



Report Number: ICRR0024101

## 1. Project Data

**Project ID**  
P127226

**Project Name**  
6O-(APL2)LC Disaster Vuln. Reduct.

**Country**  
St. Lucia

**Practice Area(Lead)**  
Urban, Resilience and Land

**L/C/TF Number(s)**  
IDA-54930,IDA-59140,TF-17101,TF-17143,TF-A3651

**Closing Date (Original)**  
31-Dec-2019

**Total Project Cost (USD)**  
71,533,018.41

**Bank Approval Date**  
04-Jun-2014

**Closing Date (Actual)**  
30-Jun-2023

	<b>IBRD/IDA (USD)</b>	<b>Grants (USD)</b>
Original Commitment	56,000,000.00	31,931,935.64
Revised Commitment	75,226,870.25	31,791,423.79
Actual	71,533,018.41	33,343,440.25

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## 2. Project Objectives and Components

### a. Objectives

According to the Financial Agreement (2014, p.5), the Project Development Objective (PDO) of the Saint Lucia Disaster Vulnerability Reduction Project (DVRP) is "to reduce vulnerability to natural hazards and climate change impacts in the Recipient's territory". In the Project Appraisal Document, PDO is essentially the same, except for using "Saint Lucia" instead of "the Recipient's territory".



**b. Were the project objectives/key associated outcome targets revised during implementation?**

No

**c. Will a split evaluation be undertaken?**

No

**d. Components**

The Project had five components:

1. Risk Reduction and Adaptation Measures (Appraisal: US\$49m; Actual: US\$45.53m). This component aimed at mitigating flood and landslide risks and enhancing climate resilience. It included rebuilding infrastructure damaged in the 2013 floods with a build back better (BBB) approach, including reinforcing flood control infrastructure, climate resilient rehabilitation of road and bridge and water infrastructure and retrofit and rehabilitate shelters, schools and health centers. It also involved developing national plans and strategies for risk reduction and climate resilience, such as watershed management and public awareness programs. Technical assistance was imbedded within sub-activities and included development of maintenance plans, risk assessments, and hazard and climate analyses to guide project designs.

Component cost was revised due to re-allocation of funds as the CERC was activated to respond to the COVID-19 crisis. While the focus on risk reduction infrastructure remained the same at closing, the actual investments carried out changed to respond to changing government priorities. The ICR did not provide specifics on what investments were dropped and added throughout project implementation but mentioned that the development of maintenance plans, meant to be delivered through TA, was dropped.

2. Technical Assistance for Improved Assessment and Application of Disaster and Climate Risk Information in Decision-Making (Appraisal: US\$10m; Actual: US\$5.3m). The component aimed to enhance the use of disaster risk and climate data in decision-making and engineering design for risk reduction and adaptation in Saint Lucia (SLU). It funded the creation of a high resolution digital topographic and bathymetric model of the island, sea level rise modeling, and risk mapping, as well as the establishment of monitoring networks for weather, hydrology, and sea level. Additionally, it provided technical assistance and training to promote building safety and data standardization in the Eastern Caribbean.

Component cost was revised mainly due to the CERC activation, but also due to changing priorities. However, the focus of activities remained the same.

3. Climate Adaptation Financing Facility (Appraisal: US\$5m; Actual: US\$4.25m). Component aimed to pilot a financing mechanism to enhance climate resilience by providing loans to households and businesses for climate adaptation investments. The Saint Lucia Development Bank (SLDB) acted as the retail bank, distributing loans to build a sustainable loan portfolio focused on climate adaptation. The SLDB also received support to improve its operations and risk management.

As a response to COVID-19, the Business Recovery Program (BRP) was introduced within CAFF to provide a combined loan and grant option aimed at assisting small and medium enterprises.

4. Contingent Emergency Response (Appraisal: US\$1m; Actual: US\$5.41m). The CERC was activated on April 29, 2020, in response to the COVID-19 pandemic, which facilitated a redirection of project funds to aid the health sector. Specific activities included establishing respiratory clinics and isolation units, upgrading



primary healthcare surveillance with IT and communication systems, supporting the National Emergency Management Office's COVID-19 response, procuring water tanks, expanding public health education, and de-silting rivers and drains for the hurricane season.

5. Project Management and Implementation Support (Appraisal: US\$3m; Actual: US\$6.06m). This component aimed to strengthen institutional capacity for project management of the National Development Unit (NDU) and the Project Coordination Unit (PCU).

The component cost was revised to accommodate expenses of nation-wide household and firm survey carried to identify qualifying investments under CAFF, as well as additional PCU staffing.

#### e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

**Project Cost.** At appraisal, the project cost was estimated at US\$68.0m (PAD, p.9). During implementation, the project cost estimate was increased to US\$75.07m (ICR, p.10). At project closing, the component costs presented in the ICR added up to US\$66.55m, which is US\$5m less than the amount disbursed at closing (ICR, p.9). During the TTL interview, the team explained that the component cost numbers were shared with them by the Financial Management team, and they had no explanation for the discrepancy. There was also a discrepancy between the committed (US\$75.2m) and disbursed amount (US\$71.5m) of US\$3.7m, as presented in the ICR datasheet. The team shared that this could be due to currency fluctuations but were not able to provide any further details. Reallocation of financing across components was mainly due to the activation of the CERC to respond to the COVID pandemic, but also due to changing priorities.

**Financing.** According to the PAD (p. 9) and ICR (p. 10-11), the project financing was made up of a mix of national International Development Association (IDA), Regional IDA and IDA Crisis Response Window (CRW), with co-financing from the Climate Investment Fund (CIF) in the form of a Strategic Climate Fund (SCF) Grant and a SCF Loan. There was an Additional Financing (AF) in 2016 in the amount of US\$7.07m to further support reconstruction efforts after the 2013 floods. The AF was made up of an additional IDA Credit and a European Development Fund (EDF) Grant. The final breakdown of financing sources was the following: IDA Credit (US\$25.62m), IDA CRW (US\$17m), SCF Grant (US\$12m), SCF Loan (US\$15m), EDF grant (US\$5.45m). The total grant amount added up to US\$34.45m.

**Borrower Contribution.** There was no borrower co-financing.

**Dates.** The project was approved on June 4, 2014, and became effective on November 13, 2014. The Mid-Term Review was conducted on December 4, 2017. The original closing date was December 31, 2019. The Project had three restructurings, including two extensions to the closing date. The first restructuring in 2019 was a response to low implementation progress and disbursement and, as such, the closing date was extended by 23 months to December 15, 2021 (Restructuring paper, 2019). The second restructuring in 2020 was to support the government of Saint Lucia (GoSL) in responding to the impact of the COVID-19 pandemic and did not result in project extension (Restructuring paper, 2020). The third restructuring in 2021 was also due to the COVID-19 pandemic, which resulted implementation delays and extended the closing date to June 30, 2023 (Restructuring paper, 2021). In total the project closing date was extended by 41 months.



**Split Evaluation.** One PDO indicator was dropped in 2019 but not as a reflection of a change of scope and the restructurings did not trigger changes to the PDO. A split evaluation is not warranted.

### 3. Relevance of Objectives

#### Rationale

##### Relevance of PDO:

##### Country context

The PDO remains highly relevant to the country context. SLU is highly vulnerable to the impacts of natural hazards and climate change. Time and time again, the country has experienced economic setbacks and negative growth due to extreme events, including hurricanes and tropical storms, landslides, and earthquakes. These events are increasingly impacting people's livelihoods, infrastructure, and essential services and areas with high poverty rates tend to be particularly affected. Costly reconstruction and recovery efforts have posed serious threats to its fragile economy and the sustainability of its development progress.

##### Bank strategy

The PDO is strongly aligned with the overarching objective of the Regional Partnership Framework (RPF) of the Organization of the Eastern Caribbean States (OECS) FY22-FY25, which is "to support Green, Resilient, Inclusive Development (GRID) and competitiveness in the OECS countries as they recover from the COVID-19 crisis, address their medium-term development priorities, and build resilience to climate change and other external shocks", and the High-Level Outcome 1 (HLO1): "*Strengthened Resilience to Climate Change and Other Shocks*". Among the priority areas included under HLO1 relevant to the Project are support to ex-ante resilience building and risk reduction investments.

##### Government strategy

The PDO is also strongly aligned to national development priorities and strategies of the GoSL, including the latest Medium-Term Development Strategy (MTDS) (2020-2023), which identifies "Disaster Risk Management, Resilience & Sustainable Development" as essential to the "*attainment of the level and quality of development Saint Lucia aspires to achieve*". The PDO is also aligned with sectoral strategies, including the Climate Change Adaptation Policy and National Adaptation Plan (NAP).

##### Previous sector experience

World Bank has been financing projects focused on disaster risk reduction since 1998 (ICR, p.19). The Project was designed as part of a series of country level engagements building on the Regional Disaster Vulnerability Reduction Project (P117871), implemented by the Organization of Eastern Caribbean States (OECS). The Project was part of the second phase of the roll out of the country level engagements, following the approval of a project in Saint Vincent and the Grenadines and Grenada, and was followed by



the approval of a project in Dominica. The country level DVRPs were designed using a "framework" approach to allow for flexibility to respond to changing priorities and emergencies. The SLU DVRP defined a broad PDO, which was relevant in the context of the framework approach but lacked clarity on expected achievements of the project.

At project preparation, SLU participated in the regional Pilot Program for Climate Resilience (PPCR), supported by Climate Investment Fund (CIF), and developed its national Strategic Program for Climate Resilience, a five-year strategy to build resilience to climate change impacts. Through phase 2 of PPCR, establishing an Adaptation Loan Facility was proposed and by recognizing the potential synergies between PPCR and the Project, the World Bank team decided to integrate phase 2 PPCR activities into the Project, which ended up being CAFF.

The Review agreed with rating the relevance of objective as High.

## **Rating**

High

## **4. Achievement of Objectives (Efficacy)**

### **OBJECTIVE 1**

#### **Objective**

Reduce vulnerability to natural hazards and climate change impacts in the Recipient's territory.

#### **Rationale**

The PAD did not include a Theory of Change (ToC) as it was not required at the time the PAD was written. A ToC was reconstructed in the ICR, describing main challenges the Project addressed, activities, outputs and outcomes.

The Project included activities, such as (i) investments in risk reduction, (ii) capacity building for disaster preparedness by investing in hydromet stations, risk mapping and data sharing, as well as training of relevant staff, (iii) establishment of an Adaptation Loan Facility to provide loans for businesses and household to finance investments in climate adaptation, (iv) COVID crisis response by CERC activation, including investments in health related infrastructure and technology, and establishment of a Business Recovery Program (BRP) to support businesses affected by COVID, and (v) institutional strengthening in project management. These activities would then result in outputs, such as roads with storm drainage, resilient potable water supply systems, community centers, health centers and schools with reduced disaster vulnerability, doubling as emergency shelters equipped with rainwater harvesting systems, hydromet stations, spatial data sharing platforms, staff trained in disaster preparedness, risk maps, climate adaptation loans provided to households and firms, respiratory clinics and isolation units constructed, IT and communication systems for healthcare surveillance established and policies, strategies and plans focused on building climate resilience developed. These outputs were expected to lead to outcomes related to reduced disaster losses as a result of investments in resilient infrastructure, strengthened disaster preparedness and capacity to respond



to emergencies as a result of better access to risk data and institutional strengthening, improved recovery/coping capacity as a result of enhanced access to credit for households and firms. This would reduce vulnerability to natural hazards and climate change impacts (the PDO), which in turn in the long-term would strengthen resilience to natural disasters and climate change impacts. Due to its involvement in the COVID-19 response, it can be expected that general crisis management, beyond climate and natural hazard induced shocks, would be improved as well.

The ToC in the ICR captured all the elements of project design. However, outcomes included could be better defined to reflect the Project's focus on the entire DRM cycle (mitigation, preparedness, response and recovery) to reduce vulnerability to natural hazards and climate change impacts. The critical assumptions presented in the ICR were (i) Continued commitment and local ownership, and (ii) No occurrence of major national disaster during the construction phase. Another critical assumption, not mentioned in the ICR, is in regard to the quality and uncertainty of climate and risk modelling that resilience standards of infrastructure are based on. There is a lot of uncertainty around the future impacts of climate change on the intensity of storm and flood events that models are unable to account for.

**Outputs** (ICR, Annex 1): The Project fully achieved 15 out of 19 Intermediate Results Indicators (IRIs).

- Road segments rehabilitated, rural and non-rural: Original target: To be determined (TBD - was to be defined upon determination on the scope of sub-activity); Formally revised target (2019): 25km; Actual: 13.16km; Achieved: 53%.
- Storm drains constructed or upgraded under the Project to accommodate a 10yr to 25yr-rainfall event: Original target: TBD; Formally revised target (2019, the IRI was revised to include the resilience standard): 3000m; Actual: 9490m; Achieved:316%.
- Number of government ministries/agencies connected to a spatial data sharing platform: Original target: 8; Actual: 8; Achieved: 100%.
- Persons trained in software/applications, equipment, & various capacities that help reduce disaster risk & build resilience to climate change under the Project, including training in spatial data management & analysis: Original target: 50 people; Formally revised target (2019): 153 people; Formally revised target (2020, this was not reflected in Annex 1 of the ICR due to typo as confirmed during TTL interview): 358; Actual: 779 people (the number reflected in Annex 1 of the ICR was 7793 and was a typo as confirmed during TTL interview); Achieved of revised: 218%.
- Number of policies, strategies, guidelines, management plans, management systems (including data systems), assessments or studies that work towards climate resilience generated through Project activities: Original target: 4; Formally revised target (2019, the indicator was also rephrased to reflect output produced under the Project): 15; Formally revised target (2020): 12; Actual:12; Achieved of revised target: 100%.
- Number of meteorological or hydrological observational/monitoring stations made functional, upgraded or purchased under the Project and tide gauges installed for sea level rise monitoring: Original target: Yes; Formally revised target (2019, the IRI was also revised to capture quantity of stations): 23; Actual 23; Achieved: 100%.
- LiDAR (light detection and ranging) mapping of the entire country completed. Original target: Yes; Actual: Yes; Achieved: 100%.
- Level of Climate Adaptation Financing Facility (CAFF) disbursement in the form of climate adaptation loans compared to budgeted funds (this IRI was rephrased in the restructuring in 2019 to increase clarity). Original target: 100%; Actual: 100%; Achieved: 100%.



- Total number of approved Sub-loan Borrowers (CAFF Project beneficiaries): Original target: TBD; 180; Formally revised target (2019): 450; Actual 384; Achieved of revised target: 85%.
- Share of female Sub-loan Borrowers: Original target: 51%; Formally revised target (2016, this change was not reflected in Annex 1 in the ICR for unknown reason): 25%; Actual: 57%; Achieved: 228%.
- Operations Manual for Component 4 prepared to facilitate disbursement in the event of an emergency: Original target: Yes; Actual: Yes; Achieved: 100%.
- Time taken to disburse funds under Component 4 in the event of an eligible emergency: Baseline: 6 weeks; Original target: 4 weeks; Actual 7 weeks; Achieved: 0%.

Added at Additional Financing 2016:

- Bridges constructed or rehabilitated under the Project: Original target: 2; Formally revised target (2019): 1; Actual: 2; Achieved: 200%.
- Share of business loans: Original target: 40%; Formally revised target (2019): 10%; Actual: 17%; Achieved: 170%.
- Percentage of outstanding loans in good standing: Original target: 95%; Formally revised (2020): 75%; Actual: 91%; Achieved of revised target: 121%.
- Percentage of Project activities that have incorporated a beneficiary feedback system: Original target: 50%; Actual: 50%; Achieved: 100%.

Added at Restructuring 2019:

- Population with more resilient potable water supply as a result of Project activities: Original target: 74860 people; Actual: 36227 people; Achieved: 48%.
- Total number of public awareness products disseminated or awareness raising activities undertaken through the Project to educate on the importance of risk reduction and climate resilience: Original target: 970; Actual: 1008; Achieved: 104%.

Added at Restructuring 2020:

- Interventions undertaken through the CERC to support the health sector's response to the COVID-19 Pandemic: Original target: 3; Actual: 3; Achieved: 100%.

**Outcomes:** To achieve the PDO, the Project addressed gaps in all four stages of the DRM cycle, namely mitigation (reduced losses from disaster impacts), preparedness, response and recovery. Each one of these elements is discussed below:

**Disaster Mitigation.** The PDO indicators supporting the achievement of this outcome include:

- Number of school facilities, health centers and emergency shelters with reduced vulnerability to landslips, flooding, and other climate-related events as a result of project interventions; Original target: 8; Formally revised target (2019): 10; Actual: 9; Achieved of revised target: 90%.
- Percentage of infrastructural works under the Project incorporating climate risk analysis in design: Original target: Yes; Formally revised target (2019, indicator was rephrased to capture share of works



and to cover all infrastructure investments under the Project, as opposed to only transport and drainage): 100%; Actual: 100%; Achieved: 100%.

The ICR noted that the facility remaining to reach the target of 10 was finalized by the time of the ICR mission (p. 13) so both the indicators were achieved. However, these indicators did not provide sufficient evidence of significant change in disaster losses (the first indicator only indicate reduced vulnerability of 10 buildings, which is not significant in terms of avoided asset losses, and the second does not reflect the outcome of these design - in terms of the implementation of resilience standards). The IRIs provide complementary evidence. IRIs related to road rehabilitation, storm drains, bridges rehabilitated or constructed, and population with access to more resilient potable water supply support the achievement of the mitigation outcome. The targets for IRIs related to roads and water supply were not reached. During the TTL interview, the team indicated that this was due to changes in government priorities, as well as budgetary issues towards the end of the Project leading to the cancellation of some works. Regarding stormwater and bridges, targets were exceeded. Considering all indicators related to mitigation, 4 out of 6 were achieved or exceeded their targets. In other words, 10 facilities, health centers and schools with reduced vulnerability to hazards, 13.16km of resilient roads, just under 1km of storm drainage, 2 bridges were rehabilitated or constructed and over 36k people were served with more resilient potable water supply and all infrastructure designs incorporated a climate risk analysis. These efforts have significantly reduced the risk of disaster losses and improved accessibility on the island.

In addition, the ICR also provided evidence on the success of the interventions in terms of mitigation. For example, Dennerly Infant School designed under the Project was able to withstand Hurricane Else and Tropical Storm Bret without damage or service disruption (ICR, p. 13). The road investments have improved accessibility on the Island, by halving driving time between key destinations for tourism and agriculture (ICR, p. 13, citing Department of Infrastructure, Ports and Transports). Since the roads were strengthened by drainage investments that can accommodate extreme rainfall events (1-in-10 to 1-in-25), the risk of disruptions caused by flooding has been reduced and the sustainability of the road network has been improved. The investments in road drainage, and the Marchand Riverbank protection improved flood protection in 5 flood-prone constituencies and 12 other constituencies witnessed reduced flood risk during the 2020 hurricane season (ICR, p.14). The Review finds that the result of the indicators in combination with complementary evidence provided in the ICR support the conclusion that disaster losses have been reduced as a result of the Project and that the mitigation outcome has been achieved.

**Disaster Preparedness.** The PDO indicator related to reduced vulnerability of facilities, health centers and schools support the achievement of improved preparedness since the facilities were designed to double as emergency shelters for the population and equipped with climate-resilient featured, such as water rain harvesting systems (ICR, p.13). Unfortunately, the ICR did not specify the number of people benefitting from improved access to emergency shelter due to investment. The indicator related to incorporating climate analysis into infrastructure design is also indirectly related to preparedness due to the potential capacity building aspect of having integrated this good practice into implementation.

The outputs provide supplementary evidence on preparedness. The Project improved disaster preparedness by strengthening risk-informed planning, hazard and climate related data collection and data management, including inter agency data sharing. The project monitored the number of hydromet stations made operational, the number of government ministries/agencies connected to a spatial data sharing platform, the number of persons trained in technologies and capacities linked to climate resilience, including spatial data and the completion of a LiDAR mapping exercise. The targets of these indicators were all achieved or exceeded. The Project also supported relevant policies and plans, as well as public awareness raising. The





indicators monitored the number of policies, strategies, guidelines, management plans, management systems (including data systems), assessments or studies that work towards climate resilience generated through Project activities and the number of public awareness products disseminated or undertaken. These indicators were both achieved or exceeded. Finally, the Project provided improved access to financing to enable investments in climate adaptation through the CAFF. Relevant indicators monitored the total number of approved sub-loan borrowers, as well as % female borrowers and % business loans. While the indicator related to number of borrowers was not achieved, it achieved 85% of the target that was revised upwards in the 2019 restructuring. The CAFF supported preparedness, mainly through investments in rainwater harvesting systems and water tanks, with the intention to improve water storage capacity, although the outcome of the loans was not captured in the Results Framework (RF) or ICR.

While targets have been reached, the PDO indicators are not providing evidence of improved preparedness due to their output orientation. The ICR provided some complementary evidence of strengthened institutional capacity for disaster preparedness. For example, the Water Resources Management Agency (WRMA) and Saint Lucia Meteorological Services (SLMS) were able to assess the validity of the Flash Flood Guidance System (FFGS), developed under the Project, by back validating the areas exposed to flooding during the November 6, 2022 flood in Northern parts of the country, indicating both the predictive ability of the tool, as well as technical capacity of the team. In addition, National Emergency Management Organization (NEMO), having benefitted from training and equipment was able to use state-of-the-art technology, including a Damage and Needs Assessment Dashboard and search and rescue drones to support the disaster response during Tropical Storm Bret in 2023 (ICR, p. 15). Having established CAFF also improved preparedness since the facility could be used to provide financing to affected households and firms in case a disaster happened during project implementation, which was the case with the COVID-19 crisis. At the community level, a beneficiary survey indicated that CAFF helped reduce communities' vulnerability (ICR, p.18), but not clear how vulnerability was measured in the survey or how many beneficiaries participated. In conclusion, the Project financed many activities that are critical for strengthening disaster preparedness but the RF, while capturing the number of outputs produced, did not adequately capture the achievement of this outcome. The ICR provided complementary evidence and put together, the Review can conclude that Preparedness has been improved and the outcome achieved.

**Disaster Response.** This phase of the DRM cycle take place in the immediate aftermath of a disaster and was not the main focus of the Project. However, due to the strengthening of institutions such as NEMO, the main agency in charge of disaster response, this capacity has been improved. And due to the COVID crisis, the Project's CERC component was activated and as a result the Project engaged directly in COVID response activities. The CERC was used to swiftly redirect funds to address urgent needs during the COVID-19 crisis, and the main activities financed included retrofitting Victoria Hospital into a dedicated respiratory hospital, which played a central role in the GoSL's COVID response, scaling up surveillance capabilities and emergency communication systems, public education and awareness campaigns about COVID-19 safety and prevention (ICR, p.13). Direct support was provided to NEMO, an agency critical to the COVID response (ICR, p.10). As mentioned above, having CAFF in place enhanced the response capacity by being able utilize an already established financing facility to support the COVID response and recovery. The ICR did not provide data on the outcome of these interventions but Feedback from beneficiaries, collected through an ICR survey, indicated that these efforts aided in the recovery from COVID-19 impacts (ICR, p. 18). One indicator was directly related to response capacity, and it was the time taken to disburse funds under the CERC in case of an eligible emergency. It took 7 weeks for funds to be allocated and so the target of 4 weeks was not reached. Having an Operations Manual for the CERC activation prepared ex-ante to facilitate disbursement in the event of an emergency was also included as an IRI and was achieved. The Review



concludes that the Project supported both disaster response capacity and the actual COVID crisis response, achieving this outcome.

**Disaster Recovery.** Finally, the Project supported recovery efforts from the 2013 flooding using a Build Back Better (BBB) approach. CAFF also strengthened recovery and coping capacity by providing loans to people and businesses. In particular the Business Recovery Program (BRP) that was launched as a special envelope under the CAFF to respond to the COVID-19 crisis offered a blended loan and grant facility to small and medium-sized businesses. This support was essential for them to cope with the impacts of the crisis on the economy, as evidenced in the ICR beneficiary survey (ICR, p. 14 & p.18). During the TTL interview, the team emphasized that the focus of the Project was mitigation rather than recovery/reconstruction and while the BBB aspect of the reconstruction was captured under mitigation, there were no indicators monitoring recovery or coping capacity. While it can be acknowledged that the Project did support the recovery of specific events, it is not likely that the Project improved recovery and coping capacity for the next shock, especially since the CAFF concluded at Project closing.

PDO indicator 1 and 2, related to number of beneficiaries, as well as share of female beneficiaries, were not useful to support the achievement of the PDO and have therefore not been used in the Efficacy analysis mainly because they did not specify from what activity the beneficiaries benefitted and because the target was so high (97% of population) and the actual achievement exceed population size. This indicates that double counting has most likely taken place. In the TTL interview, the team acknowledged that the indicator was not informative.

### **Rating**

Substantial

## **OVERALL EFFICACY**

### **Rationale**

Overall efficacy is rated Substantial. Overall, the Project has helped reduce SLU's vulnerability to natural hazard and climate change impacts, particularly by improving mitigation (reduced disaster losses) and disaster preparedness. The Review also noted that the Project supported disaster response and recovery, which also contributes to reduced vulnerability. There were shortcomings in the ability of the RF to capture the impacts of the interventions, beyond the outputs produced. However, this was complemented by evidence provided in the ICR. As such, the Review concludes that the PDO has been achieved. And beyond the management of natural hazards and climate change impacts, the Project has also supported general crisis management as evidenced by an effective COVID response.

### **Overall Efficacy Rating**

Substantial



## 5. Efficiency

**At appraisal:** The economic efficiency was assessed using a cost-benefit methodology. The analysis was based on a subset of activities financed under Component 1, covering 51% of total costs at appraisal. Economic costs included capital investment and operating costs. Economic benefits included avoided losses measured as the net difference of the damage costs obtained for with and without project scenarios. The infrastructure was estimated to produce benefits for 25 years and used a conservative discount rate of 12%. Based on this the appraisal estimates of economic viability were: Economic Internal Rate of Return (EIRR) of 21.0% and Net Present Value (NPV) of US\$9.4m.

**At completion:** The post-completion economic analysis used a different subset of comparable activities since the investments under Component 1 changed. It was confirmed during the TTL interview that the cost was the same (US\$16.6m), which cover 22% of total Project costs due to the increase in overall budget. The post-completion analysis yielded an EIRR of 15.6% and an NPV of US\$21.1m. Based on a review of information obtained at the TTL interview, the reason the NPV increased was due to inconsistencies in the way the analysis was carried out at Appraisal and Completion and as such, the result, in terms of the NPV, is somewhat problematic. In addition, the post-completion analysis had not updated its assumptions to reflect the actual investments, based on their resilience standards and value of assets protected, and relied instead on assumptions made at appraisal, reducing the validity of the analysis. It is worth noting that the coverage of the analysis was low in both appraisal and post-completion applications. However, a rate of return at 15.6% is above the assumed (conservative) discount rate of 12% and so the Review can conclude that the Project remained economically viable at completion.

**Other factors affecting efficiency:** The Project was extended 23 months in 2016, which was driven by initial implementation delays due to complexity of project design vis-a-vis low implementation capacity, and in 2021, the Project was extended 18 months due to delays caused by supply chain issues and travel restrictions caused by the COVID-19 pandemic (Restructuring paper, 2016; Restructuring paper, 2021). While the complexity in project design did cause initial implementation delays and resulted in significantly higher than expected project management and implementation support costs (US\$6m, twice the initial cost envisioned), its multisectoral design made it capable of adapting to changes in government priorities and leveraging multiple funding sources (ICR, p. 17). For example, through the CERC and CAFF components, the Project was able to shift from response to natural hazards to health emergencies, and according to the ICR, the Project played a central role in the GoSL's COVID response (p. 17).

Since the Project maintained economic viability, despite increased investments costs and delays, it was rated Substantial with moderate shortcomings.

### Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

Rate Available?	Point value (%)	*Coverage/Scope (%)
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Appraisal	✓	21.00	51.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	15.60	22.00 <input type="checkbox"/> Not Applicable

\* Refers to percent of total project cost for which ERR/FRR was calculated.

## 6. Outcome

The PDO was highly relevant to the country context, as well as Government and Bank strategies. The efficacy analysis showed that vulnerability to natural hazards and climate change impacts was reduced, and so, the PDO was achieved. The results of the IRIs and PDO indicators, complemented by evidence presented in the ICR supported this conclusion. A post-completion analysis demonstrated that, while efficiency was reduced due to delays and cost overruns, the Project remained economically viable. Taken together, the overall Outcome rating is therefore Satisfactory.

### a. Outcome Rating

Satisfactory

## 7. Risk to Development Outcome

**Technical risk.** The risk to the development outcome is substantial due to the limited focus on strengthening maintenance of infrastructure investments made under the Project. In the PAD, it was emphasized that the lack of maintenance was a driver of vulnerability to natural hazards and climate change impacts in SLU: *"underdeveloped and dilapidated infrastructure challenges disaster vulnerability reduction efforts. [...] Oftentimes, designs and construction were carried out without due consideration to disaster hazard and risk, and maintenance has been deferred over multiple years."* (PAD, p.3). To address this gap, the Project proposed to embed technical assistance focused on development of operational and maintenance (O&M) plans (including a bridge maintenance system) (PAD, p.7). However, this activity was dropped. According to the ICR, beneficiary feedback indicated that there is a lack of clarity on the availability of financing and asset management of the resilient measures built under the Project, jeopardizing sustainability of results (ICR, p.25). While there were certain investments with particularly high risk to development outcome due to the lack of clarity on roles and responsibilities in terms of O&M, including the risk reduction investments, the TTL interview indicated that due to the complexity of project implementation, covering 7 different government agencies as well as the SLDB, there was limited scope to focus on sustainability for all types of investments made under the Project.

**Government ownership risk.** The risk to development outcome for results achieved under CAFF is also substantial. The ICR (p. 26) and the TTL interview highlighted that due to the disconnect between CAFF and the GoSL's climate programs and agencies, it is unlikely that the government will support a CAFF on their own account in the future. As such, since CAFF closed at project completion, the only benefits that may be sustained are the ones generated from the investments made by households and firms enabled by the CAFF



sub-loans. However, since neither the RF nor the ICR provided much information on the nature of these investments that could shed light on their sustainability, this remains unclear.

## 8. Assessment of Bank Performance

### a. Quality-at-Entry

The PDO was highly relevant and well aligned to GoSL and Bank strategies. As discussed in section 3, the PDO was broad to accommodate for the Project's framework approach. As a result, it lacked clarity on expected achievements.

The Project was prepared in the context of the Eastern Caribbean Regional DVRP and was the second Project to be prepared at the country level. The regional focus and alignment enabled the Project to secure Regional IDA resources. As articulated in the ICR (p. 19), the Project was built on lessons learned from previous Bank initiatives in SLU and benefitted from extensive dialogue and collaboration with regional government counterparts, resulting in high-quality technical and analytical outputs. For instance, insights from the Second Disaster Management Project (DMP II - P086469) informed the approach to resilient infrastructure, broadening the scope beyond hurricane-proofing to include drainage, slope stabilization, and water storage systems. Project design was informed by stakeholder consultations carried out during the phase I of the CIF-funded PPCR, which resulted in the design of CAFF.

The Project adopted a "framework approach", which allowed it to harness multiple funding sources and address various sector challenges, resulting in SLU's largest World Bank-funded initiative. Specific design decisions under Components 1 and 2 were deferred to the implementation stage, such as the road, drainage and bridge investments. While this strategy offered flexibility to align with government priorities, the highly complex project design exceeded the organizational capacities of the implementing agencies and overwhelmed them, resulting in significant implementation delays and cost overruns. The issue of low implementing capacity also caused challenges for fiduciary and safeguard compliance, as described in section 10. Due to the flexible design while the outputs could be adjusted as priorities changed, the Project lacked PDO indicators outcome oriented enough to provide evidence on the achievement of the PDO.

The overall implementation risk was considered substantial in the PAD. The World Bank underestimated the risks on "stakeholder" and "governance," which materialized amidst a change in public administration resulting in new government priorities that negatively affected the project implementation timeline (ICR, p. 19). In the early years of Project implementation, mitigation measures to address the risk related to implementing agencies' capacity, which was assessed as "substantial", were not sufficient, contributing to implementation delays (ICR, p. 20).

Quality at Entry is rated Moderately Satisfactory due to moderate shortcomings during project preparation.

### Quality-at-Entry Rating



Moderately Satisfactory

## **b. Quality of supervision**

Due to the complexity of the Project, covering many sectors and stakeholders, implementation was a challenge, resulting in initially slow disbursement rate, which led to a 23-month extension of the project duration (Restructuring paper, 2019). The TTL interview shed light on the implementation challenges, noting that the PCU team doubled in size during implementation and as did the budget. It was also a challenge for the World Bank team. The vast geographic and thematic scope prevented the Bank team from focusing in depth on certain important topics, such as O&M. On a positive note, the team added that the implementation arrangements through the Ministry of Economic Development facilitated the multi-sectoral approach and led to good stakeholder engagement between PCU and local counterparts throughout implementation, which facilitated the handover process and, as such, supported sustainability.

Overall, the Bank team provided implementation support that was proactive, responsive to client needs and hands-on (ICR, p. 20). Throughout implementation, the World Bank team proactively identified systemic issues and clearly communicated them in the Project's Aide Memoires. These proactive measures facilitated responsiveness to client needs, leading to the approval of additional financing and three project restructurings, including two extensions to the closing date, all of which supported the achievement of the PDO. In 2017, the Mid-term review (MTR) identified challenges, prompting recommendations such as hiring a senior Procurement Officer and migrating to the Systematic Tracking of Exchanges in Procurement (STEP) system to address procurement delays. The World Bank also provided technical support, including assistance with procurement processes and compliance with safeguards. This hands-on support continued throughout implementation. However, shortcomings in the M&E arrangements related to the lack of outcome orientation of the PDO indicators were not adequately addressed during implementation.

### **Quality of Supervision Rating**

Satisfactory

### **Overall Bank Performance Rating**

Moderately Satisfactory

## **9. M&E Design, Implementation, & Utilization**

### **a. M&E Design**

While no ToC was required at appraisal, the detailed project description in the PAD provided a clear rationale for each intervention, emphasizing a multi-sectoral approach to address the multi-faceted risks associated with hydrometeorological events. This approach was enabled by a broad, but relevant, PDO statement.

At appraisal, there were four PDO indicators: a) Number of direct Project beneficiaries (male/female), b) Number of days of interrupted traffic due to landslips, flooding and other climate-related events in project areas; c) Number of schools/health centers/emergency shelters with reduced vulnerability to landslips,



flooding and other climate-related events; d) Climate risk analysis reflected in transport and drainage infrastructure design. Overall, the PDO indicators were not sufficiently outcome oriented to provide evidence on the achievement of the PDO:

- The indicator measuring the number of direct beneficiaries did not contribute to efficacy analysis since it did not provide information on how the people benefitted, nor how the number of beneficiaries was calculated. The target was very high, covering 97% of the country's population. In fact, the final number of beneficiaries actually exceeded the population size. It also did not specify how the beneficiaries benefitted, whether it was from having the risk of asset losses reduced, or improved preparedness, such as access to shelters or water storage. As such, the indicator did not provide useful information on the achievement of the PDO. This PDO indicator was included to align with the PPCR Core Indicator 5: Numbers of people supported by the PPCR to cope with effects of climate change. Perhaps this limited the team's ability to produce a useful indicator.
- The second PDO indicator "Number of days of interrupted traffic due to landslips, flooding and other climate related events in project areas", was dropped in the 2019 restructuring because it was dependent on a hazard event occurring during the monitoring period (ICR, p. 10). However, this indicator was more outcome oriented than the others. To further strengthen measurability of the risk reduction investments, crucial to the achievement of the PDO, the Project could have considered the use of an indicator measuring the area benefitting from reduced flooding and landslide risk, specifying the resilience standard, or number of people benefitting from risk reduction infrastructure.
- Lastly, the indicator related to climate risk analysis was included to align with PPCR Core Indicator 2: Evidence of strengthened government capacity and coordination mechanism to mainstream climate resilience. This indicator was adjusted in 2019 to cover all infrastructure investments carried out under the Project, not only transport and drainage, which was a significant improvement. However, it still ended up being output oriented and even though using a precondition to incorporate a climate risk analysis into investment design is good practice, it did not measure improved capacity to adapt this beyond the Project.

The IRIs were generally adequate and there was a good balance of indicators across interventions.

The M&E arrangements were well-embedded institutionally, the National Development Unit (NDU), which is responsible for M&E nationally, was tasked with overall M&E, with the PCU reporting progress quarterly to the World Bank. For activities specific to CAFF, the Climate Change Coordinator, within the Ministry of Public Service, Sustainable Development, Energy, Science and Technology (MoSDEST) would monitor and report according to the CIF M&E guidelines.

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

The project team proactively adjusted indicators and targets to align with changes to project design and to address M&E design limitations. Some of the improvements include broadening the focus of the PDO indicator focused on climate risk analysis reflected in design to encompass all infrastructure funded by the Project and the improved the measurability of the IRI focused on hydromet stations by capturing the quantity of stations. A number of IRIs were added, such as number of bridges built, persons with access to more resilient water supply systems, share of business loans (although in this case, it would be helpful if it was specified in the comment section that the Project had initially struggled reaching businesses,



justifying the inclusion of the IRI). Not all changes were good. The PDO indicator focused on reduced traffic interruptions was dropped in 2019, reducing the outcome orientation of the RF.

Despite M&E design shortcomings, M&E arrangement and implementation worked as planned and data collection for all result indicators was satisfactory. The ICR reported that the PCU-submitted reports reflecting transparency and detail (p.22).

Some issues were identified, such as the reporting on direct beneficiaries exceeded the size of the population of the country. There were also inconsistencies between Annex 1 in the ICR, the final ISR and ICR Annex 6 Summary Table of Adjustments to Indicators and targets. For example, the number of trained people exceeded 7000 in Annex 1, but the team confirmed during TTL interview that it was a typo and should have been 779. The target in Annex 1 for persons trained was 153 but should have been 358. The Review also found that the target for % of female sub-borrowers was 25% in the last ISR but is 51% in Annex 1. These inconsistencies indicate that the indicators have not been properly updated in the Operations Portal.

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

According to the ICR, the Quarterly Progress Reports, submitted to the World Bank, facilitated the assessment of progress against indicator targets, allowing both the GoSL and the World Bank to identify implementation issues such as contract management, procurement, financial management, and safeguards (p. 22). This close monitoring of progress informed project restructurings and aided in identifying mitigation measures to achieve the intended outcomes. In particular, the 2016 restructuring responded to the slow progress towards the PDO indicator targets and a project extension was granted. Monitoring data was also used to strategically engage with the counterpart through Aide Memoires (AMs).

Due to the lack in outcome orientation of the PDO indicators, complementary evidence was needed to provide evidence on the achievement of the PDO.

The M&E design had some shortcomings, in particular the lack of outcome-oriented PDO indicators. While this was not addressed during M&E implementation, the changes made to IRIs through restructuring improved the quality and scope of the IRIs, and as such the measurability and relevance of the RF. The M&E utilization was limited by the lack of outcome-oriented indicators in the RF. Nevertheless, the ICR presented complementary evidence that helped provide evidence on the achievements of the PDO.

### **M&E Quality Rating**

Substantial

## **10. Other Issues**

### **a. Safeguards**





At appraisal, the Project was classified as Environmental Category B due to its focus on the rehabilitation and retrofitting of existing infrastructure, resulting in environmental impacts primarily during the construction phase. Three World Bank environmental safeguard policies were triggered concerning *Environmental Assessment (OP/BP 4.01)* and *Forests (OP/BP 4.36)*. According to the ICR, *International Waterways (OP/BP 7.50)* was triggered at Appraisal. The Project also triggered policies related to Natural Habitats and Physical Cultural Resources as a precautionary measure, maintaining satisfactory compliance throughout implementation. In terms of social safeguards, the *Involuntary Resettlement Safeguards (OP/BP4.12)* was triggered (PAD, p. 15-16). Various documents, including an Environmental Assessment and Management Framework (EAEMF) and an Environmental and Social Management Plan (ESMP), were established to ensure adherence to environmental safeguards. In 2015, a remedial Abbreviated Resettlement Action Plan (ARAP) was prepared due to unforeseen land acquisition for safety reasons and negotiations with affected individuals was carried out (ICR, p. 23).

According to the ICR, the Project faced challenges in environmental and social compliance due to staffing limitations. Although this led to downgraded ratings for some components, collaboration with the World Bank and capacity-building initiatives, including hiring a regional specialist and conducting trainings, improved performance between 2021 and 2023, reflected in associated ratings. At closing, the Safeguard rating of the Project was Satisfactory. The ICR did not provide specific information on the compliance to each of the policies.

## **b. Fiduciary Compliance**

**Financial Management (FM):** According to the ICR, FM was initially adequate, but faced challenges as the PCU's responsibilities expanded with additional World Bank projects, leading to delays in reporting. To address these issues, the PCU received training by the World Bank, hired an internal auditor and the World Bank provided additional implementation support during the preparation of the quarterly interim financial reports. FM performance was rated as "Moderately Satisfactory" throughout the project. The ICR did not provide information about external audits.

**Procurement:** According to the ICR (p. 23), implementation faced initial delays and challenges including difficulties in adhering to procurement guidelines, managing a large volume of activities, coordinating multiple stakeholders, and navigating market conditions. High staff turnover and capacity limitations at the PCU exacerbated these issues, leading to difficulties in monitoring multiple civil work contracts and resulting in "Moderately Unsatisfactory" ratings between 2017 and 2019. Collaborative efforts between the World Bank task team and the PCU eventually helped overcome these capacity issues. By the end of the project, procurement operations had improved significantly within the constraints of available staffing, achieving "Moderately Satisfactory" ratings at project closure.

## **c. Unintended impacts (Positive or Negative)**

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## **d. Other**

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## 11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	
Bank Performance	Satisfactory	Moderately Satisfactory	Shortcomings in Quality at Entry
Quality of M&E	Substantial	Substantial	
Quality of ICR	---	Substantial	

## 12. Lessons

The ICR provided three lessons (ICR, p. 25-26). The review reformulated two of them, which were the most strongly linked to lessons drawn from actual experiences during project implementation. The reformulation was based on the results of the Review and the TTL interview:

- 1. The Project's broad "framework approach" allowed for flexible funding across various sectors but overwhelmed implementing agencies, leading to delays, increased costs, and insufficient focus on sustainability and local ownership, suggesting a more focused approach may be beneficial.** The Project leveraged funding from 5 different sources, which covered many different sectors and interventions and provided flexibility to allow the government to respond to emerging priorities. However, this approach quickly overwhelmed the implementing agencies, resulting in initial implementation delays. Project management costs and the size of the PCU team doubled during implementation. The complexity of project implementation left little bandwidth to focus on sustainability of investments and making sure there is financing and sufficient local ownership for a successful handover. A more focused approach would leave more space to focus on O&M, roles and responsibilities and to do it well.
- 2. The Climate Adaptation Financing Facility (CAFF) lacked alignment with GoSL's climate programs and monitoring frameworks, highlighting the need for stronger connections with key climate agencies to ensure ownership, sustainability, and potential government-led continuation of the program.** The CAFF supported climate adaptation by offering affordable credit to households and businesses to make critical investments in water storage capacity, renewable energy generation, etc. The program demonstrated adaptability when it was expanded through a Business Recovery Program (BRP) to address financial impacts on businesses from COVID-19. However, the intervention was not connected to climate policy makers in the key climate agencies and the CAFF monitoring framework lacked alignment with monitoring of climate plans and strategies, such as the National Adaptation Plan (NAP) and the Nationally Determined Contributions (NDC). Focusing on strengthening the connection was particularly important to support ownership and sustainability since the CAFF was implemented by the Saint Lucia Development Bank (SLDB), a corporate entity, and not a government agency like the other activities under the Project. A strengthened alignment between CAFF and key climate agencies could have strengthened ownership, and enabled climate agencies to receive and act on feedback from CAFF, and perhaps realize the value of CAFF, increasing the chances of a government-led continuation of the program.



### 13. Assessment Recommended?

No

### 14. Comments on Quality of ICR

The ICR adequately complemented the gap in outcome orientation of the PDO indicators with robust evidence that supported the achievement of the PDO. The quality of analysis was good, and the lessons highlighted were relevant and mostly drawn from project experience. However, there were inconsistencies between reporting in the text and Annex 1 that were not sufficiently explained or addressed, and the assessment left some important unanswered questions, such as the discrepancy between the aggregate of Component costs, the amount disbursed, and the amount committed. The analysis was comprehensive but at times repetitive, especially in the efficacy analysis, in which the same results were used several times to support the achievement of different outcomes. Structuring the ToC and the efficacy analysis around the four elements of the DRM cycle (which was done in the Efficacy analysis in this Review), or another structure with less overlap, could have mitigated this.

The ICR did an adequate job in summarizing achievements and challenges of this highly complex Project in the limited space offered by the ICR format and page limitation. Overall, the quality of the ICR was Substantial.

#### a. Quality of ICR Rating

Substantial