equipment, multimedia center, sports facility, and teacher housing. They would be located on MOESC-owned land; (iii) the operations/management of the multimedia centers in these schools for the first two years, after which the MOESC will take over financial and managerial responsibility; and (iv) construction, rehabilitation and refurbishment of MOESC departments, including equipment for staff as a non-monetary incentive.
- (iv) *Component 4.* Improvement of management at the MOESC and school levels. The initiatives are designed to address: (i) management at the Ministry and school levels; (ii) strengthening the EMIS; and (iii) Monitoring and Evaluation (M&E) and social marketing.

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<sup>2</sup> IADB, 2012. Suriname Second Basic Education Improvement Program (2<sup>nd</sup> BEIP)-Phase I (SU-L1019) Loan Proposal. Washington DC.

<sup>3</sup> The Surinamese education system is comprised of 12 grades and three main levels: preprimary, including grades 1 and 2; primary, including grades 3-8, which are compulsory; and secondary, from grades 9 to 12.

<sup>4</sup> The curriculum for grade 3 was designed in the 1<sup>st</sup> BEIP so the activities of curriculum designed were focused on grades 4-8. However, all the implementation, including textbooks, teachers training etc. for grade 3 was financed under this Phase I of 2<sup>nd</sup> BEIP.



These initiatives target key staff within the MOESC departments, school leaders in all primary schools and key stakeholders.

The second phase (SU-L1038), was approved in 2015 for US\$20 million (SU-L1038), and will continue developing the curriculum of the last two years of primary education that were not completed during Phase I, improving access to better schools and teachers in the interior, and building capacity within the MOESC.

This Project Completion Report (PCR) covers Phase I, which was executed between September 2012 and December 2016. Program results are evaluated on the basis of the Results Matrix defined at project approval, and each of the subcomponents will be evaluated on the basis of its expected outcomes and outputs. However, the evaluation is limited due to several factors:

- a. The compliance of program activities with the schedule specified at design. Some activities were suspended, and others modified substantially, partially impacting the compliance with project objectives.
- b. The partial availability of counterpart funds. Suriname's fiscal crisis during the years of Phase I of 2<sup>nd</sup> BEIP did not allow the government to contribute with the counterpart funds anticipated by the Program. Moreover, operational funding for normal staff activities at MOESC were reduced, which in turn reduce the level of participation of MOESC staff in Program operations.
- c. Unforeseen expenditures in the development of the curriculum and the cost of textbooks had an impact of the funding and implementation of some subcomponents.
- d. Changes in the levels of participation and in policy focus at MOESC. The country's fiscal crisis modified the implementation of the Program at the request of MOESC authorities. As a result, some components, such as the establishment of ICT, were eliminated from the Program.

### **III. Core criteria**

#### **3.1 Relevance**

##### **a. Alignment with country development needs**

The program is highly relevant to the development objectives of Suriname. For many years Suriname relied on extractive resources—gold, tropical lumber, bauxite—with little value added. Over the years the economy has suffered a drastic transformation; bauxite mining has practically ceased, due to low world prices, and growth in gold revenues are still insufficient to replace that loss. As a result, Suriname's gross domestic product (GDP) contracted by 2.7% in 2015, a staggering 9% in 2016, and is projected to decline an 0.7% in 2017.<sup>5</sup> These economic setbacks strongly suggest that the long term economic health of the nation would depend on adding value to its natural resources that cannot take place without a labor force with the appropriate skills. To improve the skill set of the labor force, the first step is to ensure that basic education provides the core knowledge areas like basic language and mathematical to the student population. This requires a continuous investment in education to expand access to education in remote areas and to focus on improving education quality. In that regard, the Program is highly aligned with Suriname's development needs.<sup>6</sup>

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<sup>5</sup> MacDonald, Scott B., 2017. "Suriname's Economic Crisis." Washington DC: Center for Strategic and International Studies. <https://www.csis.org/analysis/suriname-economic-crisis>

<sup>6</sup> Inter-American Development Bank (IADB), 2016. "IDB Country Strategy with the Republic of Suriname." Washington DC.

Suriname has been able to increase enrollment to almost universal levels in the coastal areas. In rural areas and in the interior of the country, however, there are significant disparities in school access and attainment. In addition, children in the interior have little or no knowledge of the Dutch language, which affects their academic performance and place them at a disadvantage relative to students in coastal areas. As a result, students in the interior exhibit high repetition and dropout rates and lower net completion rates. To address this challenge, a key component of the government's strategy for education is to increase human capital by improving education access and quality, especially in the interior.<sup>7</sup> This program directly addresses this development needs in the education sector, which in turn are directly complementary to the development needs of the country.

## **b. Vertical Logic**

The main challenges of Suriname's education system when the program was designed were the low quality of education and the low level of internal efficiency. These challenges are reflected in: (a) the low levels of performance of students' learning assessments: In 2013, about 50% of 8<sup>th</sup> grade students had a passing grade in the GLO exit exam for Language and 25% in Math, with some districts scoring as low as 20% in Language and 8% in Math (See Table 14 in the Appendix); (b) high levels of repetition and dropout: In 2013, the average repetition rate ranged from 13% to 20% in grades 3-8 (See Table 12 in the Appendix). The rates of drop out are particularly high in three districts: Paramaribo, Brokopondo, and Sipaliwini, ranging between 10 and 14 %, about double the rates found in other Districts (Table 13 in the Annex). In particular, the dropout rate for Grade 8 is extremely high, 22% at the national level, suggesting that students do not continue formal secondary education, with a possible entry into the labor market. Figure 1 summarizes the results chain associated with the results matrix.

The challenges associated with low levels of learning are mainly due to<sup>8</sup>:

- a. *An inadequate learning environment*, where classrooms lack furniture, teaching materials. In addition, public schools were in disrepair and poorly maintained, with inadequate and insufficient sanitary facilities, and schoolyards that were useless during the rainy season.
- b. *Poor teacher motivation and low school accountability*. Because of limited managerial capacity at MOESC, there are no good mechanisms for school accountability, which in turns reduce teacher motivation, and increase absenteeism, both of which negatively affects student learning. An antiquated curriculum. The school curriculum for basic education dated from 1965, before independence.
- c. *A scarcity of textbooks and workbooks*. Although learning methods were updated in the mid 1980s, the change from textbooks to workbooks, where students wrote on them directly, generated significant financial problems to MOESC, as the workbooks had to be replaced every year. After a few years, most students did not get new workbooks and teachers had to write their content on a blackboard.
- d. *Teachers with inadequate training*. By 2014, before the new ruling on the university training of teachers, teaching methods for primary school emphasized formal lecturing, instead of participatory learning.
- e. *Limited management capacity at MOESC and District offices*. Lack of timely information on school and student performance, limited technical capacity at the central ministry, and low levels of coordination among offices and programs, reduce the ability of the system to

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<sup>7</sup> IADB, 2016. Ibid, pp. 16-18.

<sup>8</sup> Inter-American Development Bank (IADB), 2012. *Op. Cit.*; Ministry of Education and Community Development, 2004. "Educational Development I the Republic of Suriname." A Report prepared for the 47<sup>th</sup> Session of the International Conference on Education. Paramaribo.

design and implement adequate education policies, or the establishment and support of programs that could improve student learning.

The particularly high dropout and repetition rates in the interior are explained by the many disadvantages facing students in the interior: (a) Dutch is not the language spoken at home; (b) Teachers are less qualified, which in turn increases repetition and dropout rates; (c) Reading and learning materials are less available than in coastal areas; (d) Because of the difficulties in school access, the cost per student is very high; (e ) There is no tradition of parent participation; (f) Teachers have to teach in a multigrade environment without multigrade training; and (g) In many schools, classrooms are overcrowded.

These difficulties are due to the geographic isolation of schools in the interior. Out of the 353 primary schools, and 81 junior secondary schools in Suriname, 80 of the primary schools (including 56 with pre-primary) and 6 of the secondary schools are located in the interior, where only 10 percent of the population resides (See Table 10 in the Annex). Similarly, the distribution of students is highly skewed, with almost 50% of all students located in the District of Paramaribo, and another 20% in Wanica, leaving about 30% of students dispersed in the interior of the country (See Table 9 in the Annex). These schools are difficult to staff and expensive to operate. In 2016, total enrollment in all levels of basic and secondary education was about 141,000 students, of which close to 70,000 are in grades 3-8 and form the core of the students targeted by 2<sup>nd</sup> BEIP Phase I. Improving student access to school in these areas of the interior, and retaining teachers for long periods of time requires investing in school facilities—to improve the learning environment—and providing teacher housing, which may be the only way to find housing for teachers in isolated areas.

To address these challenges, the 2<sup>nd</sup> BEIP directly aimed at developing the curriculum framework for the entire basic education system and on increasing learning outcomes of students in grades 3 to 8. The following activities were implemented by the program: i) a newly designed and implemented a curriculum for grades 3-8; ii) new textbooks and workbooks directly linked to the new curriculum; iii) trained teachers in the new curriculum and the use of updated pedagogical methods linked to the new textbooks; iv) constructed, rehabilitated, and expanded schools in the interior; including teacher housing to ensure school staffing in the interior, and v) implemented an ICT and management training at MOESC to improve system management.

These activities and products financed by the project led to the achievement of the results as measured by the outcome indicators as described below:

*Redesign of the curriculum.* The redesign of the curriculum allowed to modernize its pedagogical approach and to address the language issue, that were identified as important barriers to improve student learning. Along with the redesigned curriculum, the program developed and distributed of new textbooks, new teaching materials, and new workbooks, addressing the issue of poor learning materials. To complement the new curriculum, the BEIP program also retrained the teachers on the new curriculum, on the use of textbooks, and –more importantly—on the use of new pedagogical approaches in the classroom, that directly contribute to improve teacher quality and thus, student learning.

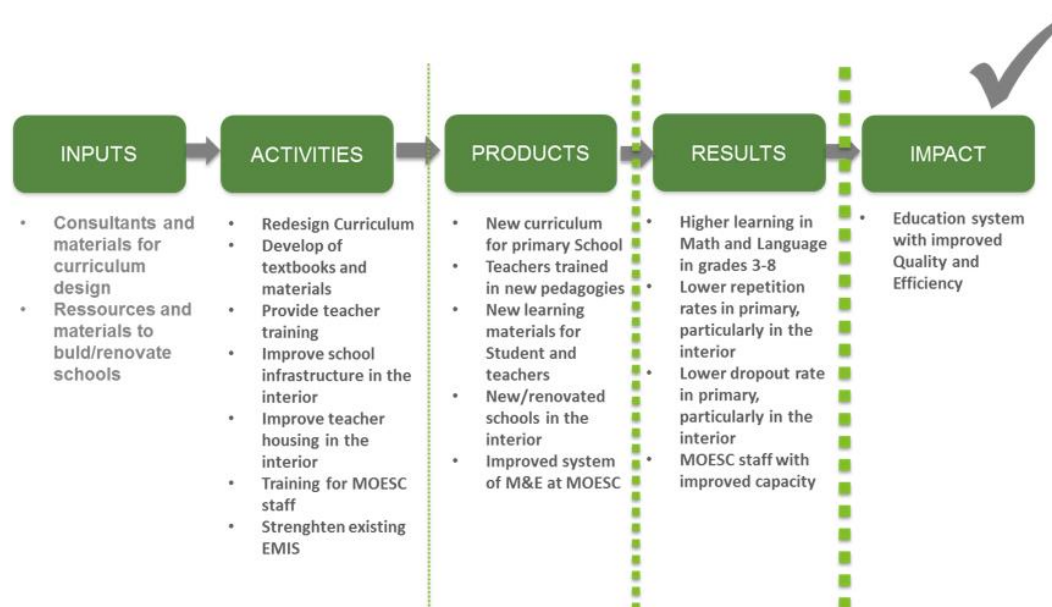
As mentioned in the causes of low student learning, the *quality of the learning environment* needed to be addressed, especially in the interior, where educational equity is low relative to coastal areas, and where the educational infrastructure is in need of repair and expansion to improve student access and retention. As a result, the 2<sup>nd</sup> BEIP included a component of school construction, rehabilitation and expansion, including the provision of teacher housing in the interior, to ensure the continuous presence of teachers. Along with this renovation and expansion

of the infrastructure the Program included the provision of furniture, classroom equipment, and pedagogical materials.

In terms of *system management*, a key problem of policy design and implementation, along poor program coordination, relates to the lack of timely and reliable data, along with a lack of basic information that could be used to improve school and student performance. Education data in Suriname are difficult to find. Schools do not have ready access to educational indicators that could help them assess their own progress, and teachers and MOESC staff do not have access to timely data and to data analysis that could help them manage education better.

To alleviate the problem of *timely data* access the 2<sup>nd</sup> BEIP had a component aimed at improving education management and the use of education information systems. This component was designed to address: (i) management problems at the Ministry and school levels; (ii) strengthen the existing Education Management Information System (EMIS); and (iii) reinforce a weak system of Monitoring and Evaluation (M&E) and social marketing. These initiatives would include key staff within the MOESC departments, school leaders in all primary schools and key stakeholders.

Figure 1. Results according to the results Matrix of the Operation



The evidence for other countries that have implemented similar policies suggests that the interventions implemented by the program are expected to be associated with improvements in student learning. For example, for curriculum design, the literature shows that top-performing education systems have put in place high standards to guide education policy-making and teaching practices on what students should know and be able to do after completing each school grade (Jaimovich, 2016; Barber et al., 2010). As far as teacher training is concerned, evidence in developed countries has revealed that exposure to a high- quality teacher during a school year produces improvements in students' learning of between 0.2 and 0.3 standard deviations ( Rivkin et al., 2005). Similarly, a recent study in Ecuador found that an effective teacher may be able to close the learning gap between students from rich and poor households (Araujo et al., 2016).

In terms of infrastructure, improving education access through the construction of new schools can improve learning outcomes, particularly since the contrafactual is not going to school (Glewwe

and Muralidharan, 2015). But also investing in existing infrastructure is also contributes to improve student outcomes by creating environments that foster learning. Students that attend schools that are fully functioning –that is with good quality of floors, walls and roofs, and that are well equipped –with suitable furniture, libraries and labs have on average higher levels of learning (Glewwe et al., 2011; Glewwe and Muralidharan, 2015; Baker et al., 2002; Heynemann and Loxley, 1983). Finally, in terms of teacher housing, education systems should ensure that the most effective teachers teach in the areas where their skills are most needed. Assigning the best teachers to the schools that serve the most vulnerable population improves students learning and reduces the achievement gap by socioeconomic status (Cannata, 2010; Boyd, et al., 2005; Hanushek, et al., 2004; Ingersoll, 2002). For more details about the evidence about the selected interventions, please see section III.2.c Analysis of the Results Attribution.

### **3.2 Effectiveness**

#### ***a. Statement of project development objectives.***

The overall objective of the 2<sup>nd</sup> BEIP is to increase the learning outcomes of students in the education system of Suriname, from pre-primary through junior secondary education nationally, and improve the internal efficiency and quality of the new basic education system.

To analyze the extent to which the program contributed to the stated objective, 20 outcomes were defined and monitored. The indicators associated with each outcome are also described:

1. Learning outcomes for students in grades 3 and 7: 1.1 Percentage increase in learning outcome of students in 3rd grade and 1.2 Percentage increase in learning outcome of students in 7th grade.
2. Dropout rate in grade 3: 2.1 Dropout rate
3. Dropout rate in grade 4: 3.1 Dropout rate
4. Dropout rate in grade 5: 4.1 Dropout rate
5. Repeaters in grade 3: 5.1 Repetition rate
6. Repeaters in grade 4: 6.1 Repetition rate
7. Repeaters in grade 5: 7.1 Repetition rate
8. Teacher trained in participatory approaches: 8.1 Number of teachers trained
9. Promotion rate in grade 3: 9.1 Promotion rate increase
10. Promotion rate in grade 4: 10.1 Promotion rate increase
11. Promotion rate in grade 5: 11.1 Promotion rate increase
12. Primary education completion rate: 12.1 Completion rate
13. Access to junior secondary grades: 13.1 Increase in access
14. Teachers with EMIS at schools using performance tracking and producing student work plans: 14.1 Teachers using education management information system\*<sup>9</sup>
15. Number of selected Ministry of Education Departments that use the monitoring and evaluation system to retrieve information: 15.1 Monitoring and evaluation system utilized by selected Ministry of Education Departments\*
16. Trained staff utilizing learning from training: 16.1 Learning from training utilized
17. MOECD trained staff that collect and analyze data from Education Management Information System: 17.1 Data from education management information system collected and analyzed by Ministry trained staff\*

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<sup>9</sup> Outcomes 14-20 were stopped being reported because of the cancelation of the activities associated. These outcomes and the associated outputs were set to inactive in the results matrix and will not be discussed in this report. See below changes to the matrix.

- 18. Student performance in grades 3 and 7: 18.1 Exam results in modules through ICT in education\*
- 19. Student ICT use in the classroom in pilot schools: 19.1 Student ICT use increased\*
- 20. Schools using ICT in education modules: 20.1 ICT in education modules used in number of schools\*

## **b. Results Achieved**

### ***Program Outcomes.***

Achievement of program outcomes cannot be fully assessed given the changes in scope of the activities and their timeframe for implementation that has not yet allowed for outcomes to mature.

Phase I had the original plan of completing the redesign of the whole primary education curriculum. During its execution, MOESC decided to purchase the licenses for Language and Math from a Dutch publishing company to overcome the shortage of local curriculum writers. The costs of the activities increased and therefore some activities originally planned for Phase I were deferred to Phase II (redesign of curriculum for grades 7 and 8 and building of CENASU) and some activities planned for Phase II (curriculum redesign of junior secondary) are deferred to a future operation already in discussion with the MOESC. Moving forward with Phase II to complete the reform of primary education has the consequence of not providing enough time to conclude activities originally planned towards the end of Phase I that were tied to the achievement of some of the results. Altogether, Phase I and II will achieve the objectives of the multiphase operation of improving student learning in primary education, improving efficiency of the system and will set the stage for the reform of junior secondary education by advancing on a strategy and a curriculum framework for this level. Indicators for outcomes can be found in Table 1.

In terms of learning outcomes (outcomes 1.1 and 1.2), the only examination currently in place is at the end of 8<sup>th</sup> grade and will not capture yet the outcomes related to the activities of the program given that the students exposed to the new curriculum are only in grade 6 as of today. Plans for an exam in grade 3 and grade 7 were postponed by the MOESC. Therefore, the outcomes related to student learning cannot be assessed at the time.

In terms of the outcomes related to the system efficiency (outcomes 2.1 to 7.1), progress cannot be fully assessed for two main reasons, the interventions in curriculum have not fully matured for grades 3 to 5, students in these grades had only been exposed to the new curriculum for less than 3 years in the early grades and less than 1 year in grade 5. It should be noted that MOESC changed the methodology to calculate these indicators in 2014, therefore the trend of these time series is not fully comparable between baseline and end of project. It is expected that when the redesign of the whole primary education curriculum is finished, as it was originally planned for Phase I when this trigger was to be valued, the change in dropout and repetition rate meets the target.

The outcome for teacher training in participatory methodology for student learning (outcome 8.1), shows that an increasing percentage of teachers have been trained in this methodology. The final percentage of teachers trained falls short of the planned outcome given that not all grades were reached with the new curriculum as originally planned therefor not reaching teachers in all grades.

In terms of increased promotion rates (outcomes 9.1 to 11.1), the project did not report on this indicator given that MOESC decided not to track it.

The primary completion rate and access to junior secondary grades (outcomes 12.1 and 13.1) cannot be assessed given that none of the cohort benefitted have finished primary school yet. The expansion of school facilities—combined with the new curriculum and new textbooks—have been in place less than two years. In addition, this outcome was supposed to be observed as the results of a complete reforms of the curriculum in all the grades (3-8) and because of the changes in the implementation of the new curriculum, only 4 grades were completed.

Table 1. Suriname. Summary of Outcomes of the 2 <sup>nd</sup> BEIP, Phase I										
Outcomes	Unit	Baseline	Baseline Year	Means of Verification	Status	2013	2014	2015	2016	EoP
1. Learning outcomes for students in grades 3 and 7										
Observations: Diagnostic test for grade 3 starts in May 2015. New Base year is 2015. Exam at grade 7 will not be administered.										
1.1 Percentage increase in learning outcome of students in 3rd grade	Percent	0	2010	Test scores for Grade 3 on students with more than 2 years under new curriculum	P		0	5	10	10
					P(a)		0	0	0	10
					A					
1.2 Percentage increase in learning outcome of students in 7th grade	Percent	0	2010	Comparison of student test scores with and without new curriculum	P			5	10	10
					P(a)			5	0	10
					A					
2. Dropout rate in grade 3										
Observations: Baseline and yearly calculations (2014 and onwards) was recalculated to use UNESCO methodology looking at students' ID number										
2.1 Dropout rate grade 3	Percent	9	2009	MOESC Yearbook of Statistics	P	7	7	6	5	5
					P(a)	7	7	6	5	5
					A	7	9	8.2	9.4	9.4
3. Dropout rate grade 4										
Observations: Baseline and yearly calculations (2014 and onwards) was recalculated to use UNESCO methodology looking at students' ID number										
3.1 Dropout rate grade 4	Percent	9	2009	MOESC Yearbook of Statistics	P	7	7	6	5	5
					P(a)	7	7	6	5	5
					A	7	8	7.4	8	8
4. Dropout rate in grade 5										
Observations: Baseline and yearly calculations (2014 and onwards) was recalculated to use UNESCO methodology looking at students' ID number										
4.1 Dropout rate grade 5	Percent	8	2009	MOESC Yearbook of Statistics	P	7	7	6	5	5
					P(a)	7	7	6	5	5
					A	8	9	7.4	8	8
5. Repeaters in grade 3										
Observations: Baseline and yearly calculations (2014 and onwards) was recalculated to use UNESCO methodology looking at students' ID number										
5.1 Repetition rate grade 3	Percent	19	2009	MOESC Yearbook of Statistics	P	19	19	17	15	15
					P(a)	19	19	17	15	15
					A	19	15	18.8	17.5	17.5
6. Repeaters in Grade 4										
Observations: Baseline and yearly calculations (2014 and onwards) was recalculated to use UNESCO methodology looking at students' ID number										
6.1 Repetition rate grade 4	Percent	16	2009	MOESC Yearbook of Statistics	P	17	17	15	13	13
					P(a)	17	17	15	13	13
					A	17	14	13.4	12.4	12.4
7. Repeaters in grade 5										
Observations: Baseline and yearly calculations (2014 and onwards) was recalculated to use UNESCO methodology looking at students' ID number										
7.1 Repetition rate grade 5	Percent	18	2009	MOESC Yearbook of Statistics	P	17	17	15	13	13
					P(a)	17	17	15	13	13
					A	17	18	19.3	18.4	18.4
8. Teacher trained in participatory approaches										

Table 1. Suriname. Summary of Outcomes of the 2 <sup>nd</sup> BEIP, Phase I										
Outcomes	Unit	Baseline	Baseline Year	Means of Verification	Status	2013	2014	2015	2016	EoP
<b>Observations:</b> Records from Ministry of education inspectors from school visits and classroom observations										
8.1 Teachers trained	Percent	0	2012	MOESC Yearbook of Statistics	P	0	75	80	85	85
					P(a)	0	75	80	85	85
					A	65	66	70	71	71
<b>9. Promotion rate in grade 3</b>										
<b>Observations:</b> Records from Ministry of education inspectors from school visits and classroom observations										
9.1 Promotion rates increased in grade 3	Percent	0	2011	MOESC Yearbook of Statistics	P	0	0	1	3	3
					P(a)	0	0	1	3	3
					A	0	0	0	0	0
<b>10. Promotion rate in grade 4</b>										
<b>Observations:</b> Records from Ministry of education inspectors from school visits and classroom observations										
10.1 Promotion rates increased in grade 4	Percent	0	2011	MOESC Yearbook of Statistics	P	0	0	1	3	3
					P(a)	0	0	1	3	3
					A	0	0	0	0	0
<b>11. Promotion rate in grade 5</b>										
<b>Observations:</b> Records from Ministry of education inspectors from school visits and classroom observations										
11.1 Promotion rates increased in grade 5	Percent	0	2011	MOESC Yearbook of Statistics	P	0	0	1	3	3
					P(a)	0	0	1	3	3
					A	0	0	0	0	0
<b>12. Primary education completion rate</b>										
<b>Observations:</b> Not reported in 2014										
12.1 Primary education completion rates	Percent	50	2011	MOESC Yearbook of Statistics	P	50	52.5	55	55	55
					P(a)	50	52.5	55	55	55
					A	50	0	0	36.5	36.5
<b>13. Access to junior secondary grades</b>										
13.1 Access to junior secondary	Percent	0	2011	MOESC Research and Planning records	P	0	5	8	8	8
					P(a)	0	5	0	0	8
					A	0	0	0	0	

P = Start-Up Plan; P (a) = Revised Annual Target; A = Actual. EoP=End of Project

## Program Outputs.

**Component 1. Improve student learning outcomes.** For subcomponents 1.1, 1.2 and 1.5 the targets for outputs were met. Component 1 accounted for 65% of the program's budget. Subcomponent 1.1 covered the curriculum for grades 3 to 6, and the curriculum pilots for grades 4-8. Curricula for Math and Language were approved and delivered as planned. Subcomponent 1.2 covers teacher training. The target for this subcomponent was met, although the number has to be interpreted with caution. There are about 5,800 teachers in Primary, but there were 11,240 teachers trained with the program, meaning that teachers attended more than one training workshop.

**Subcomponent 1.1. Approved curriculum for grades 3-6.** The development of a new curriculum proved very challenging because there are not enough trained professionals in curricular development in Suriname. To move the project forward, MOESC decided to hire external consultants for curriculum design, and to purchase the rights to a Dutch textbook company for the adaptation of Math and Language textbooks to Surinamese conditions. This decision increased the costs of this activity, leading to a budget shortfall to complete the original goal of redesigning the whole primary education curriculum under Phase I. Phase I was able to fully redesign and implement curriculum for grades 3 to 6. Phase II, currently in execution, is designing the curriculum for the remaining two grades to ensure that the curriculum for primary education is fully redesigned and implemented in the school with teachers adequately trained and all the materials distributed as well as designing a strategy for the reform of junior secondary education.



Altogether, Phase I and II will achieve the objectives of the multiphase operation of improving student learning in primary education and will set the stage for the reform of junior secondary education by advancing on a strategy and a curriculum framework for this level.

*Subcomponent 1.2. Teachers trained in using new teaching methodology.* Regarding teacher training, many training workshops had to be repeated for some teachers at the request of principals. Training sessions could vary from 1-day sessions to week-long sessions, resulting in a wide range of training costs per teacher. In Paramaribo and other urban areas, the training cost per teacher was low because there was no travel involved for trainers. In the interior, however, training was very expensive because both the trainers and the participants had to travel long distances by air and boat to get to the training site; provisions had to be brought in (food, cooking staff), and lodging for all participants had to be covered by the project.

*Subcomponent 1.5. Provide schools with appropriate textbooks and learning materials.* The purchase and delivery of textbooks and workbooks was a complex task. First, MOESC authorities found that it was more efficient to adapt existing textbooks from the Netherlands than develop them in Suriname. That decision required the purchase of a license from the textbook publishers, an unforeseen expense that increased textbook costs.

A recurring issue being addressed in Phase II of 2<sup>nd</sup> BEIP is the criticism made by some MOESC staff, teachers and principals, about the European flavor of the textbooks, especially in the depiction of children, the landscape, and the use of language. However, MOESC authorities consider that the investment in the textbooks has been done; that the pedagogical value of the textbooks is high, and that the European flavor of the textbooks is a problem that can be overcome with proper teacher training. Textbook distribution was generally adequate. For schools located along the coast the distribution went well. In the interior, however, there were problems with textbook distribution due to the logistical difficulties found in the delivery of textbooks in areas connected only by boat or airplane.

Finally, because of the delay in the reform of the curriculum, Subcomponents 1.3 and 1.4 that relate to the approval of new legislation in basic education and the strategic plan for junior secondary were not delivered. They are currently being developed under Phase II.

**Component 2. ICT in education.** The ICT component would finance: (i) the development of the legal and regulatory framework for ICT in education; (ii) a diagnosis of existing studies and initiatives in ICT and the development of a national ICT in educational policy and strategy; (iii) the design ICT educational content for selected grades, including materials, specialized teacher training, testing and supervision and implement pilots in ten schools nationally; (iv) the development of ICT enabling infrastructure for schools selected for pilot; (v) a study for ICT alternatives in education in the interior; and (vi) an action plan and recommendations on methods to expand ICT in education. The ICT component was scaled back to cover only the ICT policy that was adopted by MOESC, complying only partially with the original objectives of the component.

From the start, the ICT component faced some serious issues, including a lack of clarity for MOESC about its objective and purpose; caused partly by the high turnover of high level authorities at MOESC that created a continuously changing view of the nature of ICT, and the implementation of the ICT strategy. This, together with a low number of qualified personnel to infuse a vision of ICT in education among stakeholders, and a low level of computer literacy among teachers and MOESC staff, led to substantial changes of this Component during the first year of the project, and eventually to its cancellation. As Table 7 shows, this component only

delivered the ICT strategy in 2014, with no other additional outputs. Funding assigned for ICT were used to finance textbook purchases. In terms of the EMIS, the MOESC is implementing an Education Management Information System (EMIS) developed in house and all activities that would be covered by the ICT component will be absorbed by this effort.

**Component 3: Increase access to basic education in the interior and improve MOESC facilities.** The Program would finance: (i) a diagnostic on school construction and expansion in the interior; (ii) construction of 4 schools in the interior, equipped with furniture, classroom equipment, multimedia center, sports facility, and teacher housing; (iii) the operations/management of the multimedia centers in these schools for the first two years, after which the MOESC will take over financial and managerial responsibility; and (iv) construction, rehabilitation and refurbishment of MOESC departments, including equipment for staff as a non-monetary incentive.

The targets for this component were met. Overall, the provision of new and rehabilitated infrastructure was a very successful component of BEIP. Most of the educational infrastructure was built on time, on budget, and with a good level of quality. BEIP benefitted from the good performance of the Building Commission, which worked under the BEIP guidelines and in close collaboration with BEIP staff. This component exceeded planned construction, with the exception of the construction of the teacher training building, which was delayed by decision of MOESC. Part of the CENASU funds went to pay the license fees for the textbooks, and to pay for additional teacher training. By November 2015 the Program had built 2 new schools in the communities of Duwata and Pusugrunu in the Sipaliwini District (21 new classrooms) and renovated over 12 schools (20 units including 4 media centers) and 20 new teacher housing units in the communities of Bigi Poika (in Para District), Apoera, Washabo, Duata, Pusugrunu (in Sipaliwini District), Galibi, Albina, Pete Ondro, Wanhatti, Ricanaumofu, and Moengo (Maorjwine District). Due to some minor delays in the completion of some sites, some teacher housing units were not accounted for in the last PMR. According to the final report from the Building commission, the total number of new housing units is 48 and renovated teacher housing units was 40.

**Component 4. Improvement of management at the MOESC and school levels.** The targets for this component were partially met: it delivered managerial training for 66 staff at MOESC, and successfully executed 41 social marketing campaigns aimed at parents and key stakeholders. These two sets of activities accounted for all of the component resources. Planned efforts for the EMIS were eliminated, as the MOESC decided to tackle this subcomponent separately. Also, efforts at strengthening the monitoring and evaluation capabilities of MOESC were not executed.

Table 2. Suriname. Summary of physical outputs by year, and at the end of the project, for 3rd BEIP Phase I								
Physical Outputs	Unit	Status	2012	2013	2014	2015	2016	EOP
<b>1. Component 1: Improve Student Learning Outcomes</b>								
1.1 Approved curriculum, grades 3 to 6	Curriculum	<b>P</b>		1	1	2	0	4
		<b>P(a)</b>		1	1	2	1	4
		<b>A</b>		1	1	1	1	4
<b>Milestone:</b> Curriculum Pilots completed for Grades 4-8	Pilots	<b>P</b>			1	2	2	5
		<b>P(a)</b>			1	2	0	3
		<b>A</b>			2	1	0	3
1.2 Teachers trained in using new teaching methodology	Teachers	<b>P</b>	665	935	1,400	2,000	0	5,000
		<b>P(a)</b>	665	935	1,400	4,500	2,000	15,144
		<b>A</b>	665	2,584	5,340	4,555	45	13,189
1.3 Approved basic education legislation	Legislation	<b>P</b>		0	0	1	0	1
		<b>P(a)</b>		0	0	1	0	1

Table 2. Suriname. Summary of physical outputs by year, and at the end of the project, for 3rd BEIP Phase I								
Physical Outputs	Unit	Status	2012	2013	2014	2015	2016	EOP
		A		0	0	0	0	0
1.4 Junior secondary strategic reform plan developed	Strategy	P		0	1	0	0	1
		P(a)		0	0	0	0	0
		A		0	0	0	0	0
1.5 Provide schools with appropriate textbooks and learning materials	Textbooks	P	5,000	44,000	65,000	65,000	41,000	220,000
		P(a)		44,000	65,000	352,000	0	1,076,58
		A	5,000	386,414	441,844	77,440	18,750	1,095,008
2. Component 2: ICT in Education								
2.1 Draft national ICT in education policy and strategy completed	Strategy	P		0	0	1	0	1
		P(a)		0	0	0	0	1
		A		0	1	0	0	1
Milestone: ICT in Education Piloted in Schools	Pilots	P					10	10
		P(a)						0
		A						0
3 Component 3: Increase access to education and Improve MOESC facilities								
3.1 New public schools built and equipped	Schools	P		0	1	1	2	4
		P(a)		0	1	0	0	2
		A		0	2	0	0	2
3.2 Schools renovated and expanded	Schools	P		0				0
		P(a)		0	0	2	0	10
		A		0	8	2	0	10
3.3 Building of Teacher Training Institute (CENASU)	Building	P		0	0	1	0	1
		P(a)		0	0	0	0	0
		A		0	0	0	0	0
4 Component 4: Improve management at MOESC and schools								
4.1 MOESC Staff trained	Trained Staff	P		0	20	5	0	25
		P(a)		0	5	16	0	36
		A		21	15		30	66
4.2 Public information/ social marketing campaigns completed	Campaigns	P	3	3	6	7	7	26
		P(a)		3	6	7	4	42
		A	3	21	4	10	3	41

Source: 2<sup>nd</sup> BEIP. P=Planned; P(a)= Updated plan; A=Actual. EOP=End of Project

### *Changes to the matrix - Summary*

Table 3 presents a summary of the outputs and outcomes from components 2 and 4 that were no longer monitored during execution because of changes in the activities associated with them. It is important to note that the matrix itself was not modified during execution, so no changes were observed. Instead, the indicators were not monitored anymore. Thus, there is no exact date to of when these changes occurred. Thus, outcomes 14 to 20 associated outcomes (and its associated outputs) were changed to “inactive” in the results matrix.

Table 3. Summary of changes to the matrix

	<b>Outcomes</b>	<b>Outputs</b>	<b>Justification</b>
Component 1	1.1 and 1.2 Learning outcomes for students in grades 3 and 7		The only examination currently in place is at the end of 8th

			grade. Outcomes related to student learning cannot be assessed
Component 2	18. Student performance in grades 3 and 7	Milestone: ICT in Education Piloted in Schools	The activities from component 2 were cancelled, ICT to be implemented in future phases of the program
	19. Student ICT use in the classroom in pilot schools		
	20. Schools using ICT in education modules		
Component 4	14. Teachers with EMIS at schools using performance tracking and producing student work plans	4.2 Education Mgmt. Information System expanded	The activities from component 4 related to these outcomes were eliminated from the program, EMIS to be developed by MOECD
	15. Number of selected Ministry of Education Departments that use the monitoring and evaluation system to retrieve information		
	16. Trained MOESC staff utilizing learning from training		
	17. MOESC trained staff that collect and analyze data from Education Management Information System	4.4 Monitoring and Evaluation system completed	

### c. Analysis of the Results Attribution

The attribution analysis isolates the effects of Components 1 and 3 of the program on repetition and dropout rates using fixed effects models with district level data available for grades 1-8 in years 2009 (baseline), and 2013-2016 (post). The data used was provided by the Research and Planning Department of the MOESC. To conduct the attribution analysis, it is crucial to identify the timing of the implementation of the different activities to determine what the treatment was for each group and how the treatment was rolled out over time and territory.

For curriculum reform, we define the treatment as receiving the complete set of activities under component 1: a new curriculum in Math and Language, together with trained teachers in agreement with that curriculum as well as teacher and student's materials distributed. This component was implemented nationally so all students in Suriname in the corresponding grades received this treatment. Under the operation, the first year that the grade 3 curriculum was implemented was in 2012, given that the curriculum was already designed under the previous operation (first BEIP). However, as explained earlier, in 2013 the Ministry removed the Language curriculum of grade 3 from the classrooms to fix some inconsistencies in the textbooks and consequently delayed the introduction of language for grade 4. Thus, in 2013 and 2014 students in 3rd and 4th grade received only a new curriculum in Math. By 2015 students in grade 3 and 4 were being taught with the new curriculum in language and math.

For school infrastructure, the treatment is defined as attending new school, a renovated school or a school that benefitted from a renovated teacher house in any grade of primary education (grades 3 to 8). This component was not implemented nationally, only benefiting students in the districts of Para, Sipaliwini and Marowijne.

The identification strategy uses variation in treatment across grades and over time to measure the impact of the curriculum reform under Component 1, and variation in treatment across districts and over time to measure the impact of infrastructure expansion under Component 3. In this framework, each observation represents the outcome for a grade  $g$  of district  $j$  in year  $t$ .

Table 4 summarizes the variation in unit of observation (grade v.s. district) and time, where M represents change to the mathematics curriculum and L represents change to the language curriculum in the context of Component 1 interventions. C represents infrastructure investments in classroom construction and/or renovation, and H represents construction of teacher housing in the context of Component 3 interventions.

**Table 4 - Variation in Treatment by Component**

Component 1					
Grade	2009	2013	2014	2015	2016
Grade 1	0	0	0	0	0
Grade 2	0	0	0	0	0
Grade 3	0	M	M	M+L	M+L
Grade 4	0	0	M	M+L	M+L
Grade 5	0	0	0	M	M+L
Grade 6	0	0	0	0	M+L
Grade 7	0	0	0	0	0
Grade 8	0	0	0	0	0
Component 3					
District	2009	2013	2014	2015	2016
Brokopondo	0	0	0	0	0
Commewijne	0	0	0	0	0
Coronie	0	0	0	0	0
Marowijne	0	C+H	C+H	C+H	C+H
Nickerie	0	0	0	0	0
Para	0	H	H	H	H
Paramaribo	0	0	0	0	0
Saramacca	0	0	0	0	0
Sipaliwini	0	C	C+H	C+H	C+H
Wanica	0	0	0	0	0

The difference in differences linear regression controls for a district level dummy and a time fixed effect. The treatment parameter of interest interacts an indicator for the type of district or grade with the year of treatment onset:

$$(1) Y_{jt} = \beta_0 + \beta_1 Treatment_{jt} + \phi_j + \phi_t + \varepsilon_{jt}$$

Where  $Y_{jt}$  is an outcome of interest, i.e. repetition rates or dropout rates in district  $j$  (or grade  $g$ ) in time  $t$ ,  $Treatment_{jt}$  is a binary indicator equal to one when district  $j$  (or grade  $g$ ) is under treatment with component 3 in district  $j$  or component 1 in grade  $g$ , as outlined in Table 9;  $\phi_j, \phi_t, \varepsilon_{jt}$ , are time fixed effects, district fixed effects, and unobservable characteristics that vary within district and across time, respectively. The coefficient of interest,  $\beta_1$ , represents the average treatment on the treated (ATOT) effect under the “parallel trends” assumption, that is, that the counterfactual rate of change in non-intervention grades or districts represents that change that would have occurred

for intervention units in the absence of treatment. While this assumption is not testable, a common practice is to test pre-trends in periods prior to the intervention. Unfortunately, data available at the time of analysis included only one pre-intervention period (2009). However, an institutional analysis of investments in the education sector suggest that the only time-varying difference between treatment and comparison was the interventions financed under the current program. The Bank is the main donor for the education sector in the country and the only one working with the Ministry in Compulsory education. No other program or reform was implemented during the analyzed period.

The analysis is conducted with three specifications for each outcome:

- (1) Full sample unweighted
- (2) Full sample weighted
- (3) Rural sample weighted

The full sample includes all 10 districts nationwide, while the rural sample excludes the capital, Paramaribo. Given that the outcomes are expressed in rates derived from districts of different population size, the weighted regressions include analytic weights for the number of students in a district-grade observation. The 2009 student sizes were not available, so regressions are weighted with the number of students per grade in each district in 2013, the earliest year available.

Treatment variables are constructed for each component and estimated separately, for a total of four models per specification and outcome:

- (1) Component 1: Any Curriculum (Math or Math and Language) and other interventions under component 1
- (2) Component 1: Math and Language curriculum only and other interventions under component 1
- (3) Component 3: Classroom infrastructure (construction or renovation)
- (4) Component 3: Teacher housing

Results are presented in Table 5 for dropout rates and in Table 6 for repetition rates. Given that estimates are consistent in magnitude and significance between models, the discussion focuses on the full sample including weights, which maximizes power and also takes into account variations in the student population size at the district level. The ATOT effect for component 1 is -1.5 percentage points, significant at the 1% level. Taking a baseline repetition rate of 19% for grades 3-6 in 2009, this represents a relative decrease in repetition rates of approximately 8% on average due to the new curriculum. The effect of component 1 restricting to the later period interventions with a combined math and language curriculum is negative and significant, and of a similar magnitude. The effects of component 3 interventions for classroom and housing infrastructure on repetition rates are small and not statistically significant at conventional levels, suggesting that component 3 did not contribute to improve grade repetition outcomes.

Results on dropout rates are presented in Table 5. The estimated coefficients on the two component 1 treatment variables are small and never statistically significant. On the other hand, there is evidence of significant reductions in dropout thanks to component 3, most notably from the expansion and improvement of classroom infrastructure. While the coefficient on teacher housing is negative, it is only marginally significant at conventional levels. The reduction of 2.2 percentage points from classroom infrastructure represents a 14.6% relative decline over a baseline dropout rate of 15% in 2009 for intervention districts.

The effectiveness analysis thus suggests that the interventions financed under the program are causally associated with improvements in educational outcomes. In the case of curriculum reform,

the program led to declines in repetition rates, while infrastructure is associated with declines in dropout rates.

Table 5 - DROPOUT RATE

VARIABLES	ALL DISTRICTS				ALL DISTRICTS-WEIGHTED				RURAL DISTRICTS-WEIGHTED			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
T1 (MATH MATH & LANGUAGE) = 1	-0.402 (0.461)				-0.634 (0.433)				-0.201 (0.414)			
T1 ( MATH & LANGUAGE) = 1		0.008 (0.463)				0.060 (0.435)				0.185 (0.415)		
T3 (CLASSROOM) = 1			-2.331** (1.148)				-2.197* (1.212)				-2.197** (0.886)	
T3 (HOUSING) = 1				-0.825 (0.732)				-1.031 (0.827)				-1.031* (0.607)
Constant	8.758*** (0.188)	8.654*** (0.163)	8.841*** (0.173)	8.770*** (0.179)	9.798*** (0.186)	9.614*** (0.161)	9.775*** (0.166)	9.724*** (0.165)	8.846*** (0.180)	8.759*** (0.155)	9.049*** (0.172)	8.961*** (0.171)
Observations	389	389	389	389	389	389	389	389	350	350	350	350
R-squared	0.002	0.000	0.013	0.004	0.007	0.000	0.011	0.005	0.001	0.001	0.022	0.010
Number of districtgradeid	80	80	80	80	80	80	80	80	72	72	72	72
Control Mean:	7.925	7.925	15	11.94	7.925	7.925	15	11.94	7.333	7.333	15	11.94
P-value:	0.384	0.987	0.0431	0.260	0.144	0.891	0.0707	0.213	0.629	0.656	0.0138	0.0904

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1



Table 6 - REPITITION RATE

VARIABLES	ALL DISTRICTS				ALL DISTRICTS-WEIGHTED				RURAL DISTRICTS-WEIGHTED			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
T1 (MATH MATH & LANGUAGE) = 1	-1.210** (0.500)				-1.514*** (0.346)				-1.047** (0.432)			
T1 ( MATH & LANGUAGE) = 1		-0.590 (0.504)				-1.470*** (0.347)				-0.914** (0.434)		
T3 (CLASSROOM) = 1			0.277 (1.276)				-0.270 (1.005)				-0.270 (0.950)	
T3 (HOUSING) = 1				1.039 (0.814)				1.122 (0.685)				1.122* (0.647)
Constant	13.379*** (0.209)	13.154*** (0.182)	13.039*** (0.192)	12.918*** (0.198)	13.415*** (0.152)	13.236*** (0.130)	13.007*** (0.139)	12.880*** (0.137)	14.709*** (0.192)	14.566*** (0.165)	14.441*** (0.186)	14.223*** (0.182)
Observations	380	380	380	380	380	380	380	380	342	342	342	342
R-squared	0.019	0.005	0.000	0.005	0.060	0.057	0.000	0.009	0.021	0.016	0.000	0.011
Number of districtgradeid	80	80	80	80	80	80	80	80	72	72	72	72
Control Mean:	19	19	19.75	17.44	19	19	19.75	17.44	19.50	19.50	19.75	17.44
P-value:	0.0162	0.243	0.829	0.203	1.68e-05	3.04e-05	0.789	0.103	0.0161	0.0363	0.777	0.0839

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

## Related literature

While data on student learning outcomes was not available for the attribution analysis, related literature suggests that the interventions implemented by the program are expected to be associated with improvements in student learning, as the evidence for other countries that have implemented similar policies has shown. The following section presents an analysis of international and regional review of the literature that shows the relationship between the products generated in the case of Suriname and the intended outcomes. In the case of student learning, this attribution analysis strongly suggests that the program may have contributed to improvements, while for dropout and repetition rates the literature review complements the empirical analysis conducted for the PCR that substantiates a causal link between the intervention and these outcomes. The full list of the bibliography cited in this section can be found in this [Reference List](#).

### Outcome #1 – Improved Student Learning

#### ***Output 1. Curriculum developed***

Top-performing education systems have put in place high standards to guide education policy-making and teaching practices on what students should know and be able to do after completing each school grade (Jaimovich, 2016; Barber et al., 2010). International evidence shows that education systems with centralized curriculum standards and local flexibility are associated with higher test scores (Woessmann 2003). Although there are few rigorous evaluations on the effects of curriculum design on students' outcomes, there is one randomized evaluation implemented in Chile that showed that providing teachers with an annual curricular programming, daily planning and teaching materials improved students' performance (Bassi et al., 2016). Moreover, there are many examples of how providing teachers with a scripted program on how to teach the curriculum raised students' achievements in Honduras (McEwan et al., 2015), India (He et al., 2009), Paraguay (Naslund-Hadley et al., 2014) and South Africa (Piper, 2009).

#### ***Output 2. Teachers trained***

There is a growing literature that shows that teachers are the main factor on the school side in helping improve students' achievements. Evidence in developed countries has revealed that exposure to a high-quality teacher during a school year produces improvements in students' learning of between 0.2 and 0.3 standard deviations (Rivkin et al., 2005). Similarly, a recent study in Ecuador found that an effective teacher may be able to close the learning gap between students from rich and poor households (Araujo et al., 2016). Moreover, effective teachers also have positive impacts on their students' opportunities to access higher education and even on their future earnings (Chetty et al., 2014; Chetty et al., 2011; Hanushek, 2009).

Teachers' knowledge on their subject has a positive effect on students' performance (Glewwe et al., 2011). To improve teachers' effectiveness, providing appropriate training is key (Clotfelter et al., 2007), in particular, when the in-service training is related to the curriculum (Popova et al., 2016). Finally, another factor that is crucial to strengthen teachers' training is the provision of materials: providing textbooks along with training is associated with an increase in students' test scores (Popova et al., 2016).

#### ***Output 3. Textbooks delivered***

Providing textbooks in one of the few inputs policies that has consistently showed to have strong impact on students' performance (Jamison et al., 1981; Heyneman et al., 1984; Lockheed and Verspoor 1991; Harbison and Hanushek 1992; Glewwe et al., 2011). There is also rigorous evidence from Brazil, Chile and the Philippines that providing textbooks has a positive effect on students' test scores (Leme, 2012; Bassi et al., 2016; Abeberese et al., 2014).

#### ***Output 4. New schools build, and old schools expanded***

Improving education access through the construction of new schools can improve learning outcomes, particularly since the contrafactual is not going to school (Glewwe and Muralidharan, 2015). Evidence from rural Afghanistan, pre-primary education in Argentina and girls' education in Burkina Faso showed that the construction of new schools had a significant positive effect on student performance (Burde and Linden, 2013; Berlinski, et al., 2009; Kazianga et al., 2013).

Additionally, investing in existing infrastructure is also contributes to improve student outcomes by creating environments that foster learning. Students that attend schools that are fully functioning—that is with good quality of floors, walls and roofs, and that are well equipped—with suitable furniture, libraries and labs have on average higher levels of learning (Glewwe et al., 2011; Glewwe and Muralidharan, 2015; Baker et al., 2002; Heynemann and Loxley, 1983).

#### ***Output 5. Teachers' Housing provided***

Education systems should ensure that the most effective teachers teach in the areas where their skills are most needed. Assigning the best teachers to the schools that serve the most vulnerable population improves students learning and reduces the achievement gap by socioeconomic status (Cannata, 2010; Boyd, et al., 2005; Hanushek, et al., 2004; Ingersoll, 2002).

However, assigning the best teachers to the most vulnerable schools is still a challenge. Qualified teachers avoid teaching in schools that serve vulnerable populations, that are in rural areas or that are exposed to violent environments. Additionally, besides providing effective teachers in these challenging contexts, it is crucial to guarantee actual teachers' assistance as it has been shown that teachers' absenteeism has a negative effect on students' learning (Glewwe et al., 2011)

In this regard, the teachers' housing policy in Suriname was intended to help attract effective teachers to work in the interior of the country with disadvantaged students and to guarantee teachers' assistance as the teachers' housing enables them to live closer to schools that otherwise would be very hard to reach given their remoteness in the interior of the country.

#### **Outcomes #2 and #3 – Reduce dropout and repetition rates**

Dropout and repetition rates are indicators used to measure the internal efficiency of the education system. There is extensive body of literature showing that the academic performance of a student is a strong predictor of the probability of dropping out and repeating in school. Indeed, low academic performance increases the probabilities of grade repetition and of school dropout (Eckstein et al., 1999; Rumberger and Lim, 2008; Doll et al., 2013). In this regard and based on extensive literature, since the policies implemented in Suriname (curriculum development, teachers training, provision of textbooks, construction of new schools and expansion of old one and teachers' housing) should have a positive effect on students' performance, we would expect them to have an indirect positive effect on both repetition and dropout rates through their improvement in students' performance. As shown above, the reduced form relationship between the interventions and dropout and repetition rates is borne out in the data, with significant effects of the interventions implemented under component 1 and repetition, and significant effects of the infrastructure intervention, particularly classroom construction and renovation, on dropout rates.

#### ***Output 3. Textbooks delivered***

While separation the effects of the individual sub-components of the program is not possible (interventions were implemented as a package), existing evidence on provision of textbooks is consistent with the evidence presented earlier. In particular, rigorous evaluations have shown that

textbook provision can lead to a significant reduction in dropout rates and increase in students' enrollments (Kremer et al., 2003) and increases the probability of finishing primary school and enrolling in secondary education (Glewwe et al., 2009).

#### ***Output 4. New schools build, and old schools expanded***

Furthermore, results on infrastructure expansion in the context of this program are consistent with evidence on the provision and quality of school infrastructure in the literature, which shows a positive relation with students' school attendance: availability of teaching support areas (libraries and science labs), connection to public electricity, access to drinking water, sanitation, an adequate number of restrooms (Cuesta et al., 2015; Duarte et al., 2011) and walls', floors' and roofs' quality are positively correlated with students' attendance (Cuesta et al., 2015). Moreover, there is rigorous evidence showing that building new schools has a positive effect on years of schooling in Indonesia (Duflo, 2001), on enrollment rates in Afghanistan (Burde and Linden, 2013) and on dropout rates reduction in Kenya (Kremer et al., 2003).

#### **d. Unanticipated outcomes**

On the positive side, the largest unanticipated outcome was the expanded magnitude and scope of the curriculum and textbook subcomponents. The scope of the curriculum and its impact on the number of books to be purchased and distributed turned out to be much larger than anticipated. This expanded role of Component 1 in the project should improve education quality above the levels envisioned by the Program's design.

Similarly, another unanticipated outcome was the larger number of schools that were rehabilitated and expanded, as well as the larger number of teacher housing units that were built or renovated. This larger than anticipated role of school construction in the Program improved access to education in the interior beyond the original plans.

### **3.3 Efficiency**

During the design of the program, an ex post economic analysis was not considered at the end of Phase I, but rather at the end of the entire project after both phases were implemented. In addition, the methodology of measuring repetition and dropout rates changed through the execution of the program generating considerable problems of comparability with the baseline. The MOESC change the methodology in 2014 of both indicators to follow guidelines from UNESCO and measure more accurately these crucial indicators for the education system.

If we analyze the historical information generated by the relevant monitoring indexes calculated during the execution period, Phase I has been qualified in its performance as satisfactory according to the methodology used by Bank for the classification of projects. The methodology measures five indices that are combined into one synthetic indicator<sup>10</sup>: Annual Cost Performance Index CPI (a), Annual Schedule Performance Index SPI (a), CPI and SPI, and disbursements performance indicator. These indices measure deviations in terms of cost and time with respect to the annual and accumulated plans of the project. In this case, the last classification received was 2.76 which is satisfactory. The program did not have any significant delays according to the expected duration period. As described earlier, even when the project had some changes in the outputs under components 2 and 4 because some activities were cancelled, it did not significantly affect the overall project classification.

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<sup>10</sup> The Synthetic indicator is considered satisfactory when it is greater than or equal to 2.5.

Table 7. Cost Performance and Schedule Performance Indicators

	2012	2013	2014	2015	2016
<b>SPI</b>	1	3.91	3.48	2.52	1.91
<b>SPI(a)</b>	1	3.91	1.31	0.88	0.99
<b>CPI</b>	1	1.44	1.89	1.93	1.94
<b>CPI(a)</b>	1	1.44	1.26	0.89	1.01

In addition, there were considerable variations in the costs of the outputs of the Component 1 of curriculum design, when changing from an in-house curricular design methodology to the purchase of a license. Indeed, Phase I was originally designed and budgeted to use local experts to develop the curriculum, but during execution, it became clear that there were not enough local experts with the technical skills to carry out the redesign of the curriculum. As a result, the MOESC decided to purchase the licenses for the curriculum from a Dutch publishing company and adapt it locally through available experts. This decision significantly increased the costs of this activity. The extra cost was covered using the resources from the activities from components 2 and 4 that were cancelled.

This variation in the cost for this output in component 1 did not affect the overall classification but it did change the scope of the 2<sup>nd</sup> BEIP given that some outputs were not achieved (grades 7 and 8 in particular to complete the primary school cycle). However, Phase II will continue with the redesign and implementation of grades 7 and 8. Altogether, Phase I and II will achieve the objectives of the multiphase operation of improving student learning in primary education and will set the stage for the reform of junior secondary education by advancing on a strategy and a curriculum framework for this level.

### 3.4 Sustainability

There are several factors that could influence the continuation of the results already achieved under Phase I of 2<sup>nd</sup> BEIP and the achievement of future expected results under Phase II.

- (i) Implementing mechanisms to adequately integrate the MOESC into BEIP's activities and vice versa to ensure ownership and long-term sustainability: during the execution of Phase I, an effort was put in place to improve the communication channels between BEIP and the MOESC, as well as to increase the participation of MOESC authorities in both the decision-making processes and the implementation of the program. The second phase is building up the role of an Advisory Committee that involves all stakeholders in the program and get qualified MOESC personnel involved in the execution of the program;
- (ii) Continue with communications efforts, such as the social marketing campaign to promote key stakeholder (principals, teachers, parents) involvement and ensure their buy-in; and
- (iii) Continue building institutional capacity within the MOESC to improve data collection and analysis processes to promote evidence-based policy-making.

#### **IV. NON-CORE CRITERIA**

##### **4.1 Strategic Alignment**

The project is aligned with key development challenges: (i) Social inclusion and equality; (ii) Productivity and innovation; (iii) Economic integration; and to the following cross-cutting themes: (i) Gender equality and diversity.

The greatest strength of the 2<sup>nd</sup> BEIP is its alignment with social inclusion and equality. Education is Suriname's best vehicle for social mobility. Because the country's economy is so reliant on the extraction of natural resources, basic education is the only way that the young population can use to improve social inclusion and equality. Suriname's good stewardship of its ethnic diversity is a good base with which to improve inclusion and equality, and education fits well into the country's development goals.

Education is also a key requirement for labor productivity and innovation. The private sector in Suriname is still emerging, as GDP is based on extractive industries. To improve labor productivity and innovation, Suriname has to invest in basic education, and this project fits well into this strategy.

As for the cross cutting themes, the project fits well into gender equality and diversity, as Suriname has a good record of managing gender issues in education, and a good manager of ethnic diversity. In this regard, there may be room for understanding the role that local languages play in improving educational attainment. Currently, Dutch is the language of instruction, which has placed students in the interior at a disadvantage. In urban areas there are private schools that teach in languages other than Dutch, but in public schools that is not the case. In order to foster a better management of diversity the country will have to explore the use of textbooks and pedagogical materials in the language spoken in the community.

##### **4.2 Monitoring and Evaluation**

###### **a. Monitoring and Evaluation (M&E) Design**

The Program's monitoring and evaluation system was based on the Results Framework and included the involvement MOESC and PMU staff. In order to strengthen MOESC's ability to monitor and evaluate education initiatives, the program: (i) established an M&E Unit within the MOESC Research and Planning (R&P) Department; (ii) develop an M&E manual for the program; (iii) trained MOESC and PMU staff in using the manual; (iv) developed a reporting, monitoring and communication mechanism; (v) integrated M&E functions into MOESC departments directly responsible for the delivery of the education program; and (vi) developed annual work plans and progress reports for all Heads of Departments involved in the program and the Planning Section of MOESC.

The Research and Planning (R&P) Department of MOESC was the MOESC unit assigned to monitor and evaluate the program from its inception. While the PMU ultimately was responsible for the M&E and reporting of the program, the R&P Department will be responsible for supporting the PMU in the process. The problems that developed in management coordination between the PMU and MOESC Departments, and the modifications to the workplan authorized by MOESC authorities, the M&E plan was substantially modified during implementation.

###### **b. M&E Implementation**

For *Components 1 and 2* the program continuously monitored: (i) teacher's opinions of the methodologies covered during training; (ii) the effectiveness of follow up support offered to teachers; and (iii) the effectiveness of the distribution of textbooks and teaching and learning materials. The planned evaluations of changes in internal efficiency as a result of the program were never conducted because of the problems at MOESC in EMIS and by the low technical capacity at the R&P unit. A planned evaluation of the curriculum could not be conducted, as curriculum implementation has not reached all grades of primary education.

For *Component 3* MOESC and the PMU: (i) verified the completion of school construction, including the delivery of furniture, equipment and materials; (ii) verified that appropriate building material were used for the Interior, and that environmental and social issues were addressed by contractors. The involvement of local stakeholders in the construction process was also monitored by the PMU process. A planned quantitative evaluation to assess the decrease in overcrowding at the targeted schools and a corresponding increase in access to schooling has yet to be performed.

For *Component 4* there was a planned qualitative evaluation in at least 30 schools regarding: (i) number of hours students and teachers are at school per day; (ii) hours students and teachers are in the classroom per day; (iii) time teachers spend on teaching; and (iv) percent of teachers using the EMIS to track student progress and develop student work plans. This evaluation is still pending.

*Midterm.* A midterm evaluation of the Program was conducted in 2014. This formative evaluation analyzed progress towards achieving planned outputs, and bottlenecks in the implementation process, suggesting solutions for the remaining months of the program. The midterm evaluation showed that curricular reform and the provision of textbooks, teacher training, new construction and school rehabilitation, were all on track for compliance with project goals and requirements<sup>11</sup>. However, there were three problems with project performance at midterm: (i) a substantial delay in the implementation of ICT; (ii) significant problems of coordination and communication between the Project Management Unit (PMU) and mid-level management at MOESC, and (iii) Significant delays in the planned construction of CENASU, a building assigned to teacher training, due to a significant reallocation of BEIP funds due in large part to higher than expected licensing costs of the textbooks from the Netherlands. Its results were discussed with MOESC and IDB staff and its conclusions used as feedback for the second half of the program.

Recommendations from the midterm evaluation included a call for better communication and greater coordination of activities between MOESC and BEIP, especially in the hiring of short-term consultants, the topping-off of salaries for selected MOESC staff, and the use of a joint work plan for the remaining second half of Phase I. In addition, the midterm evaluation called for improvements in the monitoring and evaluation (M&E), and planning functions of MOESC, especially in the area of staff training and the development of basic analysis and evaluation of school data. In particular, the monitoring and evaluation functions were needed in order to determine which results could be attributed to project intervention. This last recommendation, however, was not a specific component of the original project design, but it was made to use it as a vehicle for strengthening the technical capacity of MOESC staff in the M&E department.

*Final evaluation.* A final evaluation was conducted at the end of Phase I of the program. This final

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<sup>11</sup> Arcia, Gustavo. 2014. "Mid-Term Evaluation of the Second Basic Education Improvement Program in Suriname. Loan #2742/OC-SU." Consulting report presented to the Ministry of Education and Community Development and the Second Basic Education Improvement Project. Paramaribo, Suriname.

evaluation drew lessons from program implementation, especially in the areas of program management and institutional development. These lessons were applied in the design of Phase II.

### **c. M&E Utilization**

Monitoring teacher training and textbook delivery were done as planned, and were useful for making adjustments during program implementation. The monitoring of construction activities was done as planned, with good results, as all construction was on time and on budget. The evaluation aspects of the program could not be fully implemented due to the limited technical capacity of the R&P unit and problems in coordination and collaboration between the PMU and MOESC. MOESC has collected data on schools and students for all recent years, but they lack the capacity to manage and analyze it to produce yearly statistical reports. In addition, there is lack of information systems that can generate regular and reliable information. The combination of all these factors results in a limited use of analysis and statistics across the education system. Under Phase II, the Research and Planning Unit at the MOESC, in charge of producing education statistics, will receive specialized training, equipment and software to improve their capacity to collect, analyze and report data.

## **4.3 Use of Country Systems**

The 2nd BEIP abided by Suriname's legal framework for contracting local consultants. In addition, school construction was guided and supervised by a Building Commission, an ad-hoc body composed of retired builders from the private sector and by retired staff from MOESC's Building Department. The Program also relied on assistance from the auditing departments at of the Ministry of Finance, assistance from the Ministry of Labor, and from the Ministry of Public Works.

## **4.4 Environmental and Social Safeguards**

The environmental and social safeguard classification is "C". The program's construction and expansion of schools abided by environment regulations regarding land use, deforestation, and the use of alternative energy sources. Construction standard equaled or exceeded residential standards and did not have negative environmental impacts. Construction codes were followed strictly, as contractors were always supervised by the Building Commission. The program's Operational Manual (OM) for school construction included technical and environmental mitigation criteria for all construction activities, and other environmental safeguards, and complied with the national requirements, including the guidelines of the Ministry of Health and Public Works and the Bank's Environmental Safeguards Compliance Policy. The operation also complied with the Operational Policy on Indigenous Peoples (OP-765) as it financed solutions to increase the availability and quality of education services that benefit Indigenous and Maroon communities.

## **5 FINDINGS AND RECOMMENDATIONS**

### **a. Technical-sectorial**

Throughout the execution of Phase I several methods to develop curriculum were tested. Purchasing the curriculum licenses for math and science in the Netherlands and then adapting the content locally turned out to be an efficient alternative given the low local capacity in curriculum design. However, there is a high risk associated with this strategy in terms of the local adaptability of the materials. In order for the MOESC to be able to develop internally the curriculum grades 7



and 8 and other grades, it is crucial for the program to strongly invest in building local capacity in curriculum design and bring external experts to support guide their work if necessary. This implementation method is the one currently implemented under Phase II.

### **b. Organizational and Managerial**

Limited involvement of the MOESC authorities and personnel in the decision-making processes and implementation, as well as inefficient communication channels between the PMU and the MOESC can result in lack of ownership of the project. The new operation needs to build on lessons learned from Phase I and involve MOESC authorities and personnel in the loan activities to ensure the ownership of the program and ultimately contribute to the sustainability of the reform while creating capacity within the MOESC. At the same time, other stakeholders (teachers, principals, and parents) may not understand the purpose and content of the new curriculum, which could in turn hamper its timely adoption. Another recommendation is thus to continue with the social marketing campaign of Phase I to inform parents, teachers and principals about the new curriculum. Similarly, continuous training and coaching could be provided to teachers and principals, so that they can better understand the scope of the reform and successfully use the new materials in the schools.

Another important finding is that there is limited capacity in the MOESC to analyze education data to assess the progress of the education sector and monitor and evaluate the program. MOESC has collected data on schools and students for all recent years, but they lack the capacity to manage and analyze it to produce yearly statistical reports. It is crucial for Phase II to improve the capacity of the Research and Planning Unit at the MOESC, in charge of producing education statistics, and provide specialized training, equipment and software to improve their capacity to collect, analyze and report data.

### **c. Public processes and actors**

As mentioned before, during Phase I issues raised because of the limited involvement of MOESC in the activities of program and therefore MOESC lacked ownership of the activities. With the change in MOESC and BEIP management in Phase II there are expectations about a better integration of project activities with the activities of relevant departments at MOESC. This integration is expected to be driven by a new sense of ownership of BEIP on the side of MOESC staff. Two issues seem to be considered as crucial for the success of this integration effort. First, high level staff at MOESC considers that the calendar for implementation should be a joint effort. If they are more in control of the project, this coordination would be easier to do. Second, they would like to eliminate the use of top-off salaries received by MOESC staff for doing BEIP work. Although the extra income was always welcome by those consulting to BEIP, it created a significant amount of friction between those working for BEIP and those left out.

These recommendations are summarized in Table 7.

<b>Table 8. Summary of Findings and Recommendations</b>	
<b>Findings</b>	<b>Recommendations</b>
<b>Dimension 1: Technical-sectorial</b>	
The process of curriculum design and local involvement is a success factor for implementation	Develop curriculum locally with external experts if necessary
<b>Dimension 2: organizational and managerial</b>	
Limited involvement of the MOESC authorities and personnel led to lack of ownership	Involve MOESC authorities and personnel in the loan activities
	Continue with the social marketing campaign of Phase I to inform parents, teachers and principals about the new curriculum
	Continuous training and coaching could be provided to teachers and principals, so they understand the scope of the reform
Lack of reliable data	Improve the capacity of the Research and Planning Unit at the MOESC
<b>Dimension 3: Public processes and actors</b>	
Sustainable Institutional development at MOESC	Use professional incentives to stimulate participation by MOESC staff, and avoid salary top-off that create tension within MOESC, and tension between MOESC and the PMU.

**Annex**

<b>Table 9. Suriname. Student enrollment by District, 2014</b>					
<b>District</b>	<b>Pre-Primary</b>	<b>Primary</b>	<b>Junior Secondary</b>	<b>Senior Secondary*</b>	<b>Total</b>
Paramaribo	7,918	28,514	21,905	11,502	69,839
Wanica	4,423	15,625	6,935	1,333	28,316
Para	1,017	3,995	1,655	0	6,667
Commewijne	967	3,471	1,943	173	6,554
Saramacca	509	1,813	1,113	68	3,503
Nickerie	934	3,486	2,566	941	7,927
Coronie	68	395	197	0	660
Marowijne	660	3,117	1,488	28	5,293
Brokopondo	652	2,755	782	30	4,219
Sipaliwini	1,138	6,468	443	0	8,049
Total Suriname	18,286	69,639	39,027	14,075	141,027

Source: MOESC; \*Data year: 2013

<b>Table 10. Suriname. Number of Primary and Junior Secondary Teachers, by District, 2014</b>			
<b>District</b>	<b>Primary</b>	<b>Junior Secondary</b>	<b>Senior Secondary*</b>
Paramaribo	2,387	893	813
Wanica	1,215	224	229
Para	337	55	82
Commewijne	428	105	20
Saramacca	186	73	41
Nickerie	396	160	85
Coronie	43	-	26
Marowijne	220	65	49
Brokopondo	193	46	11
Sipaliwini	381	13	25
Total Suriname	5,786	1,634	1,381

Source: MOESC; \* Includes vocational secondary institutions

<b>Table 11. Suriname. Number of schools by District, 2013</b>			
<b>District</b>	<b>Primary</b>	<b>Junior Secondary</b>	<b>Senior Secondary</b>
Paramaribo	124	38	61
Wanica	57	13	17
Para	21	5	5
Commewijne	23	4	7
Saramacca	14	3	3
Nickerie	26	8	13
Coronie	4	1	1
Marowijne	21	4	2
Brokopondo	17	2	1
Sipaliwini	46	3	2
Total Suriname	353	81	112

Source: MOESC

<b>Table 12. Suriname. Repetition rates for primary school, by district, 2009 (Base Year)</b>						
<b>District</b>	<b>Primary Grades</b>					
	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Paramaribo	15	14	15	14	13	18
Wanica	18	15	17	17	17	20
Para	23	20	24	19	12	23
Commewijne	10	11	12	11	9	21
Saramacca	15	18	19	20	12	14
Nickerie	16	11	12	16	10	18
Coronie	14	7	22	30	13	43
Marowijne	23	20	21	21	18	20
Brokopondo	31	23	20	28	13	17
Sipaliwini	36	29	29	24	19	18
Total Suriname	19	16	18	17	14	18

Source: MOESC

<b>Table 13. Suriname. Dropout rates for primary school, by district, 2009 (Base Year)</b>						
<b>District</b>	<b>Primary Grades</b>					
	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Paramaribo	13	14	12	14	10	24
Wanica	8	7	7	5	7	21
Para	8	9	8	9	8	23
Commewijne	6	5	5	4	7	12
Saramacca	4	4	5	4	6	14
Nickerie	4	4	4	5	7	19
Coronie	4	4	12	4	5	7
Marowijne	7	6	6	8	12	26
Brokopondo	14	17	10	11	14	29
Sipaliwini	11	12	13	10	16	39
Total Suriname	9	9	8	8	9	22

Source: MOESC

<b>Table 14. Percentage of Students with a Satisfactory Grade in GLO 6 (Grade 8)</b>								
	<b>2010</b>		<b>2011</b>		<b>2012</b>		<b>2013</b>	
	<b>Math</b>	<b>Language</b>	<b>Math</b>	<b>Language</b>	<b>Math</b>	<b>Language</b>	<b>Math</b>	<b>Language</b>
Total Suriname	37	69	28	54	27	58	25	50
Paramaribo	37	75	29	60	28	63	26	57
Wanica	41	70	31	54	28	61	26	51
Para	28	63	16	47	22	53	16	41
Commewijne	46	66	34	54	30	59	33	58
Saramacca	45	69	42	55	38	64	40	57
Nickerie	47	76	43	66	40	66	42	64
Coronie	29	60	11	47	11	51	8	40
Marowijne	27	55	16	34	13	34	9	24
Brokopondo	28	46	24	39	20	36	9	23
Sipaliwini	13	29	11	22	8	26	10	20

Source: MOESC. Data not available for 2014