

PMR Operational Report

| | | | |
|-----------------------------|----------------------------------|---|----------|
| Operation Number | RG-G1009 | Chief of Operations Validation Date | 10/21/20 |
| Year- PMR Cycle | First period Jan-Jun 2020 | Division Chief Validation Date | |
| Last Update | 10/09/20 | Country Representative Validation Date | |
| PMR Validation Stage | Validated by Chief of Operations | | |

Basic Data

Operation Profile

| | | | |
|---------------------------|---|---|---|
| Operation Name | Sustainable Energy Facility (SEF) for the Eastern Caribbean | Loan Number | GRT/TC-15205-RG |
| Executing Agency | CARIBBEAN DEVELOPMENT BANK | Sector/Subsector | ENERGY-ENERGY INTEGRATION |
| Team Leader | GISCHLER BLANCO, CHRISTIAAN | Overall Stage | Disbursing (From eligibility until all the Operations are closed) |
| Operation Type | Investment Grants | Country | Regional |
| Lending Instrument | | Convergence related Operation(s) | RG-L1071, RG-G1004 |
| Borrower | | | |

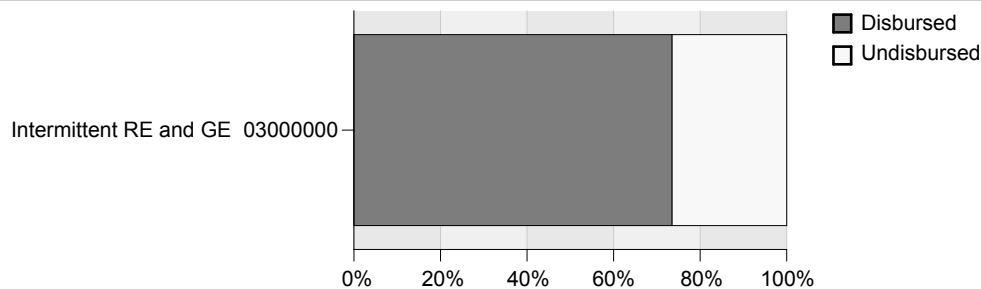
Environmental and Social Safeguards

| | | | |
|---|---|--|----|
| Impacts Category | B13 | Was/Were the objective(s) of this operation reformulated? | NO |
| Safeguard Performance Rating | Partially Satisfactory | Date of approval | |
| Safeguard Performance Rating - Rationale | While CDB staff are experienced in environmental and social risk management, there is limited geothermal experience. In the case of St. Vincent (subproject in execution), the social aspects of the program have been well implemented (albeit slowly) however environmental monitoring had not been fully implemented despite the fact that drilling has been completed. The effort in ensuring the projects correct noncompliance issues, as well as project preparation, have in many instances been led by IDB rather than CDB. According to the ROP, CDB should take the lead and submit to IDB, rather than vice versa Furthermore, CDB E&S specialists are unable to maintain the pace required for some of the projects, possibly due to lack of sufficient human resources, resulting in delayed reviews of E&S documents in preparation. | | |

Financial Data

| Item | Total Cost and Source | | | | | Available Funds (US\$) | | | |
|-------------------|-----------------------|-------------------|-------------------|------------------------|---------------------|------------------------|----------------------|---------------|----------------------|
| | Original IDB | Current IDB | Local Counterpart | Co-Financing / Country | Total Original Cost | Current IDB | Disb. Amount to Date | % Disb | Undisbursed Amount |
| RG-G1004 | 3,013,698 | 3,013,698 | 0 | 0 | 3,013,698 | 3,013,698 | 346,000 | 11.48% | 2,667,698 |
| RG-G1009 | 19,050,000 | 19,050,000 | 0 | 0 | 19,050,000 | 19,050,000 | 14,007,558 | 73.53% | 5,042,442 |
| RG-L1071 | 20,000,000 | 20,000,000 | 29,435,000 | 0 | 49,435,000 | 20,000,000 | 7,218,524.17 | 36.09% | 12,781,475.83 |
| Aggregated | 42,063,698 | 42,063,698 | 29,435,000 | 0 | 71,498,698 | 42,063,698 | 21,572,082.17 | 51.28% | 20,491,615.83 |

Expense Categories by Loan Contract (cumulative values)



Please note that inactive indicators and outputs are not displayed; totals in the actual cost table may not match the sum of the cost of the outputs displayed, due to the cost of inactive outputs.

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RESULTS MATRIX

IMPACTS

Impact Nbr. 0: Define impact statement

Observation:

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2023 | EOP 2023 |
|-----------|---|-----------------|----------|---------------|------|------|----------|
| 0.0 | Average electricity tariff for customers in ECC | US\$/KWh | 0.33 | 2015 | P | | 0.30 |
| | | | | | P(a) | | 0.30 |
| | | | | | A | | |

Details

Means of verification: Measures the average electricity tariff in the 6 ECC covered by the program.

Pro-Gender No **Pro-Ethnicity** No

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2023 | EOP 2023 |
|-----------|---|-----------------|----------|---------------|------|------|----------|
| 0.1 | Regional penetration of indigenous renewable energy sources for power generation within the ECC | % | 0.00 | 2016 | P | | 30.00 |
| | | | | | P(a) | | 30.00 |
| | | | | | A | | |

Details

Means of verification: Measures the average electricity tariff in the 6 ECC covered by the program.

Pro-Gender No **Pro-Ethnicity** No

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OUTCOMES

Outcome Nbr. 0: Reduction in electricity consumption from public lighting sectors with EE projects financed by the program

Observation:

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | EOP 2023 |
|---|---|-----------------|----------|---------------|------|------|------|-------|-------|-------|-------|-------|----------|
| 0.0 | Electricity saved by EE applications, measures & programs | GWh/year | 0.00 | 2016 | P | 4.00 | 6.00 | 11.30 | 11.30 | 11.30 | 11.30 | 11.30 | 66.50 |
| | | | | | P(a) | 4.00 | 6.00 | 11.30 | 13.20 | 15.30 | 15.30 | 16.30 | 66.60 |
| | | | | | A | 0.00 | 3.00 | 3.50 | 0.00 | | | | 6.50 |
| Details | | | | | | | | | | | | | |
| Means of verification: Report from CDB based on utility sales reports | | | | | | | | | | | | | |
| Pro-Gender | | No | | Pro-Ethnicity | | No | | | | | | | |

Outcome Nbr. 1: Reduction in imports of fossil fuels for electricity generation in ECC due to EE projects financed at any stage by the program.

Observation:

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | EOP 2023 |
|---|---|-------------------------|----------|---------------|---------------|------|------|-------|-------|-------|-------|-------|----------|
| 1.0 | Reduction in imports of fossil fuels for electricity generation | Thousand barrels of oil | 0.00 | 2016 | P | 6.50 | 9.70 | 18.30 | 18.30 | 18.30 | 18.30 | 18.30 | 107.70 |
| | | | | | P(a) | 6.50 | 9.70 | 18.30 | 18.40 | 24.30 | 24.30 | 30.40 | 108.30 |
| | | | | | A | 0.00 | 4.90 | 6.00 | 0.00 | | | | 10.90 |
| Details | | | | | | | | | | | | | |
| Means of verification: Executing Agency (EA) | | | | | | | | | | | | | |
| Observations: Estimation based on efficiency levels and number of retrofitted lamps; to be provided by the Executing Agency (EA) based on information from governments and utilities in ECC. Final calculations to be checked with the utilities and the governments in the ECC (ex-post CBA) | | | | | | | | | | | | | |
| Pro-Gender | | No | | | Pro-Ethnicity | | | | No | | | | |

Outcome Nbr. 2: Greenhouse Gas (GHG) emissions avoided by EE projects financed at any stage by the program

Observation:

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | EOP 2023 |
|--|--|-----------------|----------|---------------|---------------|------|------|------|------|-------|-------|-------|----------|
| 2.0 | GHG emissions avoided due to EE projects | ktCO2e/yr | 0.00 | 2016 | P | 3.00 | 4.50 | 8.60 | 8.60 | 8.60 | 8.60 | 8.60 | 50.40 |
| | | | | | P(a) | 3.00 | 4.50 | 8.60 | 8.60 | 10.60 | 10.60 | 15.90 | 50.40 |
| | | | | | A | 0.00 | 2.30 | 3.00 | 0.00 | | | | |
| Details | | | | | | | | | | | | | |
| Means of verification: IDB methodology | | | | | | | | | | | | | |
| Observations: IDB estimations made following IDB methodology, based on number of lamps installed, efficiency levels of lamps, and an average conversion factor (ex-post CBA) | | | | | | | | | | | | | |
| Pro-Gender | | No | | | Pro-Ethnicity | | | No | | | | | |

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OUTCOMES

Outcome Nbr. 3: ECC with legal and regulatory frameworks that enable Geothermal Energy (GE) development

Observation:

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | EOP 2023 |
|--|--|-----------------|----------|---------------|---------------|------|------|------|------|------|------|------|----------|
| 3.0 | # countries that have GE legal and regulatory frameworks | # countries | 1.00 | 2015 | P | | 1.00 | 1.00 | | | | | 3.00 |
| | | | | | P(a) | | 1.00 | 1.00 | 1.00 | | | | 3.00 |
| | | | | | A | 0.00 | 0.00 | 0.00 | 0.00 | | | | |
| Details | | | | | | | | | | | | | |
| Means of verification: Report from CDB | | | | | | | | | | | | | |
| Pro-Gender | | No | | | Pro-Ethnicity | | | No | | | | | |

Outcome Nbr. 4: Women trained in construction, operation and/or maintenance of RE and EE infrastructure and projects

Observation:

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | EOP 2023 |
|---|--|-----------------|----------|---------------|---------------|------|-------|------|------|------|------|-------|----------|
| 4.0 | Women trained in the field of SE out of the total number of people trained using Program resources | % | 0.00 | 2016 | P | | | | | | | | 25.00 |
| | | | | | P(a) | | | | | | | 25.00 | |
| | | | | | A | | 35.00 | | 0.00 | | | | |
| Details | | | | | | | | | | | | | |
| Means of verification: Report from CDB | | | | | | | | | | | | | |
| Observations: Reports from the CDB based on information from governments and private project sponsors. Measured as an average of individual GE sub-projects at the end of the program | | | | | | | | | | | | | |
| Pro-Gender | | No | | | Pro-Ethnicity | | | No | | | | | |

Outcome Nbr. 5: GHG emissions avoided by geothermal projects financed at any stage by the program

Observation:

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | EOP 2023 |
|--|--|-----------------|----------|---------------|---------------|------|------|------|--------|--------|--------|--------|----------|
| 5.0 | GHG emissions avoided due to RE projects | ktCO2e/yr | 0.00 | 2016 | P | | | | 310.20 | 310.20 | 310.20 | 310.20 | 1,240.90 |
| | | | | | P(a) | | | | 310.20 | 310.20 | 310.20 | 310.20 | 1,240.90 |
| | | | | | A | | | | 0.00 | | | | |
| Details | | | | | | | | | | | | | |
| Means of verification: IDB estimations | | | | | | | | | | | | | |
| Observations: IDB estimations made following IDB methodology, based on installed capacity, electricity generation, and an average conversion factor (ex-post CBA). | | | | | | | | | | | | | |
| Pro-Gender | | No | | | Pro-Ethnicity | | | | No | | | | |

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OUTCOMES

Outcome Nbr. 6: Reduction in imports of fossil fuels for electricity generation in ECC with geothermal projects financed at any stage by the program

Observation:

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | EOP 2023 |
|-----------|---|-------------------------|----------|---------------|------|------|------|------|--------|--------|--------|--------|----------|
| 6.0 | Reduction in imports of fossil fuels for electricity generation | Thousand barrels of oil | 0.00 | 2016 | P | | | | 662.00 | 662.00 | 662.00 | 662.00 | 2,648.00 |
| | | | | | P(a) | | | | 662.00 | 662.00 | 662.00 | 662.00 | 2,648.00 |
| | | | | | A | | | | 0.00 | | | | |

Details

Means of verification: IDB estimations

Observations: IDB estimations based on estimated installed capacity and electricity generation to be provided in EA reports based on information from governments and utilities in ECC. Final calculations to be checked with the utilities and the governments in the ECC (ex-post CBA).

Pro-Gender No **Pro-Ethnicity** No

Outcome Nbr. 7: Geothermal power generation capacity installed in projects facilitated or financed at some stage by the program

Observation:

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | EOP 2023 |
|-----------|---------------------------|-----------------|----------|---------------|------|------|------|------|------|------|------|-------|----------|
| 7.0 | MW of geothermal capacity | MW | 0.00 | 2016 | P | | | | | | | 55.00 | 55.00 |
| | | | | | P(a) | | | | | | | 55.00 | 55.00 |
| | | | | | A | | | | | | | | |

Details

Means of verification: Report from CDB.

Observations: Estimations of expected installed capacity based on quality of resource confirmed once exploration wells are drilled

Pro-Gender No **Pro-Ethnicity** No

Outcome Nbr. 8: Geothermal projects financed at any stage by the program that moved on from early exploration to production drilling or from early exploration or production drilling to construction of plants and/or electricity generation

Observation:

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | EOP 2023 |
|-----------|---|-----------------------|----------|---------------|------|------|------|------|------|------|------|------|----------|
| 8.0 | Number of GE projects financed that moved to the following stage of development | Number of GE projects | 0.00 | 2016 | P | | 1.00 | 1.00 | 1.00 | 1.00 | | | 4.00 |
| | | | | | P(a) | | 1.00 | 1.00 | 1.00 | 1.00 | | | 4.00 |
| | | | | | A | | | | | | | | |

Details

Means of verification: Reports from the CDB

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OUTCOMES

Observations: Report from CDB with information from ECC and private project sponsors

Pro-Gender No **Pro-Ethnicity** No

Outcome Nbr. 9: Women participate in consultation processes related to GE projects

Observation:

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | EOP 2023 |
|-----------|---|-----------------|----------|---------------|------|------|------|------|------|------|------|------|----------|
| 9.0 | % of women who participate in consultations | % | 0.00 | 2016 | P | | | | | | | | 45.00 |
| | | | | | P(a) | | | | | | | | 45.00 |
| | | | | | A | | | | | | | | |

Details

Means of verification: Reports from the CDB

Observations: Reports from the CDB based on information from governments and private project sponsors (Measured as an average of individual GE sub-projects at the end of the program).

Pro-Gender No **Pro-Ethnicity** No

Outcome Nbr. 11: GEF Performance Ratings

Observation:

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | EOP 2023 |
|-----------|--|-----------------|----------|---------------|------|------|------|------|------|------|------|------|----------|
| 11.0 | Rating of Likelihood of Achieving Project Global Environmental Objective (DO) (Scale: 1 - 6, where 1 = Highly Satisfactory [HS] and 6 = Highly Unsatisfactory [HU]) | # | 0.00 | 2015 | P | | | | | | | | |
| | | | | | P(a) | | | | | | | | 1.00 |
| | | | | | A | 1.00 | 1.00 | 1.00 | | | | | |

Details

Means of verification: SAPR from CDB

Observations: The Team Leader will establish the corresponding ranking based on the SAPR

Pro-Gender No **Pro-Ethnicity** No

| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | EOP 2023 |
|-----------|---|-----------------|----------|---------------|------|------|------|------|------|------|------|------|----------|
| 11.2 | Rating of Implementation Progress (IP) (Scale: 1 - 6, where 1 = Highly Satisfactory [HS] and 6 = Highly Unsatisfactory [HU]) | # | 0.00 | 2015 | P | | | | | | | | |
| | | | | | P(a) | | | | | | | | 1.00 |
| | | | | | A | 1.00 | 1.00 | 1.00 | | | | | |

Details

Means of verification: SAPR from CDB

Observations: The Team Leader will establish the corresponding ranking based on the SAPR

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OUTCOMES

| Pro-Gender | | No | Pro-Ethnicity | | | | No | | | | | | |
|--|--|-----------------|---------------|---------------|------|------|------|------|------|------|------|------|----------|
| Indicator | | Unit of Measure | Baseline | Baseline Year | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | EOP 2023 |
| 11.3 | Rating of overall Risk that may affect project performance (RISK) (Scale 1 - 4, where 1 = High Risk [H] and 4 = Low Risk [L]) | # | 0.00 | 2015 | P | | | | | | | | |
| | | | | | P(a) | | | | | | | | 4.00 |
| | | | | | A | 4.00 | 4.00 | 4.00 | | | | | |
| Details | | | | | | | | | | | | | |
| Means of verification: SAPR from CDB | | | | | | | | | | | | | |
| Observations: The Team Leader will establish the corresponding ranking based on the SAPR | | | | | | | | | | | | | |
| Pro-Gender | | No | Pro-Ethnicity | | | | No | | | | | | |

RESULTS MATRIX

OUTPUTS: ANNUAL PHYSICAL AND FINANCIAL PROGRESS

Component Nbr. 1 Component I - Energy Efficiency

| | Output | Unit of Measure | | PHYSICAL PROGRESS | | FINANCIAL PROGRESS | |
|-----|---|--------------------------------|------|-------------------|----------|--------------------|------------|
| | | | | 2020 | EOP 2023 | 2020 | EOP 2023 |
| 1.1 | Funding operations provided for EE projects | Number of funding operations a | P | | 3 | 360,000 | 13,000,000 |
| | | | P(a) | 0 | 4 | 500,000 | 21,795,500 |
| | | | A | 0 | 4 | 170,000 | 6,887,000 |

Component Nbr. 2 Component II - Reg. framework, inst. strengthening and capacity building

| | Output | Unit of Measure | | PHYSICAL PROGRESS | | FINANCIAL PROGRESS | |
|-----|--|--------------------------------|------|-------------------|----------|--------------------|--------------|
| | | | | 2020 | EOP 2023 | 2020 | EOP 2023 |
| 2.1 | Studies to support energy policy reform, regulation and implementation of renewable energy and energy efficiency projects in the ECC | Number of studies completed | P | | 3 | | 1,942,828.53 |
| | | | P(a) | 0 | 3 | 200,000 | 2,247,577 |
| | | | A | 0 | 3 | 140,000 | 559,400 |
| 2.2 | Training and capacity building interventions for the EA, SPVs, and/or government employees | Number of interventions comple | P | 2 | 8 | 258,160.2 | 1,032,640.8 |
| | | | P(a) | 0 | 5 | 50,000 | 1,028,889 |
| | | | A | 0 | 5 | 20,000 | 608,874 |

Component Nbr. 3 Component III - Intermittent RE and GE

| | Output | Unit of Measure | | PHYSICAL PROGRESS | | FINANCIAL PROGRESS | |
|-----|--|--------------------------------|------|-------------------|----------|--------------------|--------------|
| | | | | 2020 | EOP 2023 | 2020 | EOP 2023 |
| 3.1 | Funding operations for GE projects | Number of funding operations a | P | | 3 | 8,188,970.59 | 44,050,000 |
| | | | P(a) | 0 | 6 | 5,000,000 | 34,634,000 |
| | | | A | 0 | 2 | 3,550,000 | 19,050,000 |
| 3.2 | Number of loans for transmission and distribution projects | Number of loans approved by CD | P | 1 | 1 | 5,000,000 | 10,000,000 |
| | | | P(a) | 0 | 2 | 0 | 19,466,666 |
| | | | A | 0 | 1 | 0 | 7,212,000 |
| 3.3 | Funding operations for intermittent RE projects | Number of funding operations a | P | | 1 | | 1,024,720.66 |
| | | | P(a) | 0 | 1 | 300,000 | 600,000 |
| | | | A | 0 | 1 | 150,000 | 450,000 |

Other Cost

| | | | | | | |
|------------------------------------|--|------|--|--|----------|---------|
| Project Management | | P | | | 28,701.6 | 143,508 |
| | | P(a) | | | 0 | 30,000 |
| | | A | | | | 0 |
| Monitoring and evaluation RG-L1071 | | P | | | 94,375 | 305,000 |
| | | P(a) | | | 60,000 | 100,000 |
| | | A | | | 60,000 | 60,000 |

Total Cost

| | | | | | | |
|------------|--|------|--|--|---------------|---------------|
| Total Cost | | P | | | 13,930,207.39 | 71,498,697.99 |
| | | P(a) | | | 6,110,000 | 79,902,632 |
| | | A | | | 4,090,000 | 34,827,274 |

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CHANGES TO THE MATRIX

| Section | Name | Reasons | Type of Change | Subtype | Modified By | Entered in the System |
|---------|--|---|----------------|---|-------------|-----------------------|
| Output | Funding operations for GE projects | Updated manually by SPD, upon request of the team, due to delays related to Covid-19 pandemic situation in 2020 | Modify Output | Modify Financial EOP P(a) value - caused by a change in the Financial P(a). | MERODRIGUEZ | 10/07/2020 |
| | | | | Modify Physical EOP P(a) value - caused by a change in the Physical P(a). | MERODRIGUEZ | 10/07/2020 |
| | Funding operations for intermittent RE projects | Updated manually by SPD, upon request of the team, due to delays related to Covid-19 pandemic situation in 2020 | Modify Output | Modify Financial EOP P(a) value - caused by a change in the Financial P(a). | MERODRIGUEZ | 10/07/2020 |
| | Funding operations provided for EE projects | Updated manually by SPD, upon request of the team, due to delays related to Covid-19 pandemic situation in 2020 | Modify Output | Modify Financial EOP P(a) value - caused by a change in the Financial P(a). | MERODRIGUEZ | 10/07/2020 |
| | | | | Modify Physical EOP P(a) value - caused by a change in the Physical P(a). | MERODRIGUEZ | 10/07/2020 |
| | Studies to support energy policy reform, regulation and implementation of renewable energy and energy efficiency projects in the ECC | Updated manually by SPD, upon request of the team, due to delays related to Covid-19 pandemic situation in 2020 | Modify Output | Modify Financial EOP P(a) value - caused by a change in the Financial P(a). | MERODRIGUEZ | 10/07/2020 |
| | Training and capacity building interventions for the EA, SPVs, and/or government employees | Updated manually by SPD, upon request of the team, due to delays related to Covid-19 pandemic situation in 2020 | Modify Output | Modify Financial EOP P(a) value - caused by a change in the Financial P(a). | MERODRIGUEZ | 10/07/2020 |
| | | | | Modify Physical EOP P(a) value - caused by a change in the Physical P(a). | MERODRIGUEZ | 10/07/2020 |

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IMPLEMENTATION STATUS AND LEARNING

Lesson Learned - Categories

Environmental and Social Factors