ST. LUCIA

- Surface area (sq. km): **620**
- GDP per cap ($): **11,610**
- Total population: **182,800**

*Summary of risk drivers for St. Lucia. The ratings (low/medium/high) are all relative to other countries in the Caribbean, except for probability of natural shocks, which is from ThinkHazard.org. See **Annex A** for more details on data sources and methods.*

- *No data/Unknown*
- *Low*
- *Medium*
- *High*

PROBABILITY OF NATURAL SHOCKS

- Flood, river
- Flood, urban
- Flood, coastal
- Hurricane
- Landslide
- Earthquake
- Tsunami
- Wildfire
- Volcano
- Extreme heat
- Water scarcity

ASSET EXPOSURE

Urban built-up area	*9.3%*
Roads	*7.8%*
Agricultural land	*9.6%*
Airports and ports	*0%*
Facilities *(power plants, waste water treatment, health)*	*14.3%*

VULNERABILITY

PEOPLE

Poverty rate	*25.0%*
Inequality (Gini index)	*51.2*

MACROECONOMY

Lack of diversification	
Trade deficit	*1.8%*
Debt	*60.9%*

ECONOMIC SECTORS

- Road network vulnerability
- Economic structure vulnerability
- Financial vulnerability index

RISK

Volatility of per capita GDP growth	
Annual average well-being losses	*2.8%*
Average annual asset losses, earthquake	*0.15%*
Average annual asset losses, hurricane	*1.24%*
Average annual asset losses, tsunami	*0%*
Average annual asset losses, flood	*0%*
Annual average asset losses, total	*1.39%*

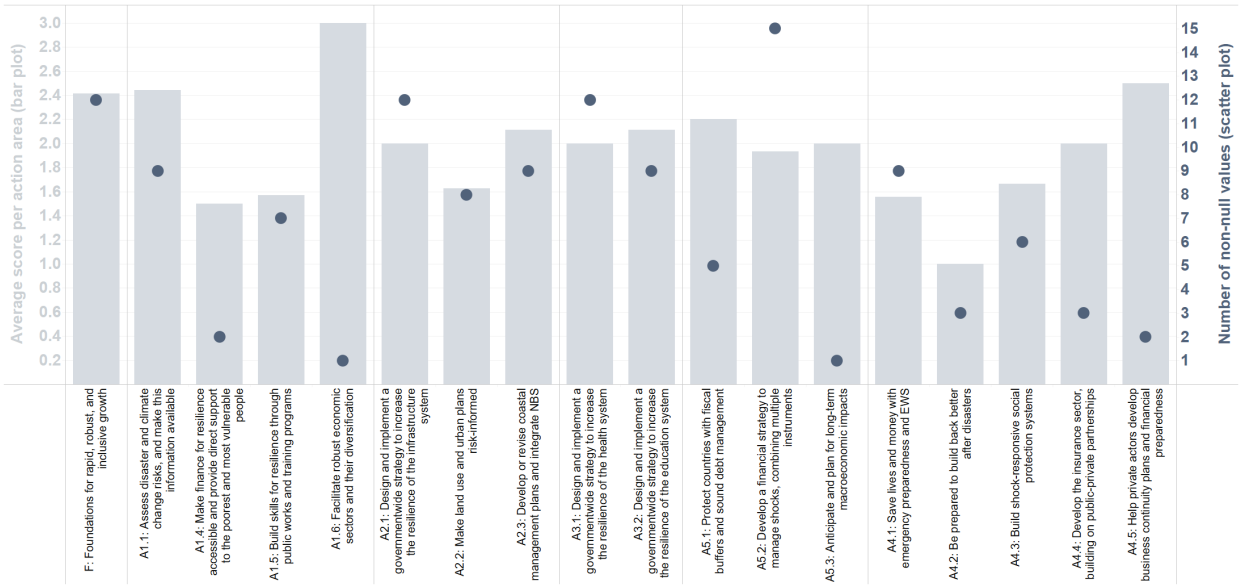
CLIMATE CHANGE IMPACTS IN 2050

People exposed to coastal flooding	*0.14%*
Shoreline retreat	*0.08%*
Hotels experiencing beach loss	*28.9%*
Landmass loss	*0.10%*
Annual extreme heat days increase	*27*
Agricultural yield loss	*18%*

ST. LUCIA

- Nascent
- Emerging
- Established
- No data/unknown

The indicators presented in the traffic light system (TLS) below form a non-exhaustive list to measure cross-sectoral progress towards resilience. It follows the framework of *The Adaptation Principles* but was adapted to the Caribbean context. Detailed descriptions of the indicators, sources, and criteria for rating are available in ***Annex B***. The TLS and rating scheme were developed by World Bank sector specialists in consultation with some countries. Due to lack of data, many countries are missing scores for different indicators. The TLS is intended to serve as a starting point for discussion, and the indicators and ratings can be modified based on additional country-level information.



Notes: Scores are based on 1 = nascent (the country includes areas that are only starting to or do not address the standard at all); 2 = emerging (the country partly meets the standard and has progressed beyond the initiation point but has not reached the final point); 3 = established (the country meets the standard entirely). All indicators are given equal weight and only those actions with available data are included in this summary graph.

FOUNDATIONS FOR RAPID, ROBUST, AND INCLUSIVE GROWTH

- Governance
- GDP per capita growth
- Poverty rate
- Targeting of main social safety nets
- Coverage of main social safety nets
- Access to universal health coverage
- Access to primary education
- Access to secondary education
- Access to basic water services
- Access to basic sanitation services
- Access to energy
- Access to financial services
- Access to ICT

FIVE PRIORITY AREAS FOR RESILIENT DEVELOPMENT

1: Facilitate risk reduction decisions by firms and households

A1.1. Assess disaster and climate change risks, and make the information available

- Hydromet data completeness
- Hydromet data availability
- High-resolution DTM data existance, coverage
- Public availability of high-resolution DTM data
- Local-scale hazard map availability (1:10.000 or larger)
- National-scale hazard map availability (covering entire country)
- National system exists for capturing past and current, small- and large-scale events
- Community awareness of hazard and vulnerability levels
- Local-scale climate change scenarios

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★ FIVE PRIORITY AREAS FOR RESILIENT DEVELOPMENT

FACILITATE RISK REDUCTION DECISIONS BY FIRMS AND HOUSEHOLDS *continued*

A1.2. Clarify responsibilities and align incentives with resilience and adaptation objectives

- Residual risk target level
- Dedicated water resources management agencies

A1.3. Develop and implement technical solutions for resilience

- Research and development for resilience
- Climate-smart practices used in agriculture
- Resilience tariff

A1.4. Make finance for resilience accessible and provide direct support to the poorest and most vulnerable people

- Ease of getting credit for firms
- Protecting minority investors
- Access to finance for the poorest 40%
- Gender gap in access to finance

A1.5. Build skills for resilience through public works and training programs

- Complementary social protection measures for resilience
- Inclusion and application of climate change and disaster risk reduction in education curriculum
- Number of qualified planners
- Presence of planning education
- Professional planning association
- Technical capability to incorporate disaster risk into planning
- Human capital development for resilience

A1.6. Facilitate robust economic sectors and their diversification

- Business environment
- State-owned enterprises include DRM and climate change in their decision making

★ 2:Design resilient infrastructure systems, urban and coastal planning

A2.1. Design and implement a governmentwide strategy to increase the resilience of the infrastructure system

- Water reliability index
- Power reliability index
- Transport infrastructure inventory
- Water and sanitation infrastructure inventory
- Asset management system
- Adequate maintenance budget
- Nonrevenue water levels
- Resilient infrastructure agency
- Long-term resilient infrastructure plan
- National climate adaptation plan
- Public asset management
- Public investment management
- Share of renewable energy-powered power plants

A2.2. Make land use and urban plans risk-informed

- Planning regulations and institutional framework
- Land administration
- Building and construction regulatory system
- Building regulation and implementation
- Governance and politics in urban planning
- Financing for planning
- Financing for implementation
- Use of disaster risk information in planning

A2.3. Develop or revise coastal management plans and integrate NBS

- Integrated coastal zone management plan
- Updated environmental laws
- Climate change law/policy
- Long-term strategy/sustainable development plan
- Civil society organizations in climate change/resilience
- Coastal zone management agency
- Governmental agency responsible for climate change/resilience
- Enforcement of environmental policies
- Existence of environmental or climate change taxes or incentives

★ 3: Build resilient health and education systems

A3.1. Design and implement a governmentwide strategy to increase the resilience of the health system

- Hospital facility safety
- Health service provision
- Emergency education for health workers
- Adequate number of doctors, nurses, and midwives
- Adequate number of CR-FELTP trained workers
- Health information system
- Health sector surveillance system
- Health risk communication
- Research capacity
- Stockpile of medicines and medical and laboratory medicines
- National health emergency framework
- Decentralized decision making
- Membership of relevant organizations
- Emergency funding arrangements with external bodies
- Costed and funded health system strengthening plans

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★ FIVE PRIORITY AREAS FOR RESILIENT DEVELOPMENT

BUILD RESILIENT HEALTH AND EDUCATION SYSTEMS *continued*

A3.2. Design and implement a governmentwide strategy to increase the resilience of the education system
Enabling environment for school safety
Availability of and alignment with plans and guidelines to enable a safe learning environment
Monitoring and evaluation framework for safe schools
Education facility maintenance plan
Operational standards for alternative use of schools
Education continuity plans
Remote learning content
Monitoring and evaluation of effectiveness of distance education
Resources to enable remote learning
Comprehensive, integrated education management information system
Teacher training (technical, pedagogical skills for remote instruction)

★ 4: Help firms and people manage residual risks and natural disasters

A4.1. Save lives and money with emergency preparedness and early warning systems
EP&R legislation
Disaster management information system for EP&R
Emergency operations centers
Urban firefighting equipment and capabilities
Formal EP&R training program
Impact-based forecasting
Communication and dissemination of warnings
Community disaster response plans
Early warning system feedback mechanisms
A4.2. Be prepared to build back better after disasters
Resilient recovery and reconstruction plans
Procurement planning
Procurement procedures
Procurement templates and documents
A4.3. Build shock-responsive social protection systems
Postdisaster household assessment collection and usage
Postdisaster benefit delivery
Interoperable social protection and DRM information systems
ASP operational processes
Disaster risk finance mechanism for ASP
ASP human resource capacity
ASP coordination
ASP policy structures
A4.4. Develop the insurance sector, building on public-private partnerships
Insurance penetration
Deposit insurance system
Resilience/adaptation insurance
A4.5. Help private actors develop business continuity plans and financial preparedness
Firms in tourism industry with business continuity plans
Firms in tourism industry with disaster insurance coverage

★ 5: Anticipate and manage macrofiscal and financial issues

A5.1. Protect countries with fiscal buffers and sound debt management
External debt
Fiscal balance
Fiscal rule
Monetary policy independence
Financial solvency risk
Liquidity risk
A5.2. Develop a financial strategy to manage shocks, combining multiple instruments
National DRF strategy
DRF assessment
Alternative risk transfer instruments
Ex post financial assistance
State contingent debt instruments
Traditional insurance
Parametric insurance
Contingent credit
Budget
Reserve fund
Resource planning
Budget appropriation
Gender-sensitive resource allocation
Expenditure controls
Expenditure tracking
Auditing practices
PFM rules and regulations
Institutional PFM arrangements
A5.3. Anticipate and plan for long-term macroeconomic impacts
Sector-level adaptation plans
Long-term plan to diversify tax revenues
Tax revenues originating from high-vulnerability sectors
Debt sustainability or financial sector assessment program considers climate and disaster impacts
A5.4. Improve transparency on disaster and climate risk exposure of the financial sector and pension systems
Specific disaster and climate risk requirements bank and large investor regulations
Climate and disaster risk stress tests for banks and large investors
Quantified estimates of their exposure to natural hazards by banks and large investors

ANNEX A

Indicator	Low	Medium	High	Notes	Source
PROBABILITY OF NATURAL SHOCKS					
Flood, river	Return period: 1,000 years, flood depth: 0.5m	Return period: 50 years, flood depth: 0.5m	Return period: 10 years, flood depth: 0.5m	(i) For probabilistic data, the probability of occurrence is classified as *high* if the hazard exceeds at any location in the ADM-2 (second order administrative division) unit the damaging intensity threshold presented under *high*; the same for *medium* and *low* for their respective thresholds. This implies that aggregation at the national level, as has been done for purposes of this report, in the most extreme cases can result in classifying the entire country as *high* when just one ADM-2 unit classified as *high*. For more detail on ADM-1 or ADM-2, visit https://thinkhazard.org/en/. (ii) While ThinkHazard! distinguishes between *low* and *very low*, for the purposes of this report, both are aggregated under *low*. (iii) For hurricanes, the categorization is based on the probability of a Category 4–5 storm passing within 30km of each country. The 30km buffer is used to also consider passing storms which do not make landfall, but the actual radii of damaging winds varies. Storm tracks are based on the synthetic 10,000 year event set of the STORM Dataset (Bloemendaal et al. 2020).	ThinkHazard!
Flood, urban	Return period: 1,000 years, flood depth: 0.5m	Return period: 50 years, flood depth: 0.5m	Return period: 10 years, flood depth: 0.5m		ThinkHazard!
Flood, coastal	Return period: 100 years, flood depth: 0.5m	Return period: 50 years, flood depth: 0.5m	Return period: 10 years, flood depth: 2m		ThinkHazard!
Hurricane	Return period: 1,000 years, Category 4–5	Return period: 100 years, Category 4–5	Return period: 50 years, Category 4–5		Authors' calculations
Landslide	Annual frequency: <3.2 landslides/km^2/year	Annual frequency: 3.2–7.5 landslides/km^2/year	Annual frequency: >7.5 landslides/km^2/year		ThinkHazard!
Earthquake	Return period: 1,000–2,500 years, Peak ground acceleration (PGA): 0.1g	Return period: 475–500 years, PGA: 0.1g	Return period: 100–250 years, PGA: 0.2g		ThinkHazard!
Tsunami	Return period: 2,500 years, coastal maximum amplitude: 0.5m	Return period: 500 years, coastal maximum amplitude: 1m	Return period: 100 years, coastal maximum amplitude: 2m		ThinkHazard!
Wildfire	Return period: 30 years, Canadian wildfire index: >15WFI	Return period: 10 years, Canadian wildfire index: >20WFI	Return period: 2 years, Canadian wildfire index: >30WFI		ThinkHazard!
Volcano	Volcanic explosivity index: <3 or last known eruption date in more ancient times or not known	Volcanic explosivity index: 3–5 or last known eruption date <10,000 years ago	Volcanic explosivity index: >5 or last known eruption date <2,000 years ago		ThinkHazard!
Extreme heat	Return period: 100 years, daily maximum temperature: <28°C	Return period: 20 years, daily maximum temperature: 28–32°C	Return period: 5 years, daily maximum temperature: >32°C		ThinkHazard!
Water scarcity	≤1,700 m^3/capita/year	≤1,000 m^3/capita/year	≤500 m^3/capita/year		AQUASTAT
ASSET EXPOSURE					
Urban built-up area	Bottom third	Middle third	Top third	Share of urban areas exposed to river, urban, and coastal flooding, >15cm flood depths, return period: 100 years.	Authors' calculations
Roads	Bottom third	Middle third	Top third	Share of primary, secondary and tertiary roads exposed to river, coastal, and urban flooding, return period: 50 years.	Schweikert et al. 2021
Agriculture land	Bottom third	Middle third	Top third	Share of agricultural land exposed to river, urban, and coastal flooding, >15cm flood depths, return period: 100 years.	Authors' calculations
Facilities (power plants, waste water treatment and health facilities)	Bottom third	Middle third	Top third	Share of power plants, health and waste water treatment facilities exposed to river, coastal, and urban flooding, return period: 50 years.	Schweikert et al. 2021
Airports and ports	Bottom third	Middle third	Top third	Share of airports and ports exposed to river, coastal, and urban flooding, return period: 50 years.	Schweikert et al. 2021
VULNERABILITY					
Poverty rate	Bottom third	Middle third	Top third	Share of population that is poor, latest year available.	Country Poverty Assessment Reports and Living Conditions Surveys 2005–2018
Inequality (Gini index)	Bottom third	Middle third	Top third	The Gini index is a measure of statistical dispersion representing the income or wealth inequality in a country.	World Development Indicators
Lack of diversification	Bottom third	Middle third	Top third	Sum of agriculture, mining and tourism as percentage of total exports, average of 2016–2018. The higher the share, the less diversified.	Li 2021
Trade deficit	Bottom third	Middle third	Top third	Imports minus exports, average of 2016–2018.	Li 2021
Debt	Bottom third	Middle third	Top third	Debt as share of GDP, average of 2016–2018.	Li 2021
Road network vulnerability	Bottom third	Middle third	Top third	Average consumer losses from single link disruptions (due to longer routes or isolation of routes).	Koks et al. forthcoming
Economic structure vulnerability	Bottom third	Middle third	Top third	Vulnerability of a country's economic structure to storms, drawing on historic correlations between storms and economic activity.	Massetti 2021
Financial vulnerability	Bottom third	Middle third	Top third	Exposure of banks' loan portfolios to physical risks stemming from natural disasters.	Massetti 2021
RISK					
Volatility of per capita GDP growth	Bottom third	Middle third	Top third	Standard deviation of real GDP per capita growth 2009–2018.	Li 2021
Average annual well-being losses	Bottom third	Middle third	Top third	Total average annual wellbeing losses from floods, cyclones, earthquakes, and tsunamis in $PPP as % of GDP.	Hallegatte et al. 2016
Average annual asset losses, earthquake	Bottom third	Middle third	Top third	Total average annual losses from earthquakes as % of GDP.	UNISDR 2015
Average annual asset losses, hurricane	Bottom third	Middle third	Top third	Total average annual losses from hurricanes as % of GDP.	UNISDR 2015
Average annual asset losses, tsunami	Bottom third	Middle third	Top third	Total average annual losses from tsunamis as % of GDP.	UNISDR 2015
Average annual asset losses, flood	Bottom third	Middle third	Top third	Total average annual losses from floods as % of GDP.	UNISDR 2015
Average annual asset losses, total	Bottom third	Middle third	Top third	Total average annual losses from floods, cyclones, earthquakes, and tsunamis as % of GDP.	UNISDR 2015
CLIMATE CHANGE IMPACTS IN 2050					
People exposed to coastal flooding	Bottom third	Middle third	Top third	Projected share of population annually exposed to floods in 2050 under an RCP 4.5 scenario, based on 2010 population figures.	Deltares 2021
Shoreline retreat	Bottom third	Middle third	Top third	Projected shoreline retreat in 2050 as a result of sea level rise under an RCP 4.5 scenario as % of total sandy coastline.	Deltares 2021
Land mass loss	Bottom third	Middle third	Top third	Projected land mass loss in 2050 due to sea level rise under an RCP 4.5 scenario as % of total land mass.	Deltares 2021
Agricultual yield loss	Bottom third	Middle third	Top third	Difference in agricultural yield in 2050 relative to 2010 between projected values accounting for climate change (IPSL model) and assuming no climate change. Values for Antigua and Barbuda, The Bahamas, Barbados, Dominica, Grenada, Sint Maarten, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, and Turks and Caicos are average values for 'Other Caribbean countries', which also include Aruba, Anguilla, Bonaire, British Virgin Islands, Cayman Islands, Guadeloupe, Montserrat, Netherlands Antilles, Puerto Rico, St. Barthelemy, and U.S. Virgin Islands. The estimates for Guyana and Suriname are joint estimates for the group of countries 'Guyanas', which, also include French Guiana.	IFPRI
Extreme heat days (pessimistic scenario)	Bottom third	Middle third	Top third	Annual increase in the number of extreme heat days (>35°C) for the 90th percentiles of all models (RCP 4.5) between 2040–2059.	World Bank Climate Change Knowledge Portal
Hotels experiencing beach loss	Bottom third	Middle third	Top third	Coastal hotels located within 1 kilometer (Euclidean distance) from the beach experiencing beach loss by 2050 under RCP 4.5.	Campbell, Spencer and Strobl 2021

Note: To assign a category (*high/medium/low*), a relative scoring has been applied. This means that for each indicator, each country is scored relative to their peers in the region, assigning *low* to those in the bottom third, *medium* to those in the middle third, and *high* to those in the top third. For the indicators belonging to assets exposure and those related to average annual asset losses, the scoring exercise is done among countries within this group of indicators.

ANNEX B

Indicator	Description	Nascent	Emerging	Established	Source
F. FOUNDATIONS FOR RAPID, ROBUST, AND INCLUSIVE GROWTH					
Governance	Based on six governance dimensions: voice and accountability; stability and absence of violence; government effectiveness; regulatory quality; rule of law; and control of corruption	Bottom third among other Caribbean countries	Middle third among other Caribbean countries	Top third among other Caribbean countries	Worldwide Governance Indicators
GDP per capita growth	Average GDP per capita growth between 2016 and 2019	Bottom third among other Caribbean countries	Middle third among other Caribbean countries	Top third among other Caribbean countries	World Development Indicators
Poverty rate	Poverty rate as % of total population	Top third among other Caribbean countries	Middle third among other Caribbean countries	Bottom third among other Caribbean countries	Beazley and Williams 2021
Targeting of main social safety nets	Targeting methods used by main social protection (SP) programs to identify eligible individuals, households and groups, for the purposes of transferring resources or preferential access to social services	Targeting methods rely on subjective assessments and/or undocumented processes	Targeting is based on objective and transparent methods, but there may be challenges with inclusion or exclusion errors or outdated data to inform targeting	Targeting is based on objective and transparent methods, with few inclusion and exclusion errors; data to inform targeting updates are current	Beazley and Williams 2021
Coverage of main social safety nets	Degree of coverage of main SP programs among the poor	Coverage of the main poverty reduction SP programs among the poor is low	There is reasonable coverage of the main poverty reduction SP programs among the poor	There is broad coverage of the main poverty reduction SP programs among the poor	Beazley and Williams 2021
Access to universal health coverage	Coverage index for essential health services (%)	<64% coverage	64–79% coverage	>80% coverage	World Development Indicators
Access to primary education	Net primary school enrollment (%)	<64% coverage	64–79% coverage	>80% coverage	World Development Indicators
Access to secondary education	Net secondary school enrollment (%)	<64% coverage	64–79% coverage	>80% coverage	World Development Indicators
Access to basic water services	Access to basic water services (% of total population)	<64% coverage	64–79% coverage	>80% coverage	World Development Indicators
Access to basic sanitation services	Access to basic sanitation services (% of total population)	<64% coverage	64–79% coverage	>80% coverage	World Development Indicators
Access to energy	Access to energy (% of total population)	<64% coverage	64–79% coverage	>80% coverage	World Development Indicators
Access to financial services	Account ownership at a financial institution or with a mobile money service provider (% of population aged 15+)	<64% coverage	64–79% coverage	>80% coverage	World Development Indicators
Access to ICT	Based on the UN Telecommunications Infrastructure Index, which is composed of the number of active mobile broadband subscriptions, internet users, mobile subscribers, and fixed broadband subscriptions per 100 inhabitants	UN Telecommunications Infrastructure Index <53	UN Telecommunications Infrastructure Index 53–70	UN Telecommunications Infrastructure Index >70	United Nations 2020
FIVE PRIORITY AREAS FOR RESILIENT DEVELOPMENT					
P1. Facilitate risk reduction decisions by firms and households					
A1.1. Assess disaster and climate change risks, and make this information available					
Hydromet data completeness	Time series of hydromet observations are long enough to produce probabilistic hazard maps (e.g. availability of a baseline)	Not available	Available in limited locations, representative of limited rainfall regimes	Available in multiple locations, representative of different rainfall regimes	Authors
Hydromet data availability	Time series of hydromet observations are available	Available within government	Available upon request/payment of fee	Publicly available on a web platform	Authors
High-resolution Digital Terrain Model (DTM) data existence and coverage	High-resolution and accurate DTM and/or point cloud data exist and are complete (measured by share of country covered)	High-resolution DTM data are largely nonexistent	High-resolution DTM data cover <60% of the country	High-resolution DTM data cover >60% of the country	Authors
Public availability of high-resolution DTM data	High-resolution and accurate DTM and/or point cloud data are available to the public	High-resolution DTM data are available within the government	High-resolution DTM data are available upon request/payment of fee	High-resolution DTM data are publicly available on a web platform	Authors
Local-scale hazard map availability (1:10.000 or larger)	Local-scale hazard maps are available in an open GIS format and are complete (e.g. metadata are available and complete)	Local-scale hazard maps are available within the government	Local-scale hazard maps are available upon request/payment of fee	Local-scale hazard maps are publicly available on a web platform	Authors
National-scale hazard map availability (covering entire country)	National-scale hazard maps are available in an open GIS format and are complete (e.g. metadata are available and complete)	National-scale hazard maps are available within the government	National-scale hazard maps are available upon request/payment of fee	National-scale hazard maps are publicly available on a web platform	Authors
National system exists for capturing past and current, small- and large-scale events	In addition to platforms such as DesInventar or EM-DAT, the country has a national system to record events	A national system for capturing past and current events is not available	A national system for capturing past and current events is available but not up to date	A national system for capturing past and current events is available, applied, and up to date	Authors
Community awareness of hazard and vulnerability levels	Hazard and/or vulnerability maps have been validaded with community members and therefore the community is aware of the hazard levels	Hazard and vulnerability maps have not been validated with the community	Hazard and vulnerability maps have been validated to a certain extent with the community	Hazard and vulnerability maps have been validated with the community	Authors
Local-scale climate change scenarios	Local-scale climate change scenarios are available	Local-scale climate change scenarios are not available	Local-scale climate change scenarios are in development or need updating	Local-scale climate change scenarios are available	Valero, Miranda and Murisic 2021
A1.2. Clarify responsibilities and align incentives with resilience and adaptation objectives					
Residual risk target level	Target level of residual risks published and publicly available—for example, through maps of residual flood risks	Residual risk targets have not been established	Residual risk targets are there, but do not account for all relevant current and future hazards	Residual risk targets are there and account for all relevant current and future hazards	No data were available for this indicator
Dedicated water resource management agencies	Dedicated water resource management agencies exist and have the capacities, financing, and tools needed to strengthen water security against backdrop of different shocks	Dedicated water resources management agencies do not exist	Dedicated water resources management agencies exist but lack the necessary capacities, tools, or financing	Dedicated water resource management agencies exist and have the capacities, tools, and financing needed to effectively strengthen water security	Country consultations
A1.3. Develop and implement technical solutions for resilience					
Research and development (R&D) for resilience	Share of R&D (or % of patents) related to climate change adaptation or total amount invested in R&D on adaptation- or resilience-related challenges	There is no to insufficient investment in adaptation and resilience	There is some investment in adaptation and resilience, but this can be improved	Investment in adaptation and resilience is adequate to prepare the country for future shocks	No data were available for this indicator

ANNEX B

Indicator	Description	Nascent	Emerging	Established	Source
Climate-smart practices used in agriculture	Share of farmers using improved crops and climate-smart practices	Farmers do not use climate-smart agricultural practices	Some farmers use climate-smart agricultural practices	Most farmers use climate-smart agricultural practices	Country consultations
Resilience tariff	Availability of a tariff applied to imports of resilience-related technologies	There is no tariff in place	A tariff is being implemented	An adequate tariff is in place	Country consultations
A1.4. Make finance for resilience accessible and provide direct support to the poorest and most vulnerable people					
Ease of getting credit for firms	Measures the strength of credit reporting systems and the effectiveness of collateral and bankruptcy laws in facilitating lending	Overall ease of getting credit for firms score ≤55	Overall ease of getting credit for firms score 55–63	Overall ease of getting credit for firms score ≥63	Ease of Doing Business 2020
Protecting minority investors	Measures the protection of minority investors from conflicts of interest and shareholders' rights in corporate governance	Overall protecting minority investors score ≤55	Overall protecting minority investors score 55–63	Overall protecting minority investors score ≥63	Ease of Doing Business 2020
Access to financial services for the poorest 40%	Account ownership at a bank, other financial institution or with a mobile money service provider among the poorest 40% (% of population aged 15+)	<50% of the poorest have access to a bank account	<80% of the poorest have access to a bank account	>80% of the poorest have access to a bank account	World Development Indicators
Gender gap in bank account access	Difference between male and female account ownership at a bank, other financial institution or with a mobile money service provider (% of population aged 15+)	The gap is smaller than 20%	The gap is smaller than 10%	The gap is smaller than 5%	World Development Indicators
A1.5. Build skills for resilience through public works and training programs					
Complementary SP measures for resilience	Degree to which risk is integrated into existing SP programs; productive and economic inclusion interventions are available for beneficiaries and well coordinated with other sectors; effective social care and case management for postdisaster support is systematically deployed for affected households; benefit delivery facilitates financial inclusion, including saving	SP programs—cash transfers, public works, etc.—are not risk-informed and have no interventions to address beneficiary risk; there are no productive and economic inclusion interventions for SP beneficiaries; there is no social care or case management for postdisaster support; benefit delivery does not facilitate financial inclusion	Risk is integrated on a limited scale in one or two flagship programs; productive and economic inclusion interventions for SP beneficiaries are implemented on a pilot or small scale and not broadly coordinated with other sectors; social care and case management for postdisaster support are in place, but not well established and are implemented on an ad hoc basis; benefit delivery facilitates some links to financial inclusion by improving financial access, but does not facilitate savings	Risk is integrated into most programs or comprehensively integrated into flagship programs through risk information and reduction efforts; productive and economic inclusion interventions are available for most SP beneficiaries and well coordinated with other sectors; effective social care and case management for postdisaster support is systematically deployed for affected households; benefit delivery facilitates financial inclusion, including savings	Beazley and Williams 2021
Inclusion and application of climate change and disaster risk reduction (DRR) in education curriculum	Degree to which an age-specific climate change and DRR curriculum is in place and applied in schools	An age-specific climate change and DRR curriculum does not exist	An age-specific climate change and DRR curriculum is in place and used in < 95% of schools	An age-specific climate change and DRR curriculum is in place and in use in ≥ 95% of schools	Bellony and Powers 2021
Number of qualified planners	The benchmark for an adequate number of planners is 1/30,000 people for Caribbean countries	Insufficient number of planners, far below 1/30,000 people	Planner numbers are close to 1/30,000 people	Adequate number of planners: ≥ 1/30,000 people	Johnson, Caroca Fernandez, and Restrepo Cadavid 2021
Presence of planning education	Extent of access to an in-country or regional planning school	There is little to no access to planning education in the country	There is some access to planning education, but planners are mostly educated abroad	There is a professional planning program in the country	Johnson, Caroca Fernandez, and Restrepo Cadavid 2021
Professional planning association	Existence of an active in-country or regional professional planning association	There is no planning association, or it is largely defunct	There is a planning association, but it is not very active	There is an active professional planning association and accreditation of planners	Johnson, Caroca Fernandez, and Restrepo Cadavid 2021
Technical capability to incorporate disaster risk into planning	Degree to which planners have the technical capability to incorporate disaster risk into planning	Planners are not trained or have little training in incorporating disaster risk into planning	There is some capacity for incorporating disaster risk into planning, but not in every location/ not everywhere in the country	There is in-house technical capacity to incorporate disaster risk into planning across the range of national and local planning offices	Johnson, Caroca Fernandez, and Restrepo Cadavid 2021
Human capital development for resilience	Availability and implementation of an up-to-date human capital development plan to expand skills for resilience	Human capital development plan is in progress and 50& complete, or plan is nonexistent	Human capital development plan to expand skills for resilience exists and is somewhat used	Human capital development plan to expand skills for resilience exists, is up to date and is used	Bellony and Powers 2021
A1.6. Facilitate robust economic sectors and their diversification					
Business environment	Composite Ease of Doing Business score measuring the regulations that enhance business activity and those that constrain it. It covers 10 areas: starting a business; dealing with construction permits; getting electricity; registering property; getting credit; protecting minority investors; paying taxes; trading across borders; enforcing contracts; and resolving insolvency	Overall Ease of Doing Business score ≤55	Overall Ease of Doing Business score 55–63	Overall Ease of Doing Business score ≥63	Ease of Doing Business 2020
State-owned enterprises (SOEs) include disaster risk management (DRM) and climate change in their decision making	SOEs have included DRM and climate change in their long-term strategy and decision making	No SOEs have included DRM and climate change in their long-term strategy and decision making	Some SOEs have included DRM and climate change in their long-term strategy and decision making	All SOEs have included DRM and climate change in their long-term strategy and decision making	Authors
P2. Design resilient infrastructure systems, urban and coastal planning					
A2.1. Design and implement a governmentwide strategy to increase the resilience of the infrastructure system					
Water reliability index	Based on the frequency and length of water outages among Caribbean firms in the tourism industry	Bottom third among other Caribbean countries	Middle third among other Caribbean countries	Top third among other Caribbean countries	Erman et al. 2021
Power reliability index	Based on the frequency and length of electricity outages among Caribbean firms in the tourism industry	Bottom third among other Caribbean countries	Middle third among other Caribbean countries	Top third among other Caribbean countries	Erman et al. 2021
Transport infrastructure inventory	A transport infrastructure inventory exists and is regularly updated	A transport infrastructure inventory does not exist or only includes ancillary information on road characteristics	A transport infrastructure inventory exists and includes mapping information	A transport infrastructure inventory exists and includes mapping information and budgeting and other asset management features	Authors
Water and sanitation infrastructure inventory	A water and sanitation infrastructure inventory exists and is regularly updated	A water and sanitation infrastructure inventory does not exist or only includes ancillary information on intake characteristics	A water and sanitation infrastructure inventory exists and includes mapping information	A water and sanitation infrastructure inventory exists and includes mapping information and budgeting and other asset management features	Authors
Asset management system	Asset management systems with evidence-based maintenance plans are in place	There is no asset management system in place	An asset management system is in place, but not regularly updated	An asset management system is in place, regularly updated and used in decision making	Authors

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Indicator	Description	Nascent	Emerging	Established	Source
Adequate maintenance budget	There is adequate maintenance budget for critical infrastructure (water and transport)	The maintenance budget for critical infrastructure is not adequate	The maintenance budget for critical infrastructure is only partially adequate	The maintenance budget for critical infrastructure is adequate	Authors
Nonrevenue water levels	The ratio of water "lost" over total water produced	Utilities' nonrevenue water levels are >30%	There is no emerging category for this indicator	Utilities' nonrevenue water levels are <30%	Medina, Kullmann and Felter 2021
Resilient infrastructure agency	An agency is in place that is charge of coordinating resilience of built and operational critical assets and infrastructure	There is no resilient infrastructure agency in place	A resilient infrastructure agency is being implemented	A resilient infrastructure agency is in place and functioning	Authors
Long-term resilient infrastructure plan	A long-term resilient infrastructure plan is in place	There is no long-term resilient infrastructure plan in place	A long-term resilient infrastructure plan is being implemented or reviewed, or it exists but is outdated or incomplete	A long-term resilient infrastructure plan is in place, complete and up to date	Valero, Miranda and Murisic 2021
National climate adaptation plan	A national climate adaptation plan is in place	There is no national climate adaptation plan	A national climate adaptation plan is in progress	A national climate adaptation plan is in place	Valero, Miranda and Murisic 2021
Public asset management	An up-to-date, risk-informed consolidated registry of physical assets exists and is maintained by a single government budgetary unit that is explicitly responsible for maintaining the physical assets registry	The government does not have a risk-informed consolidated registry of physical assets	The government has a risk-informed consolidated registry of physical assets, but the registry is either out-of- date or not maintained by a single government budgetary unit that is explicitly responsible for its maintenance	The government has a risk-informed consolidated registry of physical assets that is up to date and maintained by a single government budgetary unit that is explicitly responsible for its maintenance	April and Zrinski 2021
Public investment management (PIM)	Disaster risk and climate change considerations are considered in investment planning, including for project identification, appraisal, and selection	The government does not include disaster risk and climate change considerations in its investment planning	The government includes disaster risk and climate change considerations in its investment planning, but this is not systematically applied throughout the PIM cycle	The government includes disaster risk and climate change considerations in its investment planning, including for identifying, appraising, and selecting projects	April and Zrinski 2021
Share of renewable energy-powered power plants	Ratio of renewable over fossil energy-powered power plants (irrespective of the capacity installed)	Bottom third among other Caribbean countries	Middle third among other Caribbean countries	Top third among other Caribbean countries	Schweikert et al. 2021
A2.2. Make land use and urban plans risk-informed					
Planning regulations and institutional framework	There is clear national legislation with clear lines of responsibility for urban planning, preparing and regularly updating plans; legislation requires planning to make use of multihazard risk information, participatory approaches, and linkages across administrative boundaries and socioeconomic development plans	Legislation is weak or nonexistent	There is legislation and an institutional framework, but it may be lacking in some areas or not put into practice—e.g. it may not mandate the use of multihazard information; consultation of stakeholders; and linkages with socioeconomic development	Well-functioning, flexible and enabling national legislation and institutional frameworks require planning to make use of multihazard information; mandate stakeholder engagement; and have clear linkages with socioeconomic planning	Johnson, Caroca Fernandez, and Restrepo Cadavid 2021
Land administration	Land is administered through an efficient and up-to-date cadastral system and an affordable and efficient land registration process, providing strong tenure security	The cadastral system is nonexistent or weak; the land registration process is weak but might be usable for larger projects; there is a lack of land tenure security	There is a functioning cadastral system, but it lacks information or is out of date; some land is registered but the registration process is lengthy and costly, so is often not used for smaller parcels; there are some weaknesses in land tenure security	A digitized cadastral system provides all the necessary information; all land is registered, and the registration process is easy and affordable for most people; land tenure security is sufficient to strong and most people perceive their rights to land as secure	Johnson, Caroca Fernandez, and Restrepo Cadavid 2021
Building and construction regulatory system	Building codes and standards are locally relevant, affordable and achievable for most builders and the building approval and permit system is both efficient and affordable	Local building code is absent, weak, or in progress; building approvals system is absent, weak, or seldom used because it is overly long, complicated, or expensive and possible to bypass	There is a locally relevant building code, but many builders cannot afford this standard; only large projects or certain kinds of project apply for building permits, due to the expense or time involved in building approvals	There are affordable, locally relevant building codes and standards and most buildings are up to standard; the building permit system is efficient and affordable and the majority or all projects undergo the process	Johnson, Caroca Fernandez, and Restrepo Cadavid 2021
Building regulation and implementation	Building regulations exist and are implemented, measured by six indices: quality of building regulations; quality control before, during, and after construction; liability and insurance regimes; and professional certifications indices	Building regulations and the processes to implement them are nonexistent or weak and in need of priority attention	Building regulations and the processes to implement them are in place, but need strengthening to enable greater compliance	Building regulations and processes to implement them are satisfactory	Benavidez 2021
Governance and politics in urban planning	Includes the degree of decentralization and political importance of urbanization, urban and spatial planning, and risk reduction	There is little or no decentralization; there is little or no mention of urban planning as part of the political agenda; and DRR is a low priority	Decentralization is in progress, there is a local government, but is not fully functional; urban planning is mentioned as part of the political agenda; and DRR is a medium to high priority (e.g. high after a disaster)	There is a country-wide accountable and functional local government system; urban planning is mentioned as a priority issue in key documents; and DRR is consistently a high priority	Johnson, Caroca Fernandez, and Restrepo Cadavid 2021
Financing for planning	Plans are up to date and aligned with national objectives, consider disaster risk, and accompanied by implementation plans; communities and stakeholders are involved in planning	Plans are frequently out of date; disaster risk considerations do not feature regularly in plans; implementation plans are weak or nonexistent; participation is weak or nonexistent	Some plans are up to date, others exist but are pending approval; disaster risk considerations are present but not always implemented; implementation plans are infrequent; stakeholders are consulted but not well engaged at all stages of planning	There are up-to-date regional, local, and urban plans that are aligned to national objectives, consider disaster risk, tackle cross-cutting issues in an integrated way, and consider urban typologies; there are clear plans for implementation; relevant stakeholders are involved in planning	Johnson, Caroca Fernandez, and Restrepo Cadavid 2021
Financing for implementation	Planning guides urban development; budget is available for implementation; DRR is used for planning and development-related activities	Very little development is guided by plans; budget is insufficient or almost nonexistent; and there is little to no DRR budget	Some urban development and infrastructure is guided by plans, planning regulations, and approvals; budget is somewhat insufficient for implementing delaying activities; planning, infrastructure, and built environment-related activities are not easily seen as DRR activities	Most urban development and infrastructure is guided by plans, planning regulations, and approvals; plans have satisfactory budget for implementation and most objectives or activities are achieved within the timeframe; planning, infrastructure, and built environment-related activities are an important part of DRR activities	Johnson, Caroca Fernandez, and Restrepo Cadavid 2021
Use of disaster risk information in planning	Quality risk maps are applied in planning	Very little or no disaster risk information is available	Risk maps are in development, or exist but miss some elements	Risk maps are available and used (e.g., in planning) and there are accompanying guidelines for achieving risk-sensitive development	Johnson, Caroca Fernandez, and Restrepo Cadavid 2021
A2.3. Develop or revise coastal management plans and integrate NBS					
Integrated coastal zone management (ICZM) plan	ICZM plans are in place	There is no ICZM plan in place	An ICZM plan is in progress	An ICZM plan is in place	Valero, Miranda and Murisic 2021
Updated environmental laws	Environmental laws were enacted or have been revised in the last seven years	Environmental laws are outdated or not in place	Environmental laws are in under review	Environmental laws are enacted or revised to the latest seven years ago	Valero, Miranda and Murisic 2021
Climate change law/policy	Updated and revised climate change law/policy is in place	There is no climate change law or policy	A climate change law or policy is under development or review	An up-to-date climate change law or policy is in place	Valero, Miranda and Murisic 2021
Long-term strategy/sustainable development plan	Long-term strategy/sustainable development plan is in place	There is no long-term strategy or sustainable development plan in place	A long-term strategy or sustainable development plan is in progress	A long-term strategy or sustainable development plan is in place	Valero, Miranda and Murisic 2021

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Indicator	Description	Nascent	Emerging	Established	Source
Civil society organizations (CSOs) in climate change/resilience	CSOs play a strong role in climate change/resilience	CSOs do not have a strong role in climate change or resilience	CSOs have a somewhat strong role in climate change or resilience	CSOs are present and have a strong role in climate change or resilience	Valero, Miranda and Murisic 2021
Coastal zone management agency	There is a fully functional coastal zone management agency, institute or unit in place	There is no coastal zone management agency	A coastal zone management agency is being developed, or is in place but not fully functional	A coastal zone management agency is in place	Valero, Miranda and Murisic 2021
Governmental agency responsible for climate change/resilience	There is a named interministerial committee or governmental body responsible for climate change/resilience	There is no governmental agency responsible for climate change/resilience	A governmental agency responsible for climate change/resilience is being implemented or reviewed	A governmental agency responsible for climate change/resilience is in place	Valero, Miranda and Murisic 2021
Enforcement of environmental policies	There is evidence that policies and regulations related to environment, climate change, and natural resources have been and are being enforced	Policies and regulations related to environment, climate change, and natural resources are not enforced	Policies and regulations related to environment, climate change, and natural resources are somewhat enforced	Policies and regulations related to environment, climate change, and natural resources are enforced	Valero, Miranda and Murisic 2021
Existence of environmental or climate change taxes or incentives	Environmental or climate change taxes and incentives exist	Environmental or climate change taxes or incentives are not in place	Environmental or climate change taxes or incentives are being implemented or are somewhat in place	Environmental or climate change taxes or incentives are in place	Valero, Miranda and Murisic 2021
P3. Build resilient health and education systems					
A3.1. Design and implement a governmentwide strategy to increase the resilience of the health system					
Hospital facility safety	Health Safety Index (HSI) scores place a facility in Category A, B or C for hospital safety. Category A facilities are deemed able to protect the life of their occupants and likely to continue functioning in disaster situations; Category B facilities can resist a disaster, but equipment and critical services are at risk; and in Category C facilities, lives and safety of occupants are deemed to be at risk during disasters	Most hospitals and health facilities have an HSI score that places them in Category C	Most hospitals and health facilities have an HSI score that places them in Category B	Most hospitals and health facilities have an HSI score that places them in Category A	Harnam and Khan 2021
Health service provision	There is core capacity for health service provision, including case management capacity for International Health regulation (IHR)-relevant hazards; capacity for infection prevention and control; and chemical and radiation contamination	IHR score <21	IHR score = 21–62	IHR score >62	WHO 2019
Emergency education for health workers	Emergency preparedness and response education is a component of academic curriculums (including ongoing medical education) for health care and public health providers	Relevant emergency education is not a component of the academic curriculums for clinical and public health professionals	Relevant emergency education is a component of the academic curriculums for clinical and public health professionals, but it is not a requirement for ongoing education	Relevant emergency education is a component of the academic curriculums and required ongoing education for clinical and public health professionals	Harnam and Khan 2021
Adequate number of doctors, nurses, and midwives	There is enough capacity in the health workforce to meet surge demand in emergency situations	There are not enough clinical and public health professionals to provide any surge capacity	There is some surge capacity among clinical and public health professionals, but gaps in key specialties remain	There is an adequate number of clinical and public health to provide surge capacity in all specialties	Harnam and Khan 2021
Adequate number of Caribbean Regional Field Epidemiology and Laboratory Training Programme (CR-FELTP) trained workers	There is enough capacity in the health workforce to meet surge demand in emergency situations	There are not enough CR-FELTP-trained clinical and public health professionals to provide any surge capacity	There is some surge capacity among CR-FELTP-trained clinical and public health professionals, but gaps in key specialties remain	There is an adequate number of CR-FELTP-trained clinical and public health to provide surge capacity in all specialties	Harnam and Khan 2021
Health information system	Degree to which a health information system is integrated, maintained and used in facilities in the country	There is no health information system in place	A health information system is implemented in some facilities	A health information system is integrated in all health facilities and used in surveillance, monitoring and evaluation, and for tracking medical supplies	Harnam and Khan 2021
Health sector surveillance system	A health sector surveillance system exists and is in use, which captures the changing needs of the population	There is no health surveillance system	A health surveillance system exists, but is inadequate or inactive	There is a dedicated and active health sector surveillance system	Harnam and Khan 2021
Health risk communication	Mechanisms for effective risk communication during a public health emergency are established and functioning, including a national risk communications plan	IHR score <21	IHR score = 21–61	IHR score >61	WHO 2019
Research capacity	There are well-trained, dedicated health research staff, that have a sustainable source of funding and a prioritized research agenda guiding health system resilience plans	There is no research capacity at the executive level of the health sector	Research capacity at the executive level of the health sector exists, but is inadequate	There is dedicated and active research capacity at the executive level of the health sector	Harnam and Khan 2021
Stockpile of medicines and medical and laboratory medicines	There is a regularly maintained stockpile of medical supplies, including personal protective equipment (PPE), medicines, and lab supplies within the country and region	There is no stockpile of medical supplies (including PPE), medicines, or lab supplies	There is a stockpile of medical supplies (including PPE), medicines, and lab supplies within the region	A regularly maintained stockpile of medical supplies (including PPE), medicines, and lab supplies exists within the country and the region	Harnam and Khan 2021
National health emergency framework	There is core capacity for national emergency framework, including mechanisms for planning for emergency preparedness and response, managing health emergency response operations, and mobilizing emergency resources	IHR score <23	IHR score = 21–63	IHR score >63	WHO 2019
Decentralized decision making	Extent of decentralized decision making	Decision making is centralized	Decentralized decision making exists, but is limited	Decision making is appropriately decentralized to allow rapid responses	Harnam and Khan 2021
Membership of relevant organizations	Countries are members of relevant local, regional, and international organizations and signatory to relevant agreements	Country is member of few relevant local, regional, and/or international organizations and is signatory to few or no agreements that can provide technical and financial support/guidance to the national health sector in emergencies	Country is member of some relevant local, regional, and international organizations and is signatory to some agreements that can provide technical and financial support/guidance to the national health sector in emergencies	Country is member of all relevant local, regional, and international organizations and signatory to all agreements that can provide technical and financial support/guidance to the national health sector in emergencies	Harnam and Khan 2021
Emergency funding arrangements with external bodies	Degree to which countries have emergency funding agreements with relevant local, regional, and international organizations	Emergency health sector funding arrangements with national, regional and/or international organizations are ad hoc	Emergency health sector funding arrangements are established with some relevant national, regional and/or international organizations	Emergency health sector funding arrangements with all relevant national, regional and international organizations are formally established and updated regularly	Harnam and Khan 2021
Costed and funded health system strengthening plans	Health system strengthening plans exist, are costed and funded	There are no health system strengthening plans	Health system strengthening plans exist, but have been neither costed nor funded	Health system strengthening plans are costed and funded	Harnam and Khan 2021
A3.2. Design and implement a governmentwide strategy to increase the resilience of the education system					
Enabling environment for school safety	School safety is included in legislation and policy, school safety plans are aligned with DRM plans and resources are allocated for safe schools	Legislation, policy, safe school plans, and institutional frameworks are either in progress or do not exist	Some legislation, policy, and safe school plans exist and include school safety, but they require amendment	Appropriate national legislation and policy exist, include school safety, and are in use	Bellony and Powers 2021

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Indicator	Description	Nascent	Emerging	Established	Source
Availability of and alignment with plans and guidelines to enable a safe learning environment	National safe school policy, safe school standards, and model safe school guidelines are in place, up to date and aligned to national DRM plans, and schools are aligned to these documents	There are no school safety documents, or these are in place in less than 50% of schools, and more than 25% of these are aligned with national DRM plan	Up-to-date school safety documents are in place in 50–95% of schools, and more than 50% of these plans are aligned with the national DRM plan	Up-to-date school safety documents are in place in at least 95% of schools and are aligned with national DRM plan	Bellony and Powers 2021
Monitoring and evaluation framework for safe schools	A monitoring and evaluation framework for national school safety plan exists and is updated biannually	There is no monitoring and evaluation framework for the National School Safety Plan	There is a monitoring and evaluation framework for the National School Safety Plan, and it is updated annually or less frequently	There is a monitoring and evaluation framework for the National School Safety Plan, and it is updated biannually	Bellony and Powers 2021
Education facility maintenance plan	Education facility maintenance plans are available and implemented in schools and maintenance budgets are adequate	There are no functioning maintenance plans in schools or less than 50% of schools have a functioning maintenance plan and assigned budget	There are maintenance plans in place, with assigned budget, for 50–95% of schools	Education facility maintenance plans are available and implemented for at least 95% of schools and the budget for these is adequate	Bellony and Powers 2021
Operational standards for alternative use of schools	Availability and enforcement of operational standards on alternative use of schools as shelters during emergency situations	School use operational standards lack policy on their use as emergency shelters	School use operational standards includes some guidance limiting the use of schools as emergency shelters	School use operational standards curtail their use as emergency shelters	Bellony and Powers 2021
Education continuity plans	Education continuity plans exist and are implemented in schools	Education continuity plans are either incomplete or used in <50% of schools	Education continuity plans exist and are used in 50–95% of schools	Educational continuity plans exist and are used in ≥95% of schools	Bellony and Powers 2021
Remote learning content	Availability and appropriateness of remote learning content	Appropriate content in digital and other media for teaching and learning at different educational levels is still in development or not yet available	Appropriate content in digital and other media is available for teaching and learning for some educational levels and subject areas	Appropriate content in digital and other media is available for teaching and learning in all educational levels and subject areas	Bellony and Powers 2021
Monitoring and evaluation of effectiveness of distance education	Effectiveness of distance education is monitored and evaluated	There is no monitoring and evaluation plan for the effectiveness of distance education	A monitoring and evaluation plan is available but not used to assess the effectiveness of distance education modalities	A monitoring and evaluation plan is available and used to assess the effectiveness of distance education	Bellony and Powers 2021
Resources to enable remote learning	Degree to which households have access to resources such as internet, devices, electricity, television, and radio to enable remote learning	<50% of households with school-aged children have access to resources to support distance learning	50–95% of households with school-aged children have access to resources to support distance learning	≥95% of households with school-aged children have access to resources to support distance learning	Bellony and Powers 2021
Comprehensive and integrated education management information system (EMIS)	Availability and implementation of an up-to-date EMIS	There is no EMIS or there is one, but it is not linked to other administrative databases	There is an EMIS and it is securely linked to some key administrative databases	There is an EMIS and it is securely linked to the most pertinent administrative databases to inform policy decisions	Bellony and Powers 2021
Teacher training (technical and pedagogical skills for remote instruction)	Teachers have the technical and pedagogical skills needed to deliver distance education	<50% of teachers have the skills to lead distance education by digital and other media	50–95% of teachers have the skills to lead distance education using digital and other media	≥95% of teachers have the skills to lead instruction using digital and other media	Bellony and Powers 2021
P4. Help firms and people manage residual risks and natural disasters					
A4.1. Save lives and money with emergency preparedness and early warning systems					
Emergency preparedness and response (EP&R) legislation	For an EP&R system to function well at any government scale and across scales, emergency management legislation and related policy instruments must exist. These instruments must clearly assign accountabilities to specific government departments and ministries to ensure public safety service delivery and resilience.	0–2 of the following statements are true: 1) Accountabilities are clear for all phases of emergency management, including central coordination as well as short- and long-term risk reduction activities; 2) Resilience requirements for time-critical public and private sector services are clearly stated and universally applied; 3) Agencies with emergency response roles are required to have detailed plans and report annually on improvements to their state of preparedness; 4) Emergency management accountabilities are clear across all levels of government, reducing or eliminating jurisdictional ambiguity; 5) The legislation and policy framework requires a collaborative, risk-informed, progressive approach from accountable agencies	3–4 of the following statements are true: 1) Accountabilities are clear for all phases of emergency management, including central coordination as well as short- and long-term risk reduction activities; 2) Resilience requirements for time-critical public and private sector services are clearly stated and universally applied; 3) Agencies with emergency response roles are required to have detailed plans and report annually on improvements to their state of preparedness; 4) Emergency management accountabilities are clear across all levels of government, reducing or eliminating jurisdictional ambiguity; 5) The legislation and policy framework requires a collaborative, risk-informed, progressive approach from accountable agencies	All of the following statements are true: 1) Accountabilities are clear for all phases of emergency management, including central coordination as well as short- and long-term risk reduction activities; 2) Resilience requirements for time-critical public and private sector services are clearly stated and universally applied; 3) Agencies with emergency response roles are required to have detailed plans and report annually on improvements to their state of preparedness; 4) Emergency management accountabilities are clear across all levels of government, reducing or eliminating jurisdictional ambiguity; 5) The legislation and policy framework requires a collaborative, risk-informed, progressive approach from accountable agencies	Campbell, Gonzalez-Escalada Mena and McAllister 2021
Disaster management information system (DMIS) for EP&R	The use of a common DMIS by all emergency management personnel improves overall situational awareness, decision making, and response coordination. A system based on commercial off-the-shelf software that is interoperable with common systems used by regional and/or international agencies, can improve overall response effectiveness and increase training opportunities for personnel across agencies.	0–2 of the following statements are true: 1) The DMIS has an uptime of 99% or higher with established redundancy and a recovery plan; 2) A common DMIS is used by all emergency operations centers (EOCs), even if only codified in policy as common email, work processing and spreadsheet tools; 3) The DMIS is interoperable with common DMIS platforms in use by regional and/or international disaster support agencies; 4) The DMIS uses commonly available commercial off-the-shelf software or networked/ cloud-based applications; 5) EOC personnel and other DMIS users receive ongoing training on DMIS use	3–4 of the following statements are true: 1) The DMIS has an uptime of 99% or higher with established redundancy and a recovery plan; 2) A common DMIS is used by all EOCs, even if only codified in policy as common email, work processing and spreadsheet tools; 3) The DMIS is interoperable with common DMIS platforms in use by regional and/ or international disaster support agencies; 4) The DMIS uses commonly available commercial off-the-shelf software or networked/ cloud-based applications; 5) EOC personnel and other DMIS users receive ongoing training on DMIS use	All of the following statements are true: 1) The DMIS has an uptime of 99% or higher with established redundancy and a recovery plan; 2) A common DMIS is used by all EOCs, even if only codified in policy as common email, work processing and spreadsheet tools; 3) The DMIS is interoperable with common DMIS platforms in use by regional and/ or international disaster support agencies; 4) The DMIS uses commonly available commercial off-the-shelf software or networked/ cloud-based applications; 5) EOC personnel and other DMIS users receive ongoing training on DMIS use	Campbell, Gonzalez-Escalada Mena and McAllister 2021
Emergency operations centers	An EOC must be supported by sufficient backup systems, including electricity, heating and cooling, communications, staff and operational resources (such as security, break rooms, planning/meeting rooms, media center, etc.). Ideally, an EOC would have a backup facility that is geographically diverse and fully capable of operation if the primary EOC is not available.	0–2 of the following statements are true: 1) EOCs have resilient systems to ensure continuous operation despite critical service disruptions; 2) Primary EOCs have an established backup site in the event they require evacuation or are unavailable; 3) EOCs are staffed, or have staff on call, 24 hours a day, 365 days a year, who can serve as duty/watch officers; 4) The government has established an operational program budget, including capital funding for facility, personnel, and training improvements, and annual testing; 5) EOCs are fully equipped with the tools and technology necessary to coordinate response activities within their jurisdiction	3–4 of the following statements are true: 1) EOCs have resilient systems to ensure continuous operation despite critical service disruptions; 2) Primary EOCs have an established backup site in the event they require evacuation or are unavailable; 3) EOCs are staffed, or have staff on call, 24 hours a day, 365 days a year, who can serve as duty/watch officers; 4) The government has established an operational program budget, including capital funding for facility, personnel, and training improvements, and annual testing; 5) EOCs are fully equipped with the tools and technology necessary to coordinate response activities within their jurisdiction	All of the following statements are true: 1) EOCs have resilient systems to ensure continuous operation despite critical service disruptions; 2) Primary EOCs have an established backup site in the event they require evacuation or are unavailable; 3) EOCs are staffed, or have staff on call, 24 hours a day, 365 days a year, who can serve as duty/watch officers; 4) The government has established an operational program budget, including capital funding for facility, personnel, and training improvements, and annual testing; 5) EOCs are fully equipped with the tools and technology necessary to coordinate response activities within their jurisdiction	Campbell, Gonzalez-Escalada Mena and McAllister 2021

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Indicator	Description	Nascent	Emerging	Established	Source
Urban firefighting equipment and capabilities	Volunteer fire services are an option in rural or less populated areas. However, full-time services will tend to respond to a greater variety of incidents as their training level increases with time, experience and resources. Equipment and training are a major factor in any fires services' ability to respond. The fire service's tactics will necessarily reflect their equipment capabilities if responder safety has been fully considered.	0–2 of the following statements are true: 1) Jurisdictional fire prevention programs exist and are delivered by the fire service; 2) A network of jurisdictional fire services exists with professional and volunteer firefighters that are equipped with modern PPE and enough functional equipment to safety suppress exterior and interior fires; 3) Industrial firefighting capability exists in either the public or private sector, including marine fire suppression where appropriate; 4) Fire services are able to extinguish fires in high buildings, including residential and commercial structures; 5) Jurisdictional budgets exist, are reviewed regularly to support urban firefighting readiness, and consider training, equipment needs, employee costs, deployment costs, prevention/mitigation efforts, and management/administration costs	3–4 of the following statements are true: 1) Jurisdictional fire prevention programs exist and are delivered by the fire service; 2) A network of jurisdictional fire services exists with professional and volunteer firefighters that are equipped with modern PPE and enough functional equipment to safety suppress exterior and interior fires; 3) Industrial firefighting capability exists in either the public or private sector, including marine fire suppression where appropriate; 4) Fire services are able to extinguish fires in high buildings, including residential and commercial structures; 5) Jurisdictional budgets exist, are reviewed regularly to support urban firefighting readiness, and consider training, equipment needs, employee costs, deployment costs, prevention/mitigation efforts, and management/administration costs	All of the following statements are true: 1) Jurisdictional fire prevention programs exist and are delivered by the fire service; 2) A network of jurisdictional fire services exists with professional and volunteer firefighters that are equipped with modern PPE and enough functional equipment to safety suppress exterior and interior fires; 3) Industrial firefighting capability exists in either the public or private sector, including marine fire suppression where appropriate; 4) Fire services are able to extinguish fires in high buildings, including residential and commercial structures; 5) Jurisdictional budgets exist, are reviewed regularly to support urban firefighting readiness, and consider training, equipment needs, employee costs, deployment costs, prevention/mitigation efforts, and management/administration costs	Campbell, Gonzalez-Escalada Mena and McAllister 2021
Formal EP&R training program	Those within an organization who may be involved in planning for and responding to an emergency should be appropriately prepared. This requires a clear understanding of roles and responsibilities and how they fit in to the wider emergency preparedness and response system. Training should build capability and capacity for emergency response incidents. It should also extend beyond those employed by the jurisdiction and include contractors and the staff of voluntary organizations who might support emergency planning or response operations.	0–2 of the following statements are true: 1) Training programs exist for those with legislated emergency response job requirements; 2) Training programs exist for all primary emergency response personnel; 3)Training programs exists for nontraditional emergency response roles such as logistics specialists, disaster relief coordinators, hospital staff, and emergency social services; 4) Training programs are tiered and establish skillsets and experience required for attaining each level; 5) A comprehensive training evaluation/ review exists to ensure ongoing improvement of the training program	3–4 of the following statements are true: 1) Training programs exist for those with legislated emergency response job requirements; 2) Training programs exist for all primary emergency response personnel; 3)Training programs exists for nontraditional emergency response roles such as logistics specialists, disaster relief coordinators, hospital staff, and emergency social services; 4) Training programs are tiered and establish skillsets and experience required for attaining each level; 5) A comprehensive training evaluation/ review exists to ensure ongoing improvement of the training program	All of the following statements are true: 1) Training programs exist for those with legislated emergency response job requirements; 2) Training programs exist for all primary emergency response personnel; 3)Training programs exists for nontraditional emergency response roles such as logistics specialists, disaster relief coordinators, hospital staff, and emergency social services; 4) Training programs are tiered and establish skillsets and experience required for attaining each level; 5) A comprehensive training evaluation/ review exists to ensure ongoing improvement of the training program	Campbell, Gonzalez-Escalada Mena and McAllister 2021
Impact-based forecasting (IBF)	An impact-based approach is applied for hydromet hazards	Country is not using IBF	Country is developing or has started using IBF approaches	IBF is a well-established and functional forecasting approach	Authors
Communication and dissemination of warnings	Early warning message recipients are efficiently notified and take notice of the warning on time	A mass communication channel exists for disseminating warnings, but it has limitations for reaching the whole population	Multichannel dissemination approach and the common alerting protocol (CAP) implementation is increasing notification capabilities	Country uses a multichannel approach and CAP implementation, and has the possibility of geotargeting warning recipients	Authors
Community disaster response plans	Community disaster response plans are in place	There are no community disaster response plans in place	Community disaster response plans are in place, but for few communities and they are not systematically revised	Community disaster response plans are in place for the most at-risk communities and are revised systematically	Authors
Early warning system (EWS) feedback mechanisms	End-to-end feedback mechanisms are in place to evaluate performance after events	There are no EWS feedback mechanisms in place	Some EWS feedback mechanisms are in place	Feedback mechanisms are in place along the end-to-end EWS and are used to improve performance of the EWS	Authors
A4.2. Be prepared to build back better after disasters					
Resilient recovery and reconstruction plans	Resilient recovery and reconstruction plans are ready for implementation (with revised land use and standards)	There are no resilient recovery and reconstruction plans in place	Resilient recovery and reconstruction plans are in place, but outdated	Resilient recovery and reconstruction plans are in place and up to date	Authors
Procurement planning	Procurement plans include provisions for responding to disasters and these are included in the annual budget	The government's annual or multiannual procurement plans do not include provisions for responding to disasters	The government's annual or multiannual procurement plans include provisions for responding to disasters, but these are not included in the annual budget	The government's annual or multiannual procurement plans include provisions for responding to disasters and are included in the annual budget	April and Zrinski 2021
Procurement procedures	Procuring entities with disaster relief and response responsibilities have up-to-date disaster emergency procurement procedures in place, such as standard operating procedures (SOPs), handbooks, user guides, or other manuals, that instruct how procurement is to be conducted in postdisaster situations; and the procedures are systematically applied	There are no emergency procurement procedures in place	Some emergency procurement procedures are in place, but these are not systematically applied or are not up to date	Procuring entities with disaster relief and response responsibilities have up-to-date disaster emergency procurement procedures in place—such as SOPs, handbooks, user guides, or other manuals that guide procurement in postdisaster situations—and these are systematically applied	April and Zrinski 2021
Procurement templates and documents	Procuring entities with disaster relief and response responsibilities have up-to-date disaster emergency procurement templates and documents in place, that instruct how procurement is to be documented in postdisaster situations; and these are systematically applied	There are no emergency procurement templates and documents in place	Some emergency procurement templates and documents are in place, but these are not systematically applied or are not up to date	Procuring entities with disaster relief and response responsibilities have up-to-date disaster emergency procurement templates and documents in place that guide procurement documentation in postdisaster situations; and these are systematically applied	April and Zrinski 2021
A4.3. Build shock-responsive SP systems					
Postdisaster household assessment (PDHA) collection and usage	PDHA data collection is electronic and supported by an information system that links to the social registry; its processes are established in manuals; staff are trained in these processes ex ante; and the data collected are used to inform postdisaster SP responses	Ad hoc PDHAs are developed for each disaster; data collection is paper-based; there is no dedicated information system for storing PDHA data and no coordination or data sharing among agencies carrying out PDHAs	PDHA data collection is mainly electronic, but includes offline functionality or paper format as backup; it may not be supported by a dedicated information system and is not linked to the social registry; PDHA processes may not be established in manuals and not all staff are trained in these processes; PDHA informs government SP response, but is not used by external agencies	PDHA data collection is mainly electronic, but includes offline functionality or paper format as backup; it is supported by an information system that links to the social registry; PDHA processes are established in manuals and staff are trained in processes ex ante; PDHA data are used by most SP actors to inform postdisaster SP response	Beazley and Williams 2021
Postdisaster benefit delivery	Multiple and accessible benefit delivery mechanisms help facilitate adaptations to the post-shock environment and choice of beneficiary	Benefit delivery mechanisms in post-shock context is limited to a single method, with no adaptability to the post-shock environment	There is some flexibility in benefit delivery in the post-shock context	Multiple and accessible benefit delivery mechanisms help facilitate adaptation to the post-shock environment and choice of beneficiary	Beazley and Williams 2021
Interoperable SP and disaster risk management information systems	Interoperable SP and disaster risk management information systems are available, risk-informed, and used to inform DRM actions	Systems are largely absent, so there is no data sharing nor interoperability between SP and DRM	There is some data sharing between SP and DRM, but very limited interoperability	SP registries are risk-informed and interoperable with other risk information systems, including those for PDHAs; DRM actions are informed by SP data (e.g. risk maps use SP data about vulnerability)	Beazley and Williams 2021

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Indicator	Description	Nascent	Emerging	Established	Source
Adaptive SP (ASP) operational processes	ASP operational processes exist and are implemented, implying that operation manuals include protocols for shock-responsive ASP and contingency protocols allow for ASP adjustments in response to shocks	There are no contingency protocols for ASP adjustments	Operations manuals do not cover shock-responsive ASP delivery processes; contingency protocols for ASP adjustments exist, but do not include alternative delivery mechanisms	Operation manuals include protocols for shock-responsive SP; there are effective contingency protocols for ASP adjustments that include alternative delivery mechanisms	Beazley and Williams 2021
Disaster risk finance (DRF) mechanism for ASP	DRF mechanism for ASP exists and is implemented	ASP to be taken into consideration when devising a national DRF strategy, but ex-ante financial protection strategies are inadequate (often over-relying on budget reallocations and humanitarian aid); there is no established financing coordinating vehicle for streamlining ASP funding mechanisms, which can include capitalized reserves and risk transfer micro-, meso-, and macroinstruments; no direct ASP-related DRF tool is available	ASP financing arm is integrated into a wider DRF agenda; different DRF instruments are in place, but not fully aligned and optimized for financing ASP needs; there is no sectorial or programmatic disaggregation of financing resources and mechanisms for ASP; at least one ASP-related DRF instrument is available	An established ASP financing strategy is included in the wider national DRF strategy; different DRF instruments are combined and optimized with respect to probable ASP financing needs; sectorial and programmatic financing for ASP is considered and in place (e.g. complementary financing strategies for agriculture, fisheries, small businesses, infant nutrition, etc.); multiple tools are available	Beazley and Williams 2021
ASP human resource (HR) capacity	There is adequate human and financial capacity in DRM leading agencies and HR capacity for all roles in regular SP delivery; contingency measures are in place to ensure adequate HR capacity for postdisaster SP operations	DRM and SP leading agencies have very limited capacity (inadequate human and financial resources)	DRM leading agencies have limited capacity (inadequate human and financial resources); HR capacity for major roles in regular SP delivery is adequate, but there are no measures in place to ensure contingency HR capacity for postdisaster SP operations	DRM leading agencies have adequate capacity in terms of both human and financial resources; HR capacity for all roles in regular SP delivery is adequate, and contingency measures are in place to ensure adequate HR capacity for postdisaster SP operations	Beazley and Williams 2021
ASP coordination	There are effective coordination mechanisms horizontally between SP and DRM agencies, government, and nongovernmental actors, and vertically between different levels of government	Coordination mechanisms between SP and DRM agencies, government, and nongovernmental actors, and vertically between different levels of government are weak	Coordination mechanisms between SP and DRM agencies, government, and nongovernmental actors, and vertically between different levels of government are active, but not effective	There are effective coordination mechanisms between SP and DRM agencies, government, and nongovernmental actors, and vertically between different levels of government	Beazley and Williams 2021
ASP policy structures	A DRM policy or strategy with a defined role for SP is in place	DRM and SP policies are either nonexistent or outdated and ASP considerations are not mainstreamed in DRM and SP ministry or agency mandates and regulations	DRM legislation and national strategy is fairly up to date, but adequate roles for SP are not clearly established; SP national strategy does not include concrete strategies for strengthening resilience; some ASP considerations are integrated into DRM and SP mandates and regulations, but these are limited	DRM national strategies establish roles for SP; SP national strategy includes resilience strengthening as a key objective; detailed ASP considerations are mainstreamed into DRM and SP regulations and mandates	Beazley and Williams 2021
A4.4. Develop the insurance sector, building on public-private partnerships					
Insurance penetration	Extent of insurance penetration, measured through premiums as % of GDP, benchmarked against other Caribbean countries	Insurance penetration ≤2% of GDP	Insurance penetration = 2–5% of GDP	Insurance penetration ≥5% of GDP	Masetti 2021
Deposit insurance system	A deposit insurance system is in place and funded, protecting small and unsophisticated savers in the event of a banking crisis by guaranteeing a share of their savings	There is no formal deposit insurance system in place	A formal deposit insurance system is under consideration or in place, but lacks adequate funding	A formal deposit insurance system is in place and properly funded	Masetti 2021
Resilience/adaptation insurance	Insurance schemes are in place that increase the resilience of the private and public sectors, e.g. farmers' insurance against climate change impacts, climate risk insurance or other resilience-related insurance schemes	There is no resilience or adaptation insurance in place	Resilience or adaptation insurance is being implemented or reviewed	Resilience or adaptation insurance is in place	Valero, Miranda and Murisic 2021
A4.5. Help private actors develop business continuity plans and financial preparedness					
Firms in tourism industry with business continuity plans	Fraction of tourism firms with business continuity plans	Bottom third among other Caribbean countries	Middle third among other Caribbean countries	Top third among other Caribbean countries	Erman et al. 2021
Firms in tourism industry with disaster insurance coverage	Fraction of tourism firms with disaster insurance coverage	Bottom third among other Caribbean countries	Middle third among other Caribbean countries	Top third among other Caribbean countries	Erman et al. 2021
P5. Anticipate and manage macrofiscal and financial issues					
A5.1. Protect countries with fiscal buffers and sound debt management					
External debt	External debt as % of GDP	Top third among other Caribbean countries	Middle third among other Caribbean countries	Bottom third among other Caribbean countries	Li 2021
Fiscal balance	Overall fiscal balance as % of GDP	Bottom third among other Caribbean countries	Middle third among other Caribbean countries	Top third among other Caribbean countries	Li 2021
Fiscal rule	Use and design of fiscal rules covering national and supranational fiscal rules, covering four types of rule (budget balance, debt, expenditure, and revenue rules) and applying to central or general government or the public sector	Bottom third among other Caribbean countries	Middle third among other Caribbean countries	Top third among other Caribbean countries	Li 2021
Monetary policy independence	There is a fixed or managed exchange rate regime	Bottom third among other Caribbean countries	Middle third among other Caribbean countries	Top third among other Caribbean countries	Li 2021
Financial solvency risk	Weighted average of share of regulatory capital to risk-weighted assets; nonperforming loans to total loans; and provisions—funds put aside to cover future anticipated losses—to nonperforming loans	Financial solvency risk >2	Financial solvency risk = 1.5–2	Financial solvency risk <1.5	Masetti 2021
Liquidity risk	Weighted average of share of liquid assets to total assets and liquid assets to total short-term liabilities	Liquidity risk >2	Liquidity risk between 1.5 and 2	Liquidity risk <1.5	Masetti 2021
A5.2. Develop a financial strategy to manage shocks, combining multiple instruments					
National DRF strategy	Institutional adoption of a national DRF strategy	No national DRF strategy has been adopted	A national DRF strategy is in progress	A national DRF strategy has been adopted	Justiniano et al. 2021
DRF assessment	Assessment of gaps and strengths related to DRF	No DRF assessment has been undertaken	A DRF assessment is in progress	A DRF assessment has taken place	Justiniano et al. 2021
Alternative risk transfer instruments	Instruments exist that can help the government increase its immediate financial response capacity against natural hazards and better protect its fiscal balance	Alternative risk transfer instruments are under development	Alternative risk transfer instruments are operational, but have limited geographical cover	Alternative risk transfer instruments are operational and cover a large geographical area	Justiniano et al. 2021
Ex-post financial assistance	Financial assistance measures are operationalized after a disaster, such as international loans and assistance or national fund for reconstruction	There are few arrangements for ex-post financial assistance	There are several regional arrangements for ex-post financial assistance	There are several regional arrangements for ex-post financial assistance; the country actively contributes to regional arrangements	Justiniano et al. 2021

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Indicator	Description	Nascent	Emerging	Established	Source
State contingent debt instruments	State contingent debt instruments exist and are used	There is no contingent debt instrument	A contingent debt instrument is in place, but parameters are not strategically applied	A contingent debt instrument is in place and is part of the national DRF strategy	Justiniano et al. 2021
Traditional insurance	Availability of traditional insurance, which requires an assessment of individual losses on the ground	Market penetration is low, and few traditional insurance products are available	Market penetration is average, and few traditional insurance products are available	Market penetration is significant, and multiple traditional insurance products are available	Justiniano et al. 2021
Parametric insurance	Availability of parametric insurance, which relies on a payout disbursement that is contingent on the intensity of an event (e.g. major hurricanes and earthquakes)	Available insurance covers few perils; coverage levels are low	Insurance covers several perils; coverage levels are significant	Insurance covers several perils; coverage is significant and optimized with respect to retention capacities	Justiniano et al. 2021
Contingent credit	Availability of contingent credit, which is more cost-effective than risk transfer solutions for intermediate layers of risk like tropical storms and low-intensity hurricanes (Catastrophe Deferred Drawdown)	Contingency credit arrangements are depleted or nonexistent	Contingency credit is in place, but credit levels are low	Contingency credit is in place, and levels of contingency credit are sufficient	Justiniano et al. 2021
Budget	There is efficient budget to finance recurrent low-severity events like localized floods, storms, or landslides	Guidelines on emergency budget reallocation are vague or nonexistent	Guidelines on emergency budget reallocation are clear but used minimally	There is minimal strategic use of loss-informed budget reallocation	Justiniano et al. 2021
Reserve fund	Accessibility of contingency reserves earmarked only for natural hazards for public contingent liabilities for immediate postdisaster relief	A reserve fund is legally defined, but no recurrent capitalization	A reserve fund is legally defined, which has recurrent capitalization	A reserve fund is legally defined, with adequate recurrent capitalization and disbursement rules	Justiniano et al. 2021
Resource planning	National budget is used as a policy instrument for setting priorities on disaster risk reduction and climate adaptation over the short and medium terms	There is no DRR and climate adaption policy, or the policy is not reflected in the budget	There is DRR and climate adaptation policy, and this is partially reflected in the budget	The national budget is used as a policy instrument for setting DRR and climate adaptation priorities over the short and medium terms	April and Zrinski 2021
Budget appropriation	Budget systematically identifies and addresses specific needs or challenges experienced by population segments as a result of disasters	There is no DRR and climate adaption policy, or the policy is not reflected in the budget	There is DRR and climate adaptation policy, and this is partially reflected in the budget	The national budget is used as a policy instrument for setting DRR and climate adaptation priorities over the short and medium terms	April and Zrinski 2021
Gender-sensitive resource allocation	Resource allocation is gender sensitive	The government does not identify and provide budget to address specific needs or challenges experienced by population segments due to disasters	The government identifies specific needs of some population segments due to disasters but does not provide budget to address their needs or budget allocations are not sufficient	The government systematically identifies and provides budget to address specific needs or challenges experienced by population segments due to disasters	April and Zrinski 2021
Expenditure controls	Postdisaster expenditures are systematically independently reviewed, with recommendations issued, and follow-ups to recommendations conducted	Postdisaster expenditures are not reviewed by independent bodies	Postdisaster expenditures are occasionally reviewed, or reviewed by external development partners, or reviewed systematically but with no required follow-up recommendations	Postdisaster expenditures are systematically independently reviewed, with recommendations issued, and follow-ups to recommendations conducted	April and Zrinski 2021
Expenditure tracking	Government has the capacity to track disaster-related external assistance commitments and/or aid inflows, and to track disaster-related expenditure by type	The government has no capacity to track disaster-related expenditure, or no awareness of the need to track this type of expenditure	The government has the capacity to track disaster-related expenditures, but not by type or nature	The government has the capacity to track: disaster-related external assistance commitments and/or aid inflows, and disaster-related expenditure by both type and nature	April and Zrinski 2021
Auditing practices	Legislature systematically reviews expenditures incurred and/or financial reports submitted for a disaster, issues recommendations, and follows up on their implementation	The legislature does not scrutinize postdisaster expenditure	The legislature occasionally scrutinizes postdisaster expenditure or scrutinizes it systematically, but does not issue recommendations or follow up on their implementation	The legislature systematically reviews expenditures incurred and/or financial reports submitted for disaster, issues recommendations, and follows up on their implementation	April and Zrinski 2021
PFM rules and regulations	Legal and/or regulatory framework clearly defines procedures for accelerated (re)allocation, execution, accounting, and oversight of disaster-related expenditures	There are no PFM regulations in place, indicating low awareness of postdisaster response as a functional imperative of the overall PFM system, or regulations for allocating, executing, accounting, and overseeing disaster-related expenditure are outdated	The legal and/or regulatory framework outlines procedures for accelerated PFM, but does not provide details on all the procedures concerned with (re) allocating, executing, accounting, and overseeing disaster-related expenditure	The legal and/or regulatory framework clearly defines procedures for accelerated (re) allocation, execution, accounting, and oversight of disaster-related expenditures	April and Zrinski 2021
Institutional PFM arrangements	Central finance agency has clearly granted powers/ authority during states of emergency to enhance public finance management as needed to expedite disaster response, including clearly defined coordination mechanisms with national disaster management agency	There is no or limited authority granted to the central finance agency for PFM during states of emergency; coordination with national disaster agency is limited	The central finance agency has authority over PFM during states of emergency, but duties and activities—including coordinating with national disaster management agency—are not clearly specified	The central finance agency has clearly granted powers or authority during states of emergency to enhance PFM as needed to expedite disaster response, including clearly defined coordination mechanisms with national disaster management agency	April and Zrinski 2021
A5.3. Anticipate and plan for long-term macroeconomic impacts					
Sector-level adaptation plans	Sector-level adaptation plans are collected, harmonized, and costed, and an estimate of public adaptation spending needs is produced	There are no sector-level adaptation plans	Sector-level adaptation plans exist, but are not costed and/or implemented	Sector-level adaptation plans exist, are costed and implemented	Authors
Long-term plan to diversify tax revenues	A long-term plan to diversify tax revenues away from vulnerable sectors has been approved	There is no long-term plan to diversify tax revenues	A long-term plan to diversify tax revenues is under development	A long-term plan to diversify tax revenues is in place	No data were available for this indicator
Tax revenues originating from high-vulnerability sectors	Share of tax revenues originating from high-vulnerability sectors	The tax level is high, posing a significant risk for government revenues	The tax level is somewhat high, posing a moderate risk for government revenues	The tax level is low, posing a minimum risk for government revenue	No data were available for this indicator
Debt sustainability or financial sector assessment program considers climate and disaster impacts	Climate and disaster impacts are included in debt sustainability assessment or financial sector assessment program	There is no debt sustainability or financial sector assessment program that considers climate and disaster impacts	A debt sustainability or financial sector assessment program that considers climate and disaster impacts is under development/ consideration	Debt sustainability or financial sector assessment program is in place and considers climate and disaster impacts	No data were available for this indicator
A5.4. Improve transparency on disaster and climate risk exposure of the financial sector and pension systems					
Specific disaster and climate risk requirements for bank and large investor regulations	Bank and large investor regulations include specific disaster and climate risks requirements	There are no specific disaster and climate risk requirements bank and large investor regulations	Specific disaster and climate risk requirements bank and large investor regulations are under consideration	Specific disaster and climate risk requirements bank and large investor regulations are in place	No data were available for this indicator
Climate and disaster risk stress tests for banks and large investors	All banks and large investors conduct stress tests for climate and disaster risks, including at least two climate scenarios	There are no climate and disaster risk stress tests for banks and large investors	Climate and disaster risk stress tests for banks and large investors are under consideration	Climate and disaster risk stress tests for banks and large investors are in place	No data were available for this indicator
Quantified estimates of their exposure to natural hazards by banks and large investors	All banks and large investors have to provide a quantified estimate of their exposure to natural hazards	There are no quantified estimates of their exposure to natural hazards by banks and large investors	Quantified estimates of their exposure to natural hazards by banks and large investors are under consideration	Quantified estimates of their exposure to natural hazards by banks and large investors are in place	No data were available for this indicator

Notes: Whenever benchmarking was possible, each country was scored relative to their peers in the region, and depending on the indicator, those in the bottom or top third were assigned *nascent* or *established*, and those in the middle third were assigned *emerging*. Where *authors* are stated as the source, the rating is based on a compilation of information from multiple sources, including government and other websites, news articles, journal articles and research publications, government publications, and personal communications with persons in the country.