Sint Maarten National Recovery and Resilience Plan

A Roadmap to Building Back Better

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Preface

When Hurricane Irma tore through our island on September 6, 2017, it showed the enormous strength of the people of Sint Maarten, but also the significant challenges of a young and disaster-prone country. As a people, we are resilient, hopeful and purposeful. As a country, we have work to do. We need to strengthen our infrastructure, our economy and our institutions to avoid a repeat of the devastation wrought by Irma.

Toward this end, I am extremely pleased to present Sint Maarten's National Recovery and Resilience Plan (NRRP). This is our roadmap toward building Sint Maarten back better. The NRRP offers a comprehensive strategy to respond to the immediate needs of the people of Sint Maarten and to address other recovery and resilience needs in the near future.

In line with the unprecedented nature of Hurricane Irma, the NRRP is the product of a unique level and degree of collaboration. Never have I been more proud of my fellow Sint Maarteners and especially the civil servants who played a leading role in drafting this Plan. I also want to thank the Netherlands for the tremendous support in recent months and the World Bank Group for believing in Sint Maarten and its people.

As Prime Minister, I look forward to working with the Netherlands, the World Bank and the people of Sint Maarten to speed up the urgently needed recovery and resilience efforts to return Sint Maarten to its position as a beacon of prosperity in the region.

Prime Minister of Sint Maarten

Leona Romeo-Marlin

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Acknowledgments

The Sint Maarten National Recovery and Resilience Plan (NRRP) was prepared in the aftermath of Hurricanes Irma and Maria, under the overall leadership of the Government of Sint Maarten, with the generous financial support of the Government of the Netherlands, and the strategic support of the World Bank Group.

More than 170 national and international experts from the Government of Sint Maarten, the World Bank Group and other organizations worked intensively across 18 sectors to collect, validate, and analyze data on damages and losses, conduct site visits, consult with affected communities and relevant authorities, and identify needs for recovery and reconstruction.

The NRRP would not have been possible without the support of the Office of the Prime Minister, the Ministry of General Affairs, the Ministry of Public Housing, Spatial Planning, Environment, and Infrastructure (VROMI), the Ministry of Finance, the Ministry of Public Health, Social Development and Labor (VSA), the Ministry of Education, Culture, Youth, and Sport (MECYS), and the Ministry of Tourism, Economic Affairs, Traffic, and Telecommunications (TEATT).

In addition, a broad range of stakeholders contributed to the NRRP, including:

The Central Bank of Curaçao and Sint Maarten, the General Audit Chamber, Princess Juliana International Airport, the Port of Sint Maarten, the Maho Group, BWA Yachting, the Sint Maarten Red Cross, the Netherlands Red Cross, Sint Maarten Hospitality and Trade Association, Sint Maarten Nature Foundation, KPMG, Sint Maarten Housing Development Foundation, Great Bay Beach Resort Casino & Spa, Sint Maarten Chamber of Commerce, Sint Maarten Insurance Association, Sint Maarten Bankers Association, NV GEBE, UNDP, UNESCO-IHE, UNICEF, Nagico, Sint Maarten Medical Center, SZV Social and Health Insurances, Youth Council, SECDA, Court of Guardianship, National Sport Institute, Sint Maarten Sport Olympic Federation, Heritage Foundation/ EPIC, Nationaal Archief, Jubilee Library, the Sint Maarten Archaeological Center, the National Monument Council, the Social Economic Council of Sint Maarten, SOAB Sint Maarten, TelEm and the General Pension Fund of Sint Maarten.

A complete list of contributors to the NRRP can be found in Annex 3.

Sint Maarten National Recovery and Resilience Plan

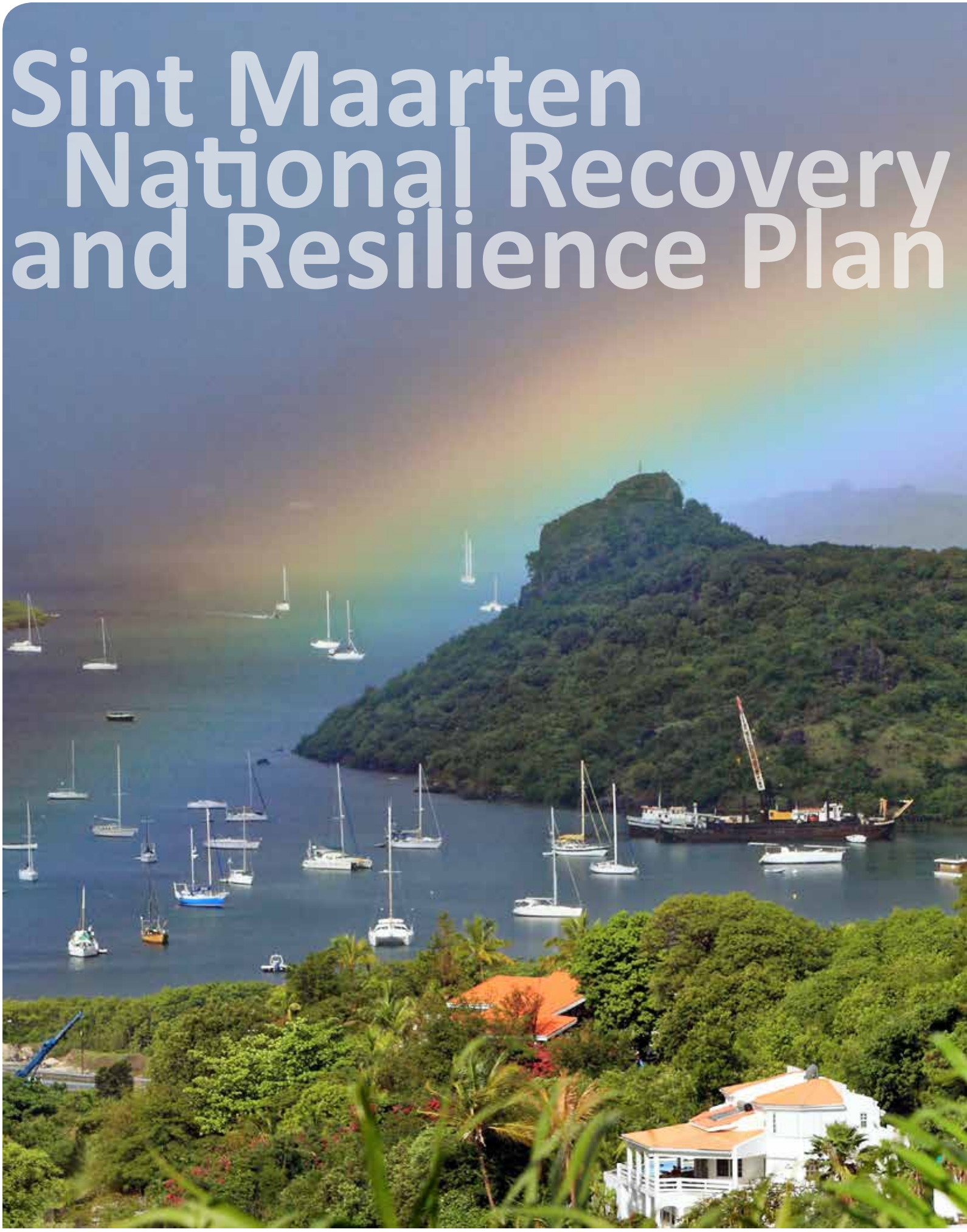


Photo: AirSpaceImageGraphy

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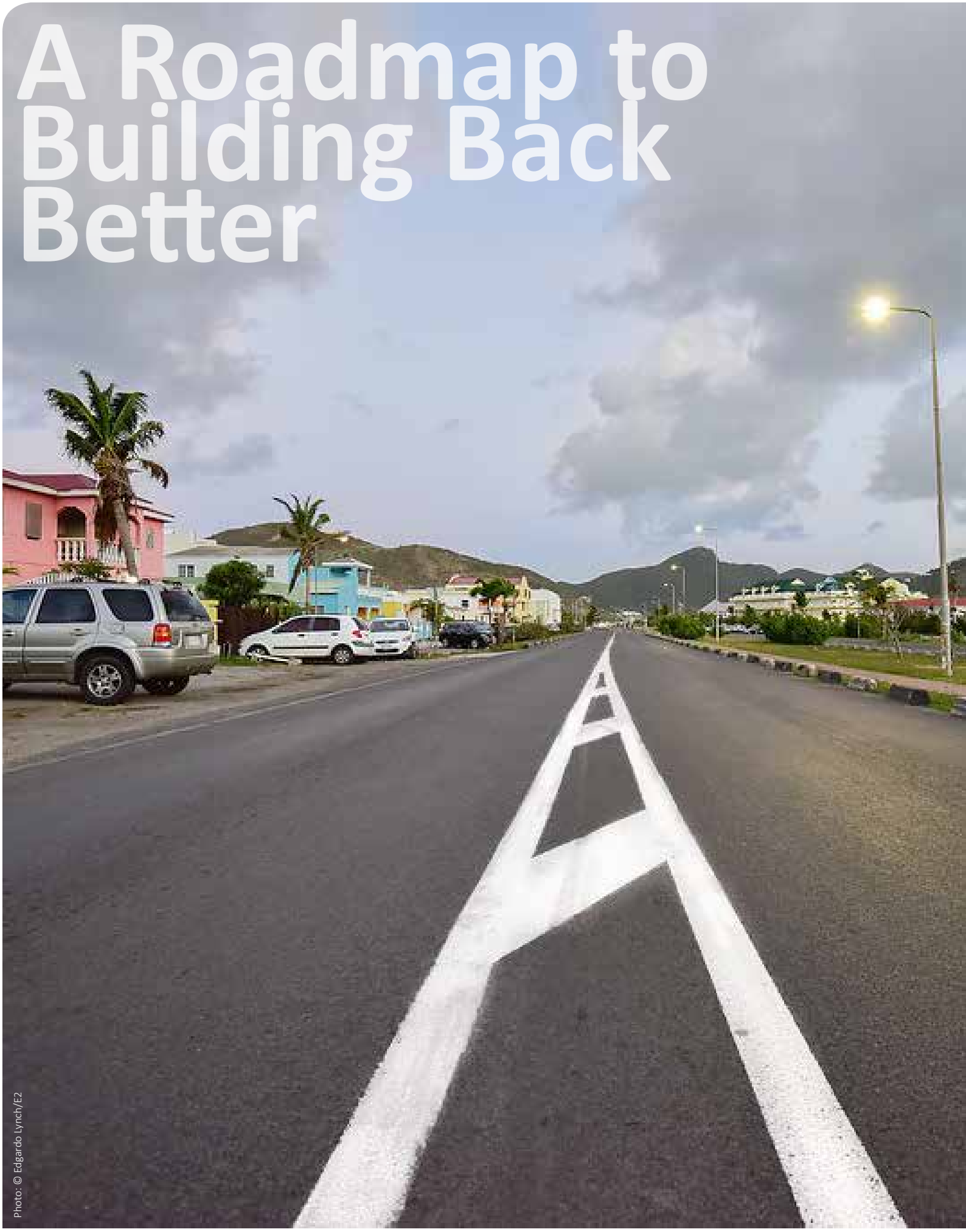
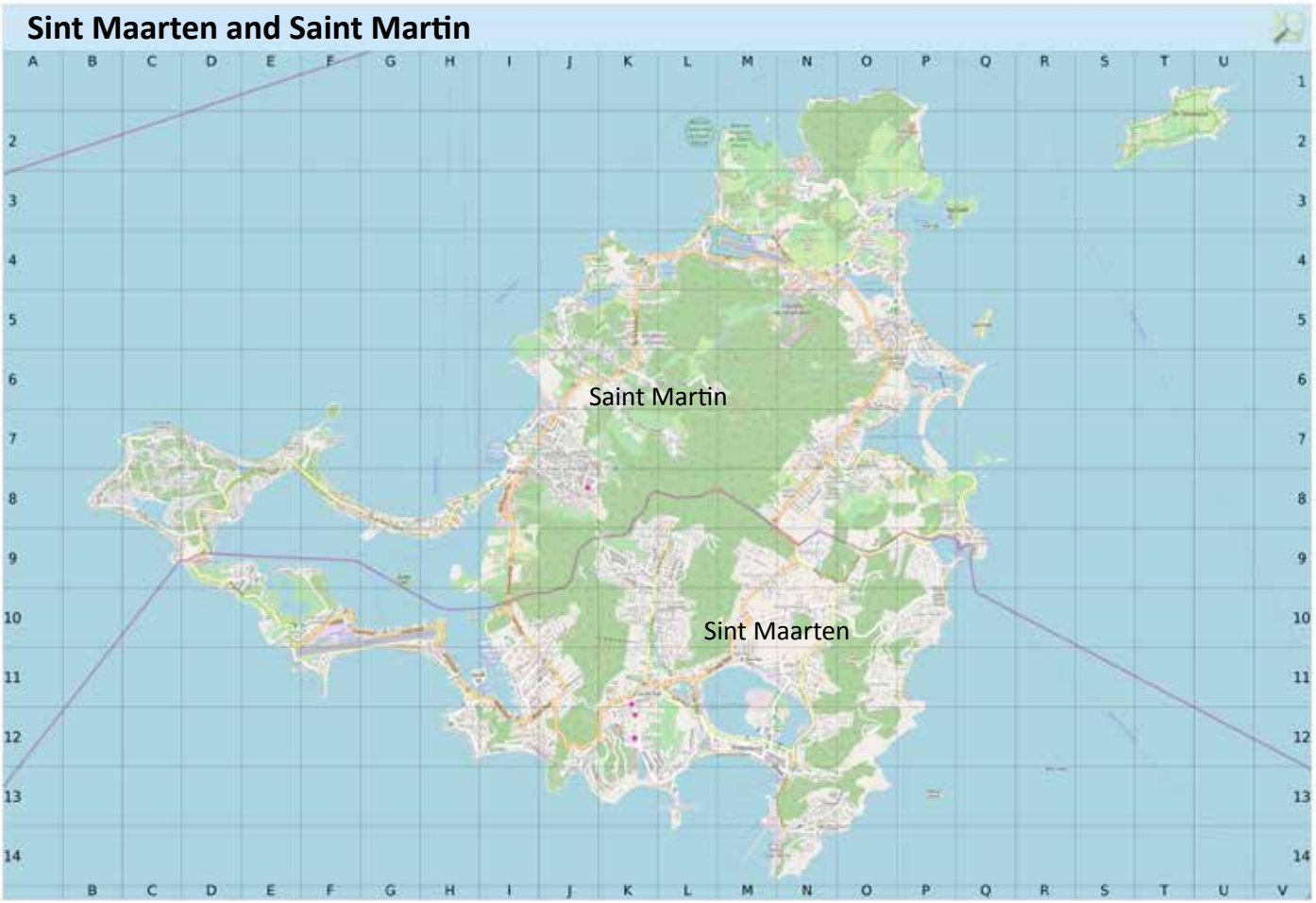


Photo: © Edgardo Lynch/E2

Abbreviations and Acronyms

Fiscal Year: *January 1-December 31 /* Currency Equivalent: *US$ 1 = 1.8 NAf*

BBB	Build(ing) Back Better
CARICOM	Caribbean Community
CCA	Climate change adaptation
CDEMA	Caribbean Disaster Emergency Management Agency
DaLA	Damage and loss assessment
DRM	Disaster risk management
ECLAC	Economic Commission for Latin America and the Caribbean
EOC	Emergency operation center
GDP	Gross domestic product
GEBE	Common Electricity Company Windward Islands
GFMIS	Government Financial Management Information System
GIS	Geographic information system
GoSXM	Government of Sint Maarten
HFO	Heavy fuel oil
ICT	Information and communication technologies
IPF	Investment project financing
Km/h	Kilometers per hour
M&E	Monitoring and evaluation
MECYS	Ministry of Education, Culture, Youth, and Sport
MPH	Miles per hour
MW	Megawatt
N&E	Nature and environment
NAf	Netherlands Antillean guilder
NGO	Non-governmental organization
NMS	National Meteorological Service
NRRP	National Recovery and Resilience Plan
NRPB	National Recovery Program Bureau
PCG	Partial credit guarantee
PDNA	Post Disaster Needs Assessment
PFM	Public financial management
PJIA	Princess Juliana International Airport
QLI	Quality of Life Index
SME	Small and medium-sized enterprises
SMHDF	Sint Maarten Housing Development Foundation
STAT	Department of Statistics
SXM	Sint Maarten
SZV	Social Insurance Fund
TEATT	Ministry of Tourism, Economic Affairs, Transportation & Telecommunication
TelEM	Sint Maarten Telecommunications Holding Company N.V. (TelEm Group)
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAR	Urban search and rescue
VAT	Value added tax
VROMI	Ministry of Public Housing, Spatial Planning, Environment and Infrastructure
VSA	Ministry of Public Health, Social Development and Labor



Executive Summary

Sint Maarten, a constituent country of the Kingdom of the Netherlands in the Caribbean, occupies the southern half of the island shared with the French overseas collectivity of Saint Martin. It boasts one of the region's highest per capita gross domestic products (GDP) at $25,381[1] and a population of more than 40,000.[2]

Sint Maarten shares many of the characteristics of small island states: susceptibility to natural disasters; economies that are at once open, heavily dependent on tourism, and difficult to diversify; limited institutional capacity; restricted ability to exploit economies of scale; lack of natural resources; and high import costs because of relative remoteness.

On 6 September 2017, these characteristic challenges were violently exposed when Hurricane Irma, a category 5+ hurricane with sustained winds of 185 mph (296 km/h), struck land. The hurricane's eye passed directly over Sint Maarten/Saint Martin, exposing the island to the highest wind velocities in the hurricane for more than two hours. Less than two weeks later, Hurricane Maria arrived, exacerbating Irma's devastation.

A comprehensive assessment by the Government of Sint Maarten and the World Bank estimates total damages and losses from the two hurricanes at $2.7 billion ($1.4 billion and $1.3 billion, respectively).

An estimated $2.3 billion will be required for recovery and resilience interventions over the next seven years. The sectors with the largest needs include: Housing (22.8 percent), Tourism and Commerce (19.0 percent), Governance and Public Financial Management (9.4 percent), Sanitation and Solid Waste Management (8.3 percent), Airport (7.6 percent), and Education, Culture, Youth, and Sport (5.1 percent).

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1 From Central Bank of Curaçao and Sint Maarten, 2018 estimates.

2 Unless otherwise specified the currency used throughout this document is the U.S. dollar.

Table 1. Summary of Damages, Losses, and Needs

Cost (USD)

	Damages	Losses	Needs
Community Totals	507,673,000	122,155,000	1,006,907,000
Economic Totals	813,054,000	997,437,000	935,007,000
Government Totals	49,970,000	230,097,000	401,157,000
Grand Totals	**1,370,697,000**	**1,349,689,000**	**2,343,071,000**

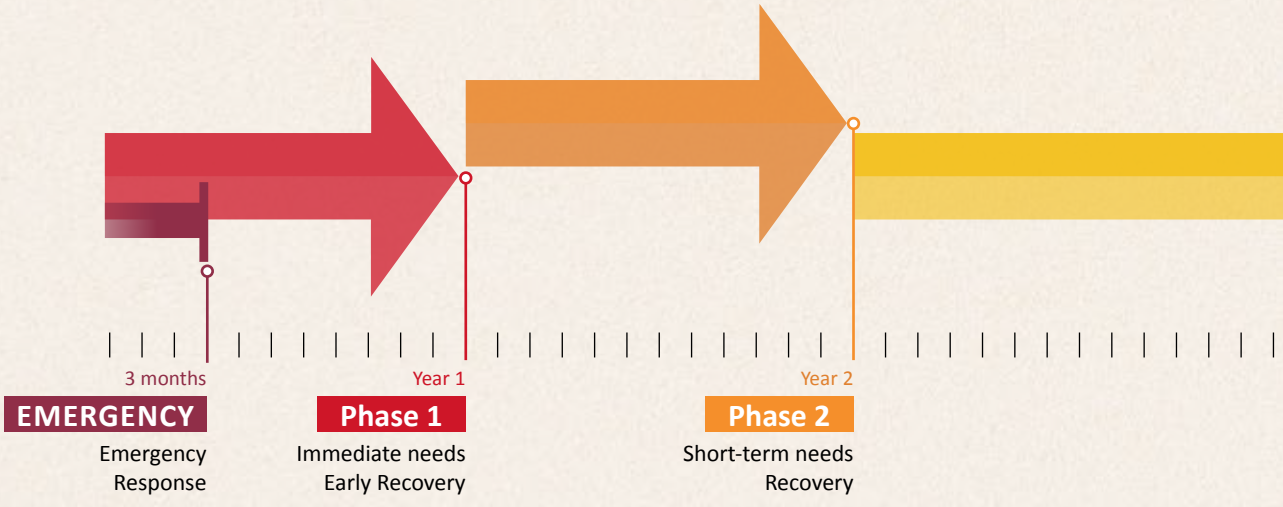
It is important to note that the damage and loss figures are best estimates based on a variety of sources. Needs figures do not incorporate external sources of funding or reimbursement. For example, the needs figures do not account for insurance claims, which in many sectors are pending as of the writing of this report.

Recovery and resilience needs interventions are categorized sequentially into four phases: immediate, short-, medium- and long-term. Immediate needs are defined as interventions necessary in the first year following the disaster to (a) assist vulnerable groups with the provision of food, shelter, education, livelihoods, enhanced health and psychosocial care, and improved waste management (b) provide income support and expand job opportunities through the rapid restoration of business and economic activity, including the repair and reconstruction of critical infrastructure, and (c) prepare the country and its public services to mitigate, respond to and recover from the future impacts of natural disasters and climate change. Short-term interventions are needed in Year 2, medium-term in Years 3-4, and long-term in Years 5 and beyond.

The staggering sums of damages, losses and needs mask the human and economic costs of the disaster: lives and livelihoods lost; families separated; homes, schools, and productive assets damaged or destroyed; economic activities interrupted; and widespread homelessness in the context of disruption of basic utilities. To respond to this disaster without precedent, and to guide the nation to a resilient and sustainable future, Sint Maarten has developed a comprehensive National Recovery and Resilience Plan (NRRP). The overarching goal of the NRRP is to restore, secure, and strengthen the well-being of the people of Sint Maarten. This requires a resilient community in a healthy living environment; a resilient, growing, and more diversified economy; and a transparent, effective government with enhanced capacity.

The top priorities of the NRRP are (a) the basic needs of the people of Sint Maarten—such as food, shelter, health and psychosocial care, education, and livelihoods, (b) the urgent preparations for the peak of the upcoming hurricane season and (c) the multisectoral approach

Figure 1. National Recovery and Resilience Plan Timeline



to restarting and revitalizing the economy. Toward this end, priority interventions include assistance to vulnerable groups to repair their homes and to ensure a basic income to buy essentials, as well as an urgently needed solution to the long-standing problem of the landfill. In addition, emergency shelters must be repaired or constructed, emergency services must be restored and fully equipped and trained, and public utilities strengthened in preparation for the upcoming hurricane season. To restart economic activity, the NRRP recommends immediate support to struggling small- to medium-sized enterprises in their recovery efforts and the reconstruction of the island's critical infrastructure, including the airport, hospital and hotels.

The expected outcomes from the NRRP are (a) sustainable recovery of social sectors in affected communities; (b) restoration of businesses continuity combined with a strategy for fostering and broadening business activity; (c) rehabilitation and reconstruction of critical infrastructure to Build-Back-Better (BBB) standards; and (d) strengthening of the country's social, economic and governmental readiness to mitigate, respond to and recover from the future impacts of natural disasters and climate change

In the view of the NRRP, efforts to recover and to strengthen national resilience across all sectors must reflect the following principles: (a) an inclusive, people-centered approach; (b) transparency; (c) sustainability; (d) a synchronized, multisectoral approach, so that collaboration, coordination, and coherence are fostered among government and non-governmental stakeholders across all sectors; and (e) a link to longer-term development.

The NRRP (a) describes the national first response to Hurricane Irma and early recovery projects, (b) details the scope and methodology of the NRRP, (c) quantifies the sectoral damage, loss, and recovery and resilience needs post-Irma, (d) sets out the recovery and resilience agenda across the components of community, economy, and government; and (e) outlines an implementation framework to turn proposals into action.

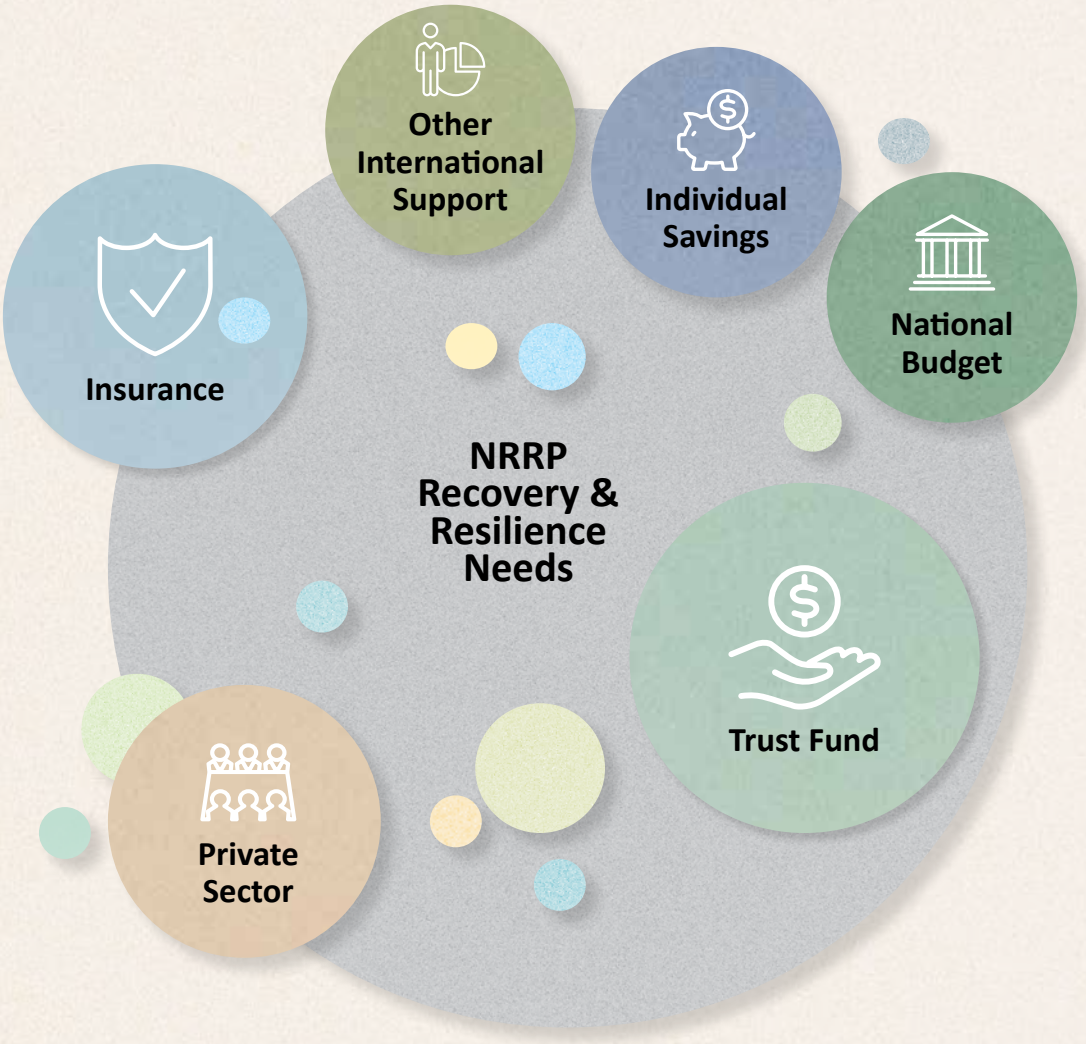
Given the gap between recovery and resilience needs and the available funding, the NRRP will need to be supported by the mobilization of additional funds. An analysis of the current funding outlook conducted in May 2018 reveals a significant funding gap between the $2.3 billion in recovery and resilience needs and the currently available funding. The $580 million[3] Sint Maarten Recovery, Reconstruction and Resilience Trust Fund provided by the Netherlands, will finance some of the recovery and resilience building activities identified in the NRRP. Additional sources of funding include insurance payments for property, which are estimated to ultimately total between $320-430 million (with current payouts as of March 2018 of $254 million and total claims of $497 million).[4]

[3] €470 million at the April 2018 US$ exchange rate. In total, the Netherlands has reserved €550 million for the recovery of Sint Maarten. A maximum of €470 million will be made available through the Trust Fund.

[4] Analysis based on insurance data provided by the Central Bank of Curaçao and Sint Maarten as of March 31, 2018.

Photo: © Loic Bryan/Artistic Drive

Figure 2. Recovery and Resilience Financing Outlook



Additional funding to narrow the gap could come from the national budget, the private sector, individual savings and additional support from the international community. As part of the Implementation Framework that concludes the NRRP, it is recommended that Sint Maarten develops a comprehensive recovery financing strategy to track available funds, evolving needs and potential sources of additional funding to bridge the funding gap.

In light of the funding gap and the wide range of interventions recommended to support recovery and resilience, there is a fundamental need for prioritization and sequencing within and across sectors. A coherent, well-coordinated and transparent prioritization and sequencing process is necessary to promote equitable and demand-responsive recovery across affected sectors and communities. This process will be guided by the following core principles: added value, relevance, impact, effectiveness, resilience and sustainability. This prioritization and sequencing process should be iterative and updated throughout the implementation of the NRRP. Priorities should be identified based on the specific needs that are revealed during the different phases of NRRP implementation.

Photo: NASA

Sint Maarten National Recovery and Resilience Plan

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On 6 September 2017, Hurricane Irma, one of the strongest hurricanes (category 5+) ever recorded in the Atlantic, devastated Sint Maarten, upending its development path, and confronting the country and its people with unprecedented challenges.

Box 1—Building Back Better

Build Back Better (BBB) refers to a range of improvements on the pre-disaster situation that have been recommended in the sector recovery strategies and needs analyses. BBB measures can include (a) right-sizing, right-siting, and structural improvement of assets and infrastructure based on disaster risk and current demographic needs; (b) improved building standards and structural improvements according to sector norms; (c) improved service delivery standards per present sector developmental norms; and (d) the human resources and skills development required to manage such improvements.

Photo: © Randle Martina

I. Vision for Recovery and Resilience

After a hurricane of this magnitude, recovery is about restoring the livelihoods, homes, and sense of well-being of the people, so they can return with confidence to their families, businesses, jobs, and schools. While reconstructing critical infrastructure is crucial, recovery's ultimate purpose is to restore people's hope for the future—a future that builds on the past but that recognizes that more needs to be done now, together, to build back better. Foundational to that future—across all sectors—is the collaboration of the people of Sint Maarten,[5] and a strong commitment to strengthening the country's resilience to offset risks (which are inherent to small island states), absorb shocks (which will surely come), and meet contingencies (for instance, accelerating climate change) that will challenge Sint Maarten's sustainable path forward.

To respond to a disaster without precedent, to stimulate and shape the recovery process, and to guide the nation to a resilient and sustainable future, Sint Maarten has developed a comprehensive National Recovery and Resilience Plan (NRRP).[6] Its overarching goal is to restore, secure, and strengthen the well-being of the people of Sint Maarten. This requires a resilient community in a healthy living environment, a resilient, growing, and more diversified economy, and a transparent, effective government with enhanced capacity.

The NRRP recommends as top priorities: (a) the basic needs of the people of Sint Maarten—such as food, shelter, health and psychosocial care, education, and livelihoods, (b) the priority projects currently under preparation to ensure Sint Maarten is ready for the peak of the upcoming hurricane season and (c) key initiatives aimed at restarting and revitalizing the economy. Toward this end, priority interventions include assistance to vulnerable groups to ensure they have a roof over their heads and a basic income to buy essentials, as well as an immediate solution to the debris left behind by Irma and the wider issue of dump fires threatening both public health and the tourism-dependent economy.

In addition, emergency shelters must be repaired or constructed, emergency services must be restored and fully equipped and public utilities strengthened in preparation for the hurricane season. To restart economic activity, the NRRP recommends immediate support to struggling small- to medium-sized enterprises in their recovery efforts and the reconstruction of the island's critical infrastructure, including the airport, hospital and hotels. These and other recovery activities should be carried out to ensure long-term sustainability, where possible employing the principle of Build Back Better (BBB) (**see Box 1**).

The expected outcomes from the NRRP are (a) sustainable recovery of social sectors in all affected communities; (b) restoration of businesses continuity combined with a strategy for fostering and broadening business activity; (c) rehabilitation and reconstruction of critical infrastructure to BBB standards; and (d) strengthening of the country's readiness to mitigate, respond to and recover from the future impacts of natural disasters and climate change.[7]

[5] Historically, Sint Maarten has been built on the resilience and the collaboration of its citizens. This core cultural value, which is known on Sint Maarten as jollification, will be a central guide to the recovery process and the effort to enhance resilience to build a sustainable future.

[6] The NRRP represents the vision, principles and strategy of the Government of Sint Maarten. As such, it is informed by the findings and recommendations of a number of sources, including the Work Group National Recovery and Resilience Plan Interim Report commissioned by the Council of Ministers in October 2017, the Damage and Loss Assessment conducted by the Economic Commission of Latin America and the Caribbean (ECLAC) in October 2017, the "Build Back Better" Strategic Approach developed by the Secretaries General of the various ministries, and the World Bank assessment missions in recent months.

[7] The intended outcomes of the NRRP will be achieved through a wide range of interventions financed by a variety of sources, including the Sint Maarten Recovery, Reconstruction and Resilience Trust Fund financed by the Kingdom of the Netherlands, direct financing by the Netherlands, the national budget, insurance payments, the private sector, personal savings and funding from the European Union and other international donors.

Photo: © Loic Bryan/Artistic Drive

II. Objectives of Community, Economic, and Government Recovery and Resilience

The NRRP takes a multisectoral, programmatic approach, aggregating proposed interventions across 18 sectors to achieve the intended outcomes under three recovery and resilience components: community, economy, and government.

A. Community Recovery and Resilience

Housing. Post-Irma assessments note a strong inverse relationship between property damage and income levels.[8] The many needs in the housing sector following Hurricanes Irma and Maria should be addressed through a multi-pronged strategy including repair of damaged housing, increased support for social and affordable housing, upgrading of existing informal settlements to improve disaster resilience, a review of current building codes in the spirit of building back better, and a mortgage guarantee fund to encourage home ownership.

Health Services. Improving the quality and availability of health and mental health services for the people of Sint Maarten is a crucial objective of community recovery. Access to healthcare should be guaranteed throughout the recovery and beyond—including strengthening emergency services through the purchase of ambulances damaged in the hurricanes, expanding psychosocial care, enhancing prevention activities to address potential post-hurricane health impacts and ensuring continuity of health insurance. Increasing the capacity of secondary healthcare services through the construction of a new hospital is also critical as the current hospital is not expected to withstand another hurricane. A new hospital will also substantially increase bed and service capacity in the country, and cater to sister islands Saba and Statia.

Employment, Livelihoods, and Social Protection. Social assistance to address immediate recovery needs, such as providing income support and employment training, is a critical objective. The medium- to longer-term objective is to build resilience, which will include fostering employability in the labor force in key sectors, building in financial mechanisms for income support, the establishment of an unemployment insurance fund as a contingency instrument to cope with economic shocks and streamlining the delivery of vital social services centered on a community-based approach.

Emergency shelters. Crucial to the sector recovery strategy is addressing Sint Maarten's need for emergency shelters. An assessment of the country's shelter needs should be followed by a construction program to increase shelter capacity and reduce the reliance on schools as shelters. In addition, multi-use emergency relocation centers to house families displaced by disaster should be built.

Solid Waste. There is currently limited recycling capacity in the country, and the sole dump is well over capacity, presenting a significant health risk to the people of Sint Maarten (as well as an economic risk with respect to the economy's prime sector, tourism), as illustrated by the frequent and injurious dump fires. An important immediate objective is to deal with the debris left behind by Irma, address the dump fires and move toward a robust recycling program coupled with alternative waste disposal technology, such as incineration or waste-to-energy. Significant resources should also be directed to upgrading the country's sewerage network in the interest of public health.

[8] This finding is typical in the wake of disasters. For example, even when the financial loss of damaged first-class housing exceeds that of fourth-class housing, the weaker structural integrity of the latter results in greater loss of effective shelter. Hence, the more vulnerable are more likely to find themselves suddenly homeless (and are far less likely to be able to draw on insurance to rebuild).

Education. A key objective is to secure safer school buildings and provide for a safe learning environment for the youngest members of the community through a comprehensive school safety framework. Immediate needs include repairing and rebuilding damaged schools to more resilient standards, implementing a food program and strengthening after school programs for vulnerable children and providing psychosocial care to affected students and staff with the ultimate goal of creating a safe learning environment for the youngest members of the community and teaching staff. In addition, to promote labor market entry, the longer-term objective is a transformation to a higher educated workforce by means of a local, financially sustainable and high-quality education system with emphasis on the vocational and tertiary infrastructure.

B. Economic Recovery and Resilience

Context. The well-being of the people of Sint Maarten ultimately depends on a sustainable and flourishing economy that supports broad employment possibilities. This demands a more resilient economy able to withstand future shocks.

Business Activity. Reestablishment of business activity, combined with a strategy for growth, will have to include fiscal and social security reform to promote relief. It also must focus on strengthening the country's main economic pillar, the tourism sector, which accounts for approximately 85 percent of gross domestic product (GDP), employs 44 percent of the formal sector labor force, and contributes approximately $102 million[9] of the government's annual tax revenues.[10] Immediate needs include a marketing and communications strategy to secure Sint Maarten's tourism market position during the recovery phase and a resilience strategy to ensure the tourism sector can weather future storms. In the short to medium term, it will be important to explore options for diversifying the economy of Sint Maarten. One productive approach may be to focus first on a conditional-based incentive framework to cultivate the development of small and medium-sized enterprises (SMEs), which are estimated to employ 57 percent of the labor force.[11]

Macroeconomic Matters. Macroeconomic stability promotes effective stewardship of public and external resources. In such stable environments, public and private economic decision-making and planning are grounded in reasonable expectations with respect to future outputs, prices, taxes, fiscal deficit, and other critical elements, stimulating investment. Sint Maarten must foster economic investment. Recovery can be stimulated by low-interest rate loans or alternatively subsidizing high-interest loans in the absence of market willingness to provide low-interest loans. In addition, a partial credit guarantee could increase accessibility to much-needed capital in the short term. Whatever the means, it is essential to expand access to investment capital to ensure the country's economic recovery.

Infrastructure. A crucial immediate need is to repair and reconstruct Sint Maarten's critical infrastructure to BBB standards. The hotels, airport, seaport, marina facilities and hospital must be repaired and reconstructed to withstand future disasters and thus ensure strengthened resilience. This includes conducting a coordinated, multisectoral program of targeted interventions to build the resilience of vital utility networks, including the electricity, water supply, and telecommunications sectors. The provision of reliable utility services is key to supporting community, economic and government recovery and resilience.

Roads and Drainage. It is also crucial to address recurrent flooding issues by providing adequate drainage. This will contribute to protecting the environment and road infrastructure, while helping to mitigate health risks and protect assets of affected communities and small businesses. In addition, the construction of the Link 6 evacuation route would provide a key alternative in times of disaster to a third of Sint Maarten's population.

[9] Unless otherwise specified, the currency referenced throughout this document is the U.S. dollar.

[10] Ministry TEATT. Estimated value based on government revenues of 2016

[11] Statistics Department (Ministry TEATT). Estimated value based business register.

C. Government Recovery and Resilience

Baseline. Hurricane Irma exposed shortcomings in national capacity, most prominently with respect to disaster response capabilities, revealing a lack of resilience that magnified damages despite the best efforts of relevant staff. Drawing appropriate lessons, the NRRP focuses on strengthening key areas of governance to better prepare for future disasters.

Disaster Response and Mitigation. A primary objective is to repair and reconstruct first responder facilities and replace vehicles, equipment and communications gear to ensure Sint Maarten's emergency services are prepared for the next hurricane season. A related objective is to improve existing early warning systems, emergency communications systems, and coordination among fire, police, and emergency agencies. In preparing for future hurricane seasons, it will be absolutely critical to involve the community in all aspects of disaster preparedness. This could be achieved through developing a national DRM and climate-change adaptation curriculum and conducting awareness campaigns and emergency preparedness drills at all levels. More broadly, Sint Maarten's disaster risk management (DRM) apparatus needs to be strengthened. It is highly recommended to establish a National Platform for Disaster Risk Reduction to improve coordination, develop integrated policies, strengthen institutional arrangements for more effective DRM and climate change adaptation and explore options for disaster risk financing.

Financial Capacity. Another objective of the government recovery and resilience process is to strengthen public financial management (PFM) capacity to better track, monitor, and promptly respond to identified gaps. In light of the major fiscal challenges of the government, it will be crucial to modernize the tax system, to improve compliance and collection and to stimulate investment as enhanced tax revenues provide a base for expanded social services and enhanced resilience.

Fiscal Challenges. Because of the impact of Hurricanes Irma and Maria, as well as of deeper and longer-standing challenges, the government has a cumulative budget deficit of $230 million until 2019. This deficit challenge should be addressed to ensure a healthy investment climate for the economy. A Debt Sustainability Analysis (DSA)[12] reveals that a budget surplus of 1.1 percent of GDP between 2021 and 2040 would be required to service the debt incurred to finance budget deficits between 2017 and 2020.

Public Security. Given the public safety and security concerns raised in the aftermath of Hurricane Irma, it is crucial that the justice, public safety, and security systems are strengthened to ensure law and order. This will be accomplished in the immediate and short term through repairing damaged infrastructure, rebuilding the 911 call center, replacing damaged vehicles and equipment and bolstering ICT systems. The failure to strengthen government capacity in the field of security will adversely impact the tourism sector in addition to the well-being of the people of Sint Maarten.

Paradigm Shift: Resilience and Prioritization. The binding fiscal constraint and the imbalance between needs and resources underscores the necessity of a paradigm shift to resilience, a shift from quantity to quality, with fewer interventions at a higher cost per intervention to build-in resilience and sustainability. The underlying concept is simple but radical: fewer but better interventions. At the programmatic level this clearly implicates the centrality of rigorous prioritization, in which existing needs can only be one element of decision-making. This, in turn, clearly implicates the political sphere, which is why widespread consultation and national buy-in are critical to the recovery process.

Data and Capacity Deficits. Two issues are relevant across the components of community, economy, and government, but are discussed here because, in almost all cases, the relevant actor will be some government ministry, department or agency. Sint Maarten has a shortage of actionable data collection and analysis as well as the capacity to immediately address these matters. The lack of capacity is by no means unique to the realm of data. Unfortunately, it applies across sectors countrywide. Considerable thought will need to be given to ways to most efficiently and rapidly address the country's capacity constraints.

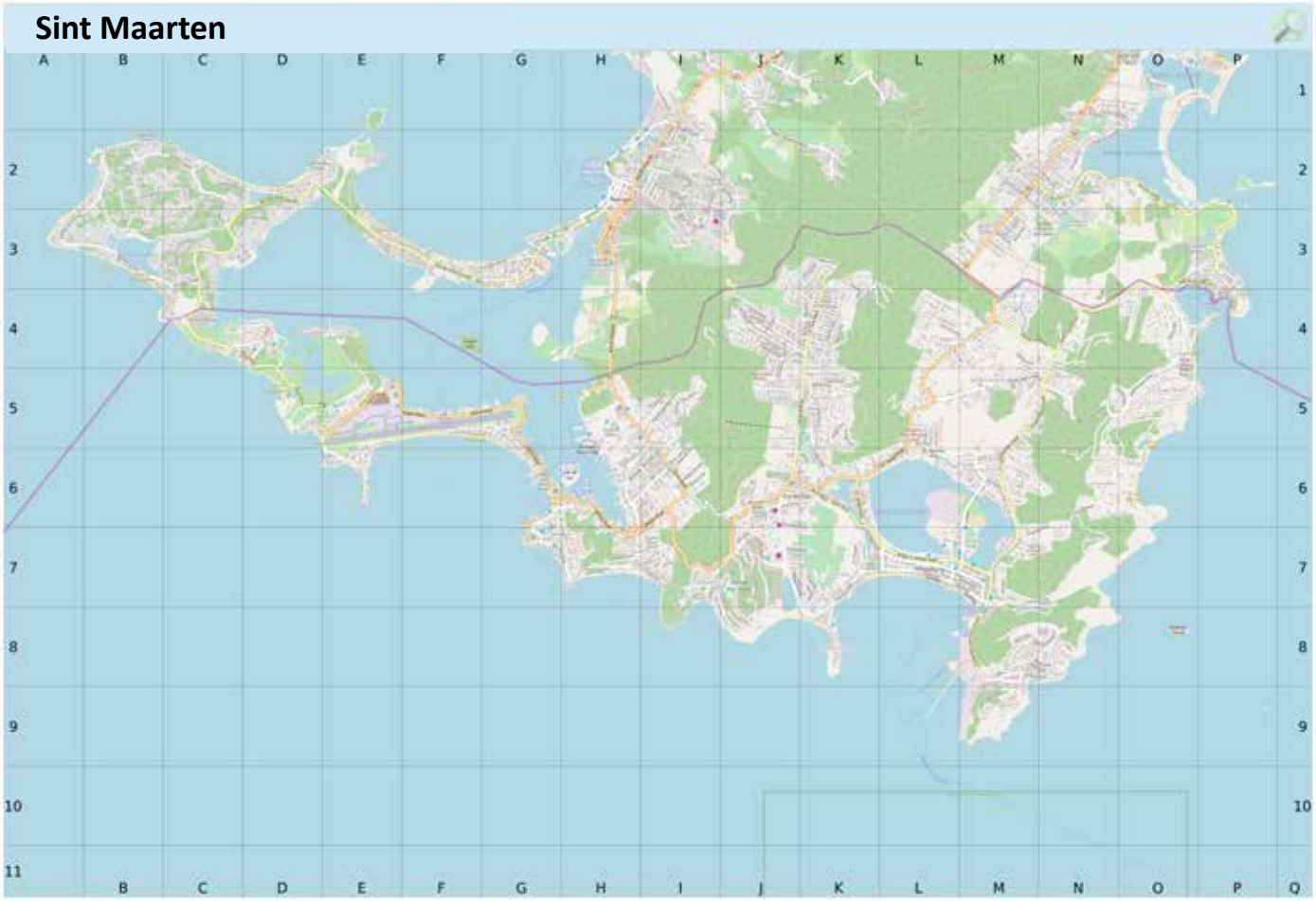
[12] The assumptions underlying the DSA are preliminary and are subject to change as decisions are taken and information becomes available.

Photo: © Randle Martina

III. Guiding Principles to Enhance Recovery and Resilience

In the view of the NRRP, efforts to recover and to strengthen national resilience across all sectors must reflect the following principles.

- ***Inclusive people-centered approach.*** The people of Sint Maarten must be fully engaged in the actual implementation and monitoring of the recovery and resilience interventions. All NRRP initiatives should reflect and promote gender equity and the social inclusion of the country's most vulnerable populations.
- ***Transparency.*** The NRRP should be implemented in an accountable and transparent manner. Major decisions should be widely disseminated through public media. Key recovery and resilience information must be available in the public domain. The process should involve all critical stakeholders, including the Government of Sint Maarten, the private sector, academia, civil society, unaffiliated citizens, as well regional and international partners. It is essential to recognize the role different stakeholders play in the process and leverage their contributions to ensure common national ownership of the process.
- ***Sustainability.*** Sustainable recovery is a process that balances community, economic, and governance needs without compromising the well-being of future generations. Certainly, promoting climate change adaptation and building-back-better principles will foster long-term resilience. Sustainability also strives to ensure that benefits of the NRRP continue well beyond its implementation period.
- ***Synchronized, multisectoral approach.*** Truly resilient recovery requires interventions across multiple sectors. Collaboration, coordination, and coherence among government and non-governmental stakeholders should be promoted to build synergies and economies of scale.
- ***Link to longer-term development.*** The NRRP should lay the foundation for strengthening national resilience, which in turn will help achieve and safeguard long-term development objectives such as those embraced by the Sustainable Development Goals 2030. While the plan focuses on recovery and resilience from damage caused by the recent hurricanes, it should align with and complement other national plans aimed at the long-term development of the country.



IV. Country Context, Hurricane Irma, First Response, and Early Recovery

A. Country Context

Sint Maarten is a high-income constituent country of the Kingdom of the Netherlands, located in the Caribbean, with a per capita GDP of $25,381[13] (among the highest in the region) and a population of more than 40,000.[14] It occupies the southern half of an island shared with the French overseas collectivity of Saint Martin.

Although Sint Maarten has a somewhat uncommon international juridical structure, it shares many of the identified common characteristics of small island states: susceptibility to natural disasters, economies that are at once open and difficult to diversify, high import costs because of relative remoteness, limited institutional capacity, limited ability to exploit economies of scale, and lack of natural resource endowments.

Sint Maarten is indeed a small and open economy, one that is essentially tourism-based (the sector contributed 73 percent to the country's total foreign exchange income in 2016). The harbor of Sint Maarten is a significant port for cruise tourism in the Caribbean, with an annual average of 1.8 million cruise-ship visitors.[15] The airport is an important hub for regional travel, with a large network of connecting flights across the Caribbean, with approximately 1.8 million in annual passenger traffic. Prior to the hurricanes of 2017, the island welcomed about 2.2 million overnight visitors on an annual basis.[16] Most other industries that exist on the island are spin-offs of the tourism economy. The agriculture sector is limited in scope, and food security is heavily dependent on imports to sustain the needs of the population.

Sint Maarten is located within the Caribbean hurricane belt, with the result that it periodically suffers destructive disruption of living conditions, infrastructure, and economic activity, effects that are multiplied by its small size, such that destruction is typically country-wide. Since 1995, Sint Maarten has been exposed to numerous hurricanes whose tracks have passed within 40 kilometers of the country, including Luis in 1995 (Category 4), Lenny in 1999 (Category 3), and Irma in 2017 (Category 5+).

Given Sint Maarten's location in Hurricane Alley, critical infrastructure is particularly at risk, and alternative services are limited. Power generation is almost completely dependent on imported heavy fuel oil (HFO), and 100 percent of the public drinking water is produced by desalination. When these facilities are damaged (or with damage to constituent factors, such as electricity supply), services are lost until repairs can be completed.

With a population density of approximately 1,180 persons per square km, Sint Maarten is the most densely populated country or territory in the Caribbean and within the Kingdom of the Netherlands. The resulting pressure on land is accentuated by the fact that significant parts of the island are covered by steep-sided hills that do not easily lend themselves to development.

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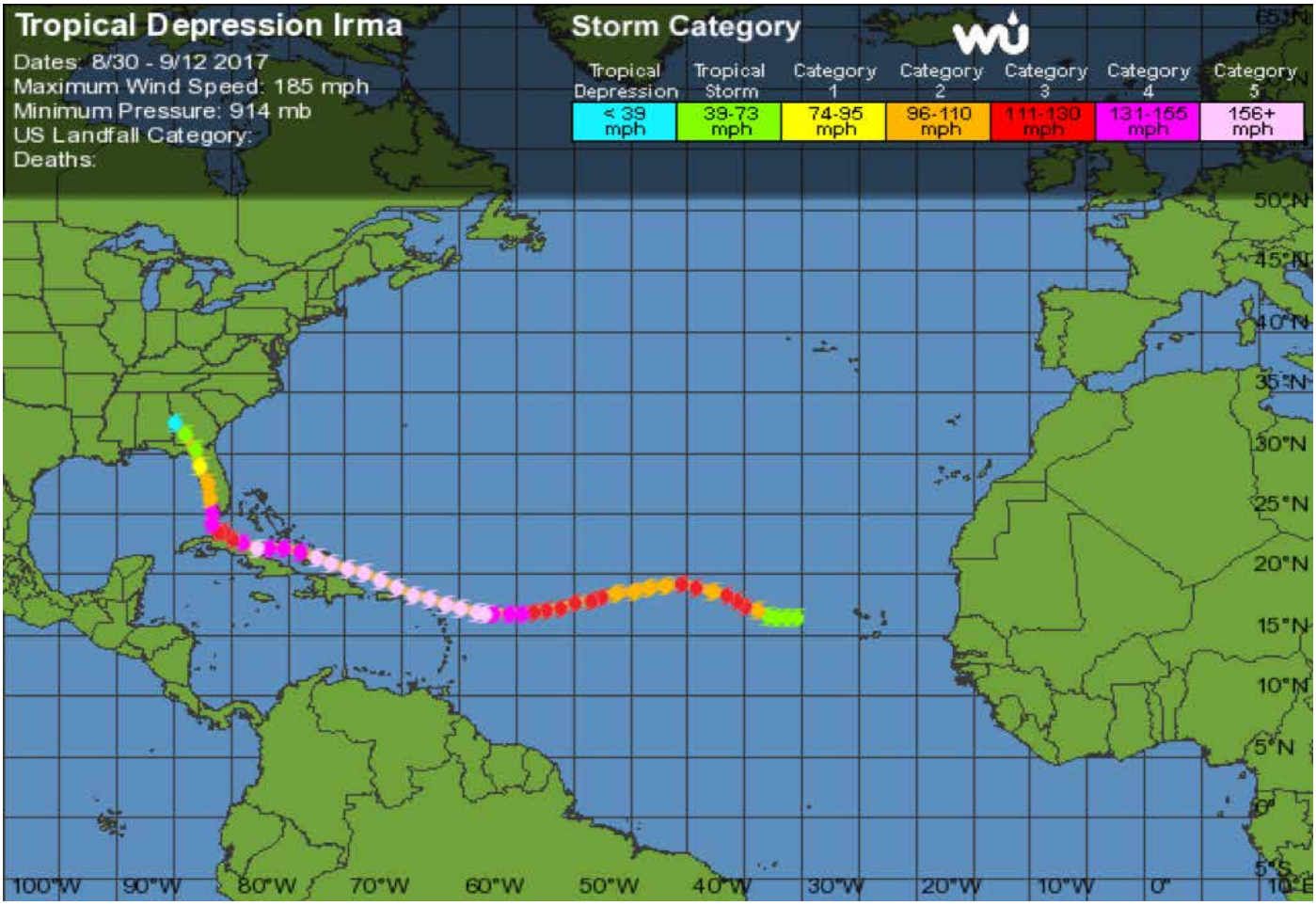
[13] Central Bank of Curaçao and Sint Maarten, 2018 estimates.

[14] The Department of Statistics (STAT) of the Ministry of Tourism, Economic Affairs, Traffic and Telecommunication specified a population of 40,535 in its Labour Force Survey of February 2017.

[15] Ministry of TEATT, 2018.

[16] The apparent discrepancy between airport and cruise-ship visitors and overnight visitors is accounted for by factoring out airport passengers who are simply in transit; the 2.2 million only counts those passing through immigration and staying overnight.

Figure 2. Hurricane Irma Storm Track



Source: Weather Underground, www.wunderground.com.

B. Hurricane Irma

Irma first drew attention some 2,000 miles east of the Leeward Islands as a tropical storm on 30 August 2017 near Cape Verde off the coast of West Africa. It continued to gain strength in subsequent days until reaching Category 5 status on 5 September 2017. The following day, Hurricane Irma hit the Islands of Barbuda and Antigua, St. Barthelemy, and Sint Maarten/Saint Martin with catastrophic effect. One of the most powerful hurricanes ever recorded in the Atlantic, Hurricane Irma made landfall in Sint Maarten as a Category 5+ hurricane, with sustained winds of 185 mph (296 km/h). The hurricane's eye passed directly over Sint Maarten/Saint Martin, exposing the island to the highest wind velocities in the storm for more than two hours. This was accompanied by a storm surge coupled with high and long incoming waves, which provoked flooding in the lower coastal areas.

Much of the damage caused by Hurricane Irma was exacerbated two weeks later with the passing of Hurricane Maria on 19 September, causing further damage to homes, schools, and other public buildings whose roofs had already been compromised by Irma.

C. First Response

Anticipating the severity of the impending storm, the National Emergency Operation Center opened on 1 September 2017. Shortly after Irma struck, citizens began cleaning up, and the Government declared the island under a state of emergency. Thereafter, the cleanup

gathered pace and initial recovery began, with citizens, civil society groups, government entities, non-governmental organizations (NGOs) and the private sector pitching in, aided by external support, including from Aruba, Curaçao, the Netherlands, and international organizations. [17]

After the decline in public order during and immediately after the passing of the hurricane, the Police Force of Sint Maarten, together with support from the Police Forces of Aruba and Curaçao, the Dutch Marines, and the Volunteer Korps Sint Maarten, helped to restore a sense of order and security for the business community and the wider populace.

Although the primary means of communication were no longer available, the two main telecom providers (TELEM and UTS) worked tirelessly to ensure the quick restoration of the basic network, to support emergency services and effective coordination of first response needs. Communication to the community at large was complicated by the loss of all but one radio station, which functioned as the main public communication platform for some weeks.

In the days after the passage of Irma, the utility company (GEBE) worked vigorously on emergency restoration of water and electrical infrastructure. Within a week, electricity supply was restored in several areas, which was possible because a large portion of the electricity distribution lines had been placed underground following the damages of Hurricane Luis. However, damage to the generator building compromised electricity generation, further delaying full restoration of electricity supply to the community.

Although there was insignificant damage to water production facilities, the storage and distribution network suffered damage, and some areas remained without water for a prolonged period. This was addressed by the distribution of water through water trucks and bottled potable water, along with food goods to affected neighborhoods. The disrupted supply of fuel to the public, prompted by damage to gas stations, mandated that distribution be reserved for emergency operations; however, wider distribution was partially restored within two weeks.

The airport terminal suffered major damage, but the landing strip was cleared of sea and sand debris immediately after the hurricane to allow emergency use. Basic, but severely compromised, commercial operations of the airport were restored on 10 October 2017.

D. Early Recovery and Preparation for 2018 Hurricane Season

In the aftermath of the immediate emergency, the Government continued to assist the community with the provision of basic needs. Government agencies, together with local and international organizations, distributed tarps, food vouchers, and other basic goods to the most vulnerable citizens. Schools reopened, shelters were closed, displaced families were moved to temporary housing facilities, and financial aid was granted to those in need.

As the early recovery commenced, the Government initiated a range of projects: urgent repairs were made to schools and other critical buildings, and a significant work force continued the debris removal. In this phase, the Government of the Netherlands played a crucial role, *inter alia*, by making €7 million available to NGOs to rebuild homes, support the youngest members of society, and generate employment through a cash-for-work program.

While working on early recovery, the Government of Sint Maarten immediately recognized the urgent need to prepare for the 2018 hurricane season (June-November). With its closest partners in the recovery process, the Government initiated planning for priority activities that will be financed by the Sint Maarten Recovery, Reconstruction and Resilience Trust Fund.

[17] The return of a sense of normality—even though conditions remained severely abnormal—was fostered by the swift realization that Sint Maarten had friends around the world. The awe-inspiring sense of jollification propelled the use of hashtag #SXMStrong.

Photo: © Randle Martina

While working on early recovery, the Government of Sint Maarten immediately recognized the urgent need to prepare for the 2018 hurricane season (June-November). With its closest partners in the recovery process, the Government initiated planning for priority activities that will be financed by the Sint Maarten Recovery, Reconstruction and Resilience Trust Fund. This $580 million[18] trust fund was established through an agreement between the Netherlands and the World Bank in April 2018 to support the recovery and resilience of Sint Maarten.

A first set of these priority activities focuses on restoring first responders' full operational capacity and the emergency repair of critical public buildings, shelters, and housing. Activities include the repair of police stations, the fire station, schools and other critical public buildings, a large-scale roof repair program for homes, urgent assistance to the Sint Maarten Housing Development Foundation to repair social and affordable housing and construction of an emergency shelter for its residents, and the acquisition of urgently needed fire trucks, ambulances, and emergency communications equipment.

The Government and the World Bank are also preparing projects on solid waste management/debris removal and a large-scale skills and training program targeting economically critical sectors, including the hospitality and maritime sectors. Together, these and other priority projects addressing the repair of the airport and the construction of a new hospital will serve to jump start the recovery and help prepare Sint Maarten for the next hurricane season and beyond.

[18] €470 million at the April 2018 US$ exchange rate. In total, the Netherlands has reserved €550 million for the recovery of Sint Maarten. A maximum of €470 million will be made available through the Trust Fund.

V. Scope and Methodology

A. Sectoral Scope

With respect to sectoral scope, the NRRP covers the following priority sectors that were particularly affected by Hurricanes Irma and Maria.

- ***Community Recovery:*** Housing; Health; Education, Culture, Youth, and Sport; Sanitation and Solid Waste Management; Employment, Livelihoods and Social Protection; Environment, Ecology, and Biodiversity
- ***Economic Recovery:*** Macroeconomy; Tourism and Commerce; Finance; Transport (Roads and Drainage, Airport, Ports and Marinas); Utilities (Electricity, Water, Telecommunications, and Telecoms/Information and Communications Technology (ICT))
- ***Government Recovery:*** DRM; Governance and Public Financial Management; Justice, Public Safety and Security, and Additional Public Buildings[19]

With respect to temporal scope, needs interventions are categorized sequentially into four phases: immediate, short-, medium- and long-term. Immediate needs are defined as interventions necessary in the first year following the disaster to (a) assist vulnerable groups with the provision of food, shelter, education, livelihoods, enhanced health and psychosocial care, and improved waste management (b) provide income support and expand job opportunities through the rapid restoration of business and economic activity, including the repair and reconstruction of critical infrastructure, and (c) prepare the country and its public services to mitigate, respond to and recover from the future impacts of natural disasters and climate change.

Short-term interventions are needed in Year 2, medium-term in Years 3-4, and long-term in Years 5 and beyond. Recovery needs have been costed by phase.

[19] Public buildings pertaining to a specific sector (e.g., schools, tax administration building, public safety and security, etc.) have been included in the relevant sectors.

B. Methodology

The assessment methodology calculates the damages and losses as well as the social, economic, and environmental impacts of a disaster. Based on the best available information, the damages and losses provide a close approximation of damages to assets and losses in terms of the economic flows and total macroeconomic impact. This methodology uses the country's system of national accounts and involves all socioeconomic sectors, including productive (e.g., tourism and commerce, financial sector); infrastructure (e.g., transportation and utilities); social (e.g., housing, education, health, etc.); and cross-cutting issues (e.g., DRM, environment, etc.).[20]

Damage and Loss Quantification

The effects of the disaster on each sector are assessed in terms of damages and losses.

- ***Damages*** are defined as total or partial destruction of physical assets in the affected area. Damages occur during and immediately after the disaster and are measured in physical units (e.g., number of destroyed houses, number of damaged vehicles or boats, etc.). Their monetary values are expressed as the replacement costs according to prices prevailing just before the event.
- ***Losses*** are defined as changes in economic flows arising from the disaster. They occur until full economic recovery and reconstruction is achieved, and for the purposes of this assessment are projected up through the fourth quarter of 2019. Typical losses include the decline in output in productive sectors (e.g., tourism and commerce) or economic flows (e.g., employment earnings and livelihoods).

[20] Sources of damage and loss information include reports of the Government of Sint Maarten, the Economic Commission for Latin America and the Caribbean (ECLAC), and the World Bank assessment team. In sectors for which data is still being generated (e.g., housing, etc.), the World Bank team used models and proxies where needed to arrive at a reasonable estimate of damages and losses.

Data Collection and Validation

The key source of information for the estimation of needs was primary data from the individual ministries of the Government of Sint Maarten, and secondary data available from existing or ongoing humanitarian/sectoral assessments, such as the Damage and Loss Assessment (DaLA) of the Economic Commission for Latin America and the Caribbean (ECLAC) and the Sint Maarten Red Cross.

In January and February 2018, the World Bank sent teams of sector specialists to assist the Government in collecting, validating, and analyzing data as well as compiling sector reports. Data validation techniques included numerous site visits. Further validation of data was performed using process verification techniques and empirical plausibility checks. The assessment included the collection of pre-hurricane baseline data to evaluate the impact of the hurricanes and to inform the overall recovery and resilience strategy.

The Ministry of Public Housing, Spatial Planning, Environment, and Infrastructure (VROMI) coordinated field visits. The visits included consultations with other Government agencies and entities, including the Ministry of Finance, the Ministry of Public Health, Social Development and Labor, the Ministry of Education, Culture, Youth, and Sport (MECYS) and the Ministry of Tourism, Economic Affairs, Traffic, and Telecommunications (TEATT), and representatives from civil society regarding data collection, needs assessment, and recovery strategies.

Recovery and Resilience Needs Quantification

Recovery and resilience needs are the costs of recommended interventions and resources, including the needs estimated for financing reconstruction, replacement, or repair of the physical assets that were damaged or destroyed by the disaster, rehabilitation of basic services, and restoration of personal or household income. Recovery needs also include capacity building and operational costs for service delivery that are necessary for the implementation of interventions. Costing for recovery needs include differentials for building back better, which considers quality improvements and other disaster-risk-reduction measures implemented for enhanced disaster resilience.

For the purposes of this plan, resilience needs are those actions that address vulnerabilities revealed and magnified by the disaster but that are not necessarily linked to the damages or losses caused by the disaster, such as the identified needs for solid waste management and drainage.

Immediate needs are distinct from emergency humanitarian needs. Rather than representing emergency lifesaving interventions, immediate recovery needs represent interventions that need to be implemented immediately following the emergency phase. These immediate interventions may be informed by the activities conducted during the humanitarian phase in the respective sectors but are not necessarily complementary or a follow-up to activities during the humanitarian phase.

VI. Summary of Damages, Losses, and Needs

Total damages and losses from Hurricanes Irma and Maria are estimated at $2.7 billion ($1.4 billion and $1.3 billion, respectively). Projected needs for recovery and future resilience amount to $2.3 billion. It is important to note that the damage and loss figures are best estimates based on a variety of sources. Needs figures do not incorporate external sources of funding or reimbursement (for example, insurance claims, which in many sectors are pending as of the writing of this report).

Table 2. Summary of Damages, Losses, and Needs

Cost (USD)

	Damages	Losses	Needs
Community Totals	507,673,000	122,155,000	1,006,907,000
Economic Totals	813,054,000	997,437,000	935,007,000
Government Totals	49,970,000	230,097,000	401,157,000
Grand Totals	**1,370,697,000**	**1,349,689,000**	**2,343,071,000**

An estimated $2.3 billion will be required for recovery and resilience interventions over the next seven years. The sectors with the largest needs include: Housing (22.8 percent), Tourism and Commerce (19.0 percent), Governance and Public Financial Management (9.4 percent), Sanitation and Solid Waste Management (8.3 percent), Airport (7.6 percent), and Education, Culture, Youth, and Sport (5.1 percent). Figure 3 provides a more detailed disaggregation.

Figure 3. Sectoral Distribution of Needs

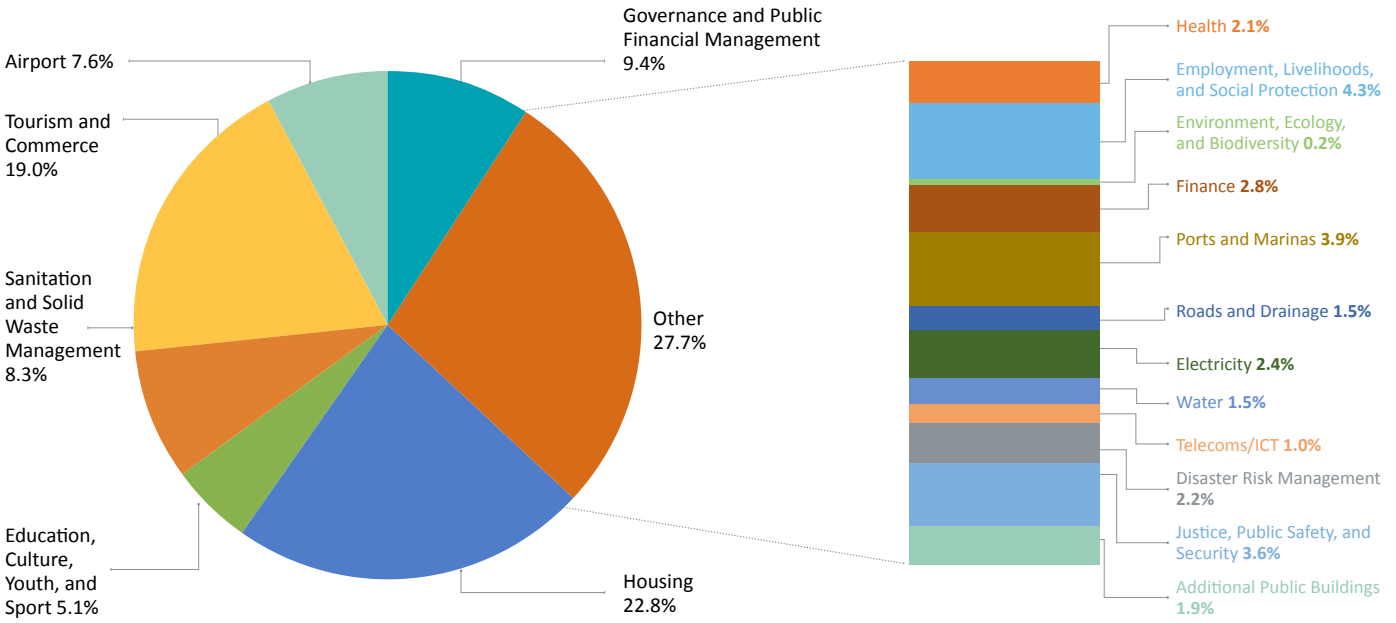


Photo: © Loic Bryan/Artistic Drive

Some 20.4 percent of the needs have been identified as immediate needs, 45.0 percent as short term, 30.3 percent as medium term, and 4.4 percent as long term. This highlights the urgency of the recovery effort in Sint Maarten. Interventions are needed as soon as possible to prevent further deterioration of the situation in Sint Maarten.

Table 3. Summary of Needs Periodization[21]

	Needs (USD)				
	Immediate Needs	Short-Term Needs	Medium-Term Needs	Long-Term Needs	Total Needs
Community Recovery Needs	151,595,000	448,418,000	399,757,000	7,137,000	1,006,907,000
Economic Recovery Needs	289,258,000	365,121,000	215,178,000	65,450,000	935,007,000
Government Recovery Needs	36,498,000	240,483,000	93,932,000	30,244,000	401,157,000
Total Recovery Needs	**477,351,000**	**1,054,022,000**	**708,867,000**	**102,831,000**	**2,343,071,000**
Percentage of Total	**20.4%**	**45.0%**	**30.3%**	**4.4%**	

[21] See annex 1 for a detailed table showing needs periodization.

VII. Proposed Recovery and Resilience Interventions

This section summarizes the damages, losses, and needs across the NRRP's three components of community, economy, and government (depicted in Table 4), and then discusses proposed sectoral interventions within each component.

Table 4. Summary of Damages, Losses, and Needs by NRRP Components

	Cost (USD)		
	Damages	**Losses**	**Needs**
Community			
Housing *	442,000,000	22,101,000	533,750,000
Health	4,267,000	1,916,000	50,212,000
Education, Culture, Youth, and Sport	60,228,000	1,711,000	119,978,000
Sanitation and Solid Waste Management	604,000	-	195,360,000
Employment, Livelihoods, and Social Protection	-	91,004,000	101,767,000
Environment, Ecology, and Biodiversity	574,000	5,423,000	5,840,000
Community Totals	**507,673,000**	**122,155,000**	**1,006,907,000**
Economic			
Tourism and Commerce *	367,746,000	740,465,000	445,850,000
Finance	-	143,000,000	64,500,000
Airport	173,345,000	29,500,000	179,197,000
Ports and Marinas	208,750,000	50,000,000	92,250,000
Roads and Drainage	103,000	-	36,000,000
Electricity	5,920,000	24,576,000	56,719,000
Water	6,529,000	9,896,000	35,965,000
Telecoms/ICT	50,661,000	-	24,526,000
Economic Totals	**813,054,000**	**997,437,000**	**935,007,000**
Government			
Disaster Risk Management	1,453,000	97,000	51,192,000
Governance and Public Financial Management	3,000,000	230,000,000	220,632,000
Justice, Public Safety, and Security *	-	-	83,816,000
Additional Public Buildings *	45,517,000	-	45,517,000
Government Totals	**49,970,000**	**230,097,000**	**401,157,000**
Grand Total	**1,370,697,000**	**1,349,689,000**	**2,343,071,000**

* Additional analysis and investigation is needed through site visits and engineering assessments. Where possible, public buildings have been included in the relevant sectors (e.g., schools appear in Education) and thus are not included here.

A Roadmap to Building Back Better

Photo © Edgardo Lynch/E2

A. Community Recovery and Resilience

Total Community Damages
$507,673,000

Total Community Losses
$122,155,000

Total Community Recovery and Resilience Needs
$1,006,907,000

The first expected outcome of the NRRP is the resilient recovery of social sectors in affected communities. This will require a wide variety of interventions in Housing; Health; Education, Culture, Youth, and Sport; Sanitation and Solid Waste Management; Environment, Ecology, and Biodiversity; and Employment, Livelihoods, and Social Protection.

Housing

DAMAGES **$442,000,000**[22]

LOSSES **$22,101,000**

NEEDS **$533,750,000**

Sint Maarten's housing sector consists of an estimated 19,400[23] units that accommodate more than 40,000 documented residents of Sint Maarten, an unknown number of undocumented year-round residents, and tourists. Reliable data on the extent of damage, the number of units affected, and the categorization of those figures into defined levels of property damage is not readily available, and some data will not be available for some time.

Nonetheless, the impact of Hurricane Irma on the housing sector was profound and self-evident. Relatively few properties escaped the storm's impact, but there is a marked difference in the levels of damage to housing built in different income segments and in different years. The evidence gathered during the assessment points to a strong inverse relationship between property damage and income level. To address the technical, financial, and systemic issues that have been identified, a multi-pronged strategy is envisaged. This strategy incorporates differentiated interventions to address the range of housing realities in Sint Maarten, from low- to high-income housing. These include immediate assistance to repair homes damaged by Irma, increased support for social and affordable housing through strengthening of the Sint Maarten Housing Development Foundation (SMHDF), a review of current building codes with a view towards increasing resilience to hurricanes and other possible disasters, and a mortgage guarantee fund to encourage home ownership and thereby giving more people a stake in building resilience in the housing sector.

Interventions to address damage to informal settlements should be incorporated in the sector recovery strategy. Recommended interventions include a comprehensive analysis of options for upgrading informal settlements followed by a pilot upgrading program. Homeowners who have lost their source of income are facing difficulties in meeting their mortgage obligations (monthly interest and principal amount) to banks. The banks could be willing to apply a grace period of a certain period for the payment of the principal amount, if they are subsidized for the interest part. This subsidized intervention would reduce home losses and should therefore be encouraged.

Health

DAMAGES **$4,267,000**

LOSSES **$1,916,000**

NEEDS **$50,212,000**

The recovery strategy for the sector includes the construction of a new, larger and more resilient hospital. The new, 110-bed, hospital will substantially increase hospital bed capacity and enhance health services to the people of Sint Maarten. Increasing service capacity will reduce the number of patients having to be referred abroad.

The recovery strategy also focuses on strengthening preventive activities (e.g., vector and mold control) to address the likely health consequences of future disasters. The vaccination program is working well, and measures have been taken to address an increase in the number cases of

[22] A proxy calculation, based on ECLAC damaged housing figures, was used to derive the housing sector's damages and losses.

[23] Given the lack of reliable data on private housing in Sint Maarten, the assessment team developed a model to arrive at a reasonable estimate of private housing units. NV GEBE, the national utility company, reports that there are currently 17,423 residential units with water hookups in Sint Maarten covering 90 percent of consumers. That yields an estimated 19,359 residential units.

vector-borne diseases resulting from debris and garbage accumulation as well as mold buildup caused by extended exposure to water and humidity since the hurricanes. The capacity of secondary healthcare services will be enhanced, including the emergency response capabilities of the ambulance department and the development of a national health information system. Programs focusing on psychosocial care will also be expanded.

The Social Insurance Fund (SZV) reported that there was minimal damage to its building and inventory, and the offices resumed operations five weeks after the passing of Hurricanes Irma and Maria, allowing SZV to operate at full capacity. However, the impacts on the financial situation of other insurance funds could be considerable. According to SZV, a substantial decline in premiums is expected for 2018. Until the economy recovers, health, accident, and severance insurance schemes are most likely to be adversely affected. It is essential that vulnerable persons maintain their health insurance coverage. To ensure continuity of health insurance coverage, the recovery strategy includes solutions to ensure coverage and mitigate financial risks for SZV.

In addition, businesses are expected to encounter challenges in paying AOV (pension contributions) during the recovery. While the funds are considered to be relatively solvent and can absorb this loss, it is vital to accelerate the development of legislation to increase the AOV recipient age from 62 to 65 to help counter the economic aspects of this loss.

Education, Culture, Youth, and Sport

DAMAGES **$60,228,000**

LOSSES **$1,711,000**

NEEDS **$119,978,000**

The assessment focused on public and subsidized schools as data on private schools was not available. The estimate for public schools was provided by MECYS, based on site assessments by experts from VROMI. The education sector was significantly affected by Irma and faces many challenges that need to be addressed urgently. Public schools were typically closed for four to six weeks. Many schools need to be repaired in a more resilient way, and several schools are still functioning in temporary locations, share classrooms, or function with arrangements that sometimes increase exposure to unsafe environmental conditions.

With respect to child facilities, 17 percent of daycare centers were destroyed, 37 percent require repairs to become operational, and 46 percent sustained little to no damage. MECYS also reported that 64 percent of sports facilities sustained major damage, 46 percent are not operational and need major repairs, and 23 percent are semi-operational. Of Sint Maarten's 51 monuments, 30 received minor to severe damage, and two were destroyed.

The Education, Culture, Youth, and Sport recovery strategy has six thematic priority areas: (a) psychosocial support for all; (b) teacher training in disaster management and emergency responses, and school safety; (c) curriculum assessment and afterschool programs; (d) improvement of safety and preparedness plans; (e) repair or reconstruction of physical infrastructure to improved building standards; and (f) improved policies and legislation to ensure long-term resilience. Additional priorities include establishing school feeding programs for vulnerable children, enhancing child protection services, and strengthening tertiary and vocational educational options in Sint Maarten.

Sanitation and Solid Waste Management

DAMAGES **$604,000**

NEEDS **$195,360,000**

Solid and sanitary waste management is fundamentally a public health issue. Solid waste and sanitary waste services are currently provided by Government and managed through VROMI. No fee is charged for these services for residential properties (commercial properties typically hire private sector waste collection/removal services). With a large portion of the population still dependent on septic systems, surface contamination and septic runoff—particularly during heavy rains—is a pervasive problem. Although there is no precise data on the number of properties that discharge untreated waste directly into the sea, nor on the volumes concerned, sector experts consider this a serious problem that must be addressed.

The dump is well over capacity and presents a significant health risk to the general population. There are

frequent dump fires regularly exposing the population to toxic smoke. Impacts also extend to the tourist sector, particularly in Phillipsburg, home to the country's cruise ship terminal. Given the topography and lack of available land, there is simply no alternative area to relocate land disposal operations. There is currently limited recycling capacity in the country. Sint Maarten must urgently pursue solutions to its solid waste dilemma, starting with removing debris left behind by Irma's destruction and addressing the dump fires, then implementing a robust recycling program to reduce current waste volume and pursuing alternative waste disposal methods, such as incineration or waste-to-energy technologies.

The wastewater management strategy seeks to strengthen disaster resilience by reducing the number of properties using ground disposal methods and reducing the potential for contaminated runoff during storms. Contaminated runoff poses a significant health risk and ultimately affects the water quality in coastal areas important to tourism. Less than 10 percent, or approximately 2,000 properties, are currently estimated to be connected to the public sewer system. Expanding the sewage network to connect more properties to mitigate the possibility of pollution of ponds and coastal areas is a priority.

Employment, Livelihoods, and Social Protection

LOSSES **$91,004,000**

NEEDS **$101,767,000**

Damage from Hurricane Irma has adversely impacted the economy, striking the tourism sector particularly hard. This has resulted in significant and unfortunate trickle-down effects as the economy is fundamentally based on the tourism sector. Growth in this sector had been a major contributor toward reducing unemployment and raising earnings, particularly in the lowest income brackets. Unfortunately, these historical gains will likely be reversed over the short term, with recovery expected to be delayed until the medium to long term. The precise impact on employment and livelihoods has not been assessed, and a socioeconomic needs assessment will take place to better identify the most vulnerable and affected population. Given the tightened fiscal space, this assessment will help the Government to more effectively allocate resources and target the most vulnerable, which includes the elderly, people with disabilities, youth, female-headed households, and immigrants.

Adverse impacts on income affect households' ability to meet basic needs. In 2015 the United Nations Development Program (UNDP) estimated a benchmark for poverty based on the minimum income wage.[24] Currently the minimum wage is NAf 8.83/hour ($4.62) and NAf 1,531/month ($821). In 2017, 26.87 percent of households (approximately 3,762) had income within the minimum wage income level and were thus classified as poor households. Post-Irma effects, especially on the tourist sector will likely include both wage cuts and layoffs. To some extent, these losses may be counterbalanced through demand for Irma-related labor services (e.g., for clean-up, restoration, psychosocial support interventions). In the main, however, post-disaster social and economic impacts will put the social protection and labor system under pressure.

The comprehensive sector recovery and resilience strategy consists of a range of immediate, short-, medium- and long-term interventions. A key objective is emergency preparedness of the community to improve resilience to the effects after a disaster. Immediate and short-term objectives include social assistance to address recovery needs, such as providing training and cash-for-work programs to supplement household income. In addition, the assessment of psychosocial needs will lead to targeted provision of services to ensure that the population can effectively address the trauma and/or stress related symptoms resulting from the hurricanes. These symptoms can be created by traumatic experiences during and after the storm, caused by stress due to loss of homes and income. Developing community and civil servant debriefing tools are part of this strategy.

Emergency shelters are also a critical immediate need. In preparation for the 2017 hurricane season, 11 facilities were designated as official storm shelters. This included five schools, four community centers and two churches. The use of schools for such purposes is problematic for a number of reasons. Once occupied, schools cannot resume classes until the displaced people return to their homes or are safely relocated to alternate locations.

[24] There is not a well-defined poverty line in Sint Maarten—a clear gap in data collection/analysis.

Photo: © Randle Martina

In addition, schools can sustain damage through looting or vandalism while occupied, which further delays the resumption of classes. To improve preparedness and expand shelter services, an assessment should be conducted to determine the shelter capacity required to accommodate the vulnerable population. Based on this assessment, a program of shelter construction should be instituted to both increase coverage and eliminate the need for using schools as shelter spaces. Optimally, new shelters would be multi-purpose, taking the form of community centers designed to provide shelter services during a disaster. In addition, two multi-use relocation centers will be built to accommodate families displaced by emergency.

Medium- to longer-terms objectives will aim to build resilience and preparedness and will include improving employability in the labor force in key sectors (training and labor services); improving delivery of key social services by bringing them closer to the community via multipurpose centers; and developing an online beneficiary registry to improve coordination within the social protection system and to enhance preparedness for future post-disaster situations. Finally, there is an intention to establish an unemployment insurance fund as a contingency instrument to cope with economic shocks. The effectiveness of this strategy will largely depend on targeting the most vulnerable, and strengthening critical institutional capacities to handle the increased demand of services with a more integrated, less fragmented, approach.

Environment, Ecology, and Biodiversity

DAMAGES **$574,000**

LOSSES **$5,423,000**

NEEDS **$5,840,000**

While there is a general recognition that Sint Maarten's key economic driver, tourism, is closely tied to the country's exceptional natural environment, the inadequate management of the environment and natural resources reduces the country's capacity to provide vital ecosystem services—such as coastal and flood risk protection—heightening the country's vulnerability to natural hazards and threatening the underlying resource base that sustains the country's economic and social development

gains. Hurricanes Irma and Maria exacerbated the already fragile condition of critical terrestrial and marine ecosystems. Recovery needs of the environment sector involve two main types of interventions: (a) activities related to the rehabilitation and protection of the natural environment, and (b) actions aimed at recovering and improving the built environment. Given the strong links between the natural and built environments, it is expected that well-designed interventions will generate benefits to both. The recovery plan will take into consideration the current limited implementation capacity of authorities and leverage the flexibility held by specialized non-governmental organizations (NGOs)—in this case, the Nature Foundation and other private stakeholders—promptly to mobilize highly skilled technical capacity to conduct vital recovery interventions as well as build capacity within the Government. In addition, reforms of policy and environmental legislation should be explored (e.g., establishment of zoning plans to curb activities that harm the environment), as well as stronger enforcement of existing and expanded environmental policy and legislation.

B. Economic Recovery and Resilience

Total Economic Damages
$813,054,000

Total Economic Losses
$997,437,000

Total Economic Recovery and Resilience Needs
$935,007,000

A prerequisite for sustainable economic recovery and resilience will necessarily center for the foreseeable future on promoting resilience in the country's tourism sector.

Recovery would be facilitated through a Partial Credit Guarantee (PCG) fund that mitigates banks' risk aversion as well as a separate interest subsidy scheme to reduce interest rates. Economic recovery will also include targeted interventions to build the resilience of key utility networks, including the electrical generation and distribution grid, the drinking water production and distribution network, and telecommunications infrastructure. The provision of reliable utility services is essential to support the other productive and social sectors. Furthermore, addressing recurrent flooding issues, arising from inadequate drainage, will contribute to protecting the environment and road infrastructure, while helping to mitigate health risks and protect assets of affected communities and small businesses.

Macroeconomic Outlook

The economic damage caused by Irma and Maria was amplified by the country's absence of economic diversification, the lack of fiscal buffers to initiate counter-cyclical measures, and the lengthy process for settling insurance claims in, most particularly, the commercial property sector. As highlighted in Table 1, the damages and losses related to Hurricane Irma are estimated at $1.4 billion (73 percent of Nominal GDP) and $1.3 billion (68 percent of Nominal GDP), respectively. Efforts to revive the economy and promote fiscal stability hinge on the development of a macroeconomic framework, along with a medium-term fiscal framework and medium-term debt strategy.

Post-Irma demand constraints and reduced supply related to the low absorptive capacity of the tourism sector suggests serious headwinds confronting substantial recovery. The economic contraction is expected to widen in 2018, from an estimated annual real GDP contraction of 4.4 percent in 2017 to 9.3 percent in 2018.[25] In parallel, the Government of Sint Maarten's fiscal deficit is expected to widen from $40 million (NAf 72 million) in 2017 to $109 million (NAf 197 million) in 2018 and $79 million (NAf 142 million) in 2019, respectively, largely reflecting lower tax revenues.

A Debt Sustainability Analysis (DSA) reveals that a budget *surplus* of 1.1 percent of GDP between 2021 and 2040 would be required to service the debt incurred to finance budget deficits between 2017 and 2020. Moreover, the DSA indicates that while interest payments would remain contained within the rule of 5 percent of public revenue ceiling, a relaxation of the fiscal rule would be required between 2017 and 2020 relative to the debt-to-GDP ratio, given that a large share of public deficits would not be related to public investments.

Fiscal reforms to broaden the tax base and raise the efficiency of tax collection are needed to support social spending and capital investments, and to build fiscal buffers.

[25] Central Bank of Curaçao and Sint Maarten, 2018 estimates.

Photo: © Edgardo Lynch/EP2

To this end, capacity building within the Tax Administration is required, prominently because a large segment of the economy is operating in the informal sector. The construction sector, for example, if subjected to taxation could generate significant revenue for the Government. Similarly, the Government could benefit from an enhanced capacity at the Tax Policy Unit, and decisions made by economic agents could be better informed through access to expanded and more regular surveys conducted by the STAT Department of the Ministry of TEATT.

Finally, the island's economic performance is closely linked to the stability and future development of the financial sector. The stability of the sector depends on the losses suffered by banks and insurance companies, and the continued availability of insurance and banking services depends on the demand, risks, and earnings potential on the island. Insurance premiums could rise as the risk is perceived to be higher after Hurricanes Irma and Maria. Moreover, if disaster relief payouts are given with preference to those who chose not to purchase insurance, demand for insurance could decline as households and businesses choose to rely on future disaster relief, undermining banking and insurance markets and hampering economic recovery for both businesses and households.

Tourism and Commerce

DAMAGES **$367,746,000**[26]

LOSSES **$740,465,000**

NEEDS **$445,850,000**

The tourism sector was hit hard by the 2017 hurricane season. Most hotels were closed, and many remain shuttered. Damage to hotels, port pier, and airport facilities undermined the 2017-2018 season and renders it likely that the 2018-19 tourist season will be severely affected. A key component of the recovery of the tourism sector is rebuilding critical infrastructure to BBB standards. In addition, the recovery strategy proposes key interventions such as a review of the tax structure to promote relief and recovery, soft loans for a sustainable recovery of the sector, a post-emergency marketing and communi-

[26] Additional analysis and investigation is needed.

cations strategy to mitigate the risk of losing market position during the recovery phase, and a tourism resilience strategic plan.

The importance of a speedy recovery of the tourism sector to ensure the reboot of the main economic engine emphasizes the need to facilitate growth and development in other sectors of the economy—as does the fact that some of these sectors (e.g., Marine Trade) have shown themselves to be more robust in the face of shocks. Additional focus and further progress in provision of support services for SME development will foster a more diversified and resilient economy, particularly critical in Sint Maarten given its dependence on tourism.

Finance

LOSSES **$143,000,000**

NEEDS **$64,500,000**

The banking sector is liquid and solvent but has many non-performing loans and low profitability. Deposits have been growing steadily, while credit (81 percent of GDP) has been stagnant. The insurance sector is focused on indemnity products (properties and cars), and its assets have declined in a context of low profitability. For banks, the biggest cost of the hurricanes is the deterioration in the quality of their loan portfolio. For insurance companies, the major impact is the increase in the cost of administration and payment of claims. A key risk to medium-term economic recovery is that banks curtail lending because of losses in a context of heightened risk aversion. The pace of insurance settlements has an important effect on economic activity and liquidity.

The recovery strategy recommends the establishment of a PCG Fund to mitigate banks' risk aversion during the recovery. Toward this end, recovery interventions include the capitalization of the PCG Fund; the provision of technical assistance for its design, implementation, and operationalization; and the prioritization of the Central Bank of Curaçao and Sint Maarten resources to supervise specific aspects of the banking and insurance sectors. It is important that interest rates are low, which, as previously noted, can be achieved through a loan interest subsidy or by stimulating non-commercial loans to ensure access to low-interest rate capital. Additional sector recovery and resilience interventions include establishing a Gaming Control Board to improve market regulation and increase revenue and implementing an automated system for customs data to improve management of import and export data.

Airport

DAMAGES **$173,345,000**

LOSSES **$29,500,000**

NEEDS **$179,197,000**

Sint Maarten's Princess Juliana International Airport (PJIA), the main international airport for the entire island of Saint Martin, experienced significant damage, forcing its closure to commercial traffic. The terminal building requires extensive roof and interior repairs. During Hurricane Irma, the air traffic control tower and the terminal building were severely damaged by wind and rainwater. An updated estimate of direct damage to all airport facilities currently amounts to approximately $173 million. The direct damage is expected to be recovered from insurance. PJIA has suffered a great loss of income (e.g., airport taxes, hangar and landing fees, associated taxes) from its closure for about a month following Irma. In addition, PJIA cannot currently accommodate the pre-Irma rate of aircraft movements. The recovery strategy focuses on repairing and rebuilding the airport and related facilities to higher standards to ensure resilience of critical infrastructure to future disasters.

Ports and Marinas

DAMAGES **$208,750,000**

LOSSES **$50,000,000**

NEEDS **$92,250,000**

Sint Maarten has one main port, Philipsburg Harbour, located on the east shore of Great Bay, for cruise lines and cargo operations. It features two large piers, each of which can simultaneously accommodate 4-6 cruise ships, and a cargo quay with two mobile cranes for container cargo. Sint Maarten also has many large and small private marinas for yachting. Hurricanes Irma and Maria caused severe damage to the facilities and infrastructure of Philipsburg Harbour, primarily from wind and wave action, with consequent interruptions to both cruise pas-

senger visits and cargo operations. Private marinas and boats around the country also suffered significant damage during the hurricanes. An initial estimate of the overall damage to the private marina facilities at Sint Maarten is $40-50 million. The corresponding revenue loss associated with business interruption is estimated at $20-30 million. While it is estimated that 60-70 percent of sunken boats were insured, and a significant percentage of these boats have been salvaged through insurance, there are many boats that have been abandoned and still must be salvaged. The recovery strategy emphasizes restoring the ports and marinas to full operation and ensuring their future resilience.

Roads and Drainage

DAMAGES **$103,000**

NEEDS **$36,000,000**

Damage to the roads and drainage sector was relatively minimal and consisted of road blockage from debris and some pothole formation damage to road surfaces. However, urban storm water runoff and resulting flash flooding are a persistent problem in several communities, partly from development activities and increased coverage of areas with impervious surfaces. Inadequate drainage affects commerce and private property. If not addressed, the risk of flash flooding will continue, particularly impacting housing and the sustainability of small businesses. Thus, the recovery and resilience strategy seeks to improve the drainage network in several communities affected by recurrent flooding. Looking ahead to the possibility of future disasters, the planned Link 6 evacuation route would provide an important alternative means of egress during an emergency to an area that is home to a third of Sint Maarten's population.

Electricity

DAMAGES **$5,920,000**

LOSSES **$24,576,000**

NEEDS **$56,719,000**

GEBE maintains a rated generating capacity of 95 MW with a system of 11 fuel-driven generators. Pre-Irma peak demand was 57 MW, but post-Irma, the peak demand on the system dropped to 35 MW, reflecting the damage to consumer (particularly hotel) infrastructure.[27] The resulting losses in revenue are continuing to severely impact GEBE's operations. The electricity generation and distribution network on Sint Maarten sustained significant damage during Irma. Although power generation was restored some three weeks after the hurricane, distribution required additional time as much of the damage occurred to transformers and overhead distribution lines. Post-Irma recovery activities are ongoing. Several supporting facilities buildings and storage areas require rehabilitation. BBB estimates include new resilient facilities, as well as a much more resilient renewable energy component. Recovery needs in the electric sector relate to building repairs and system strengthening to withstand future extreme events, including placing the remaining electricity distribution infrastructure underground. In addition, there is a need to gradually transition the country's energy matrix from a fossil fuels-based system to a least-cost energy matrix, with an increasing contribution from renewable alternatives, taking into consideration Sint Maarten's structural challenges, including limited resource endowments and high import costs.

Water

DAMAGES **$6,529,000**

LOSSES **$9,896,000**

NEEDS **$35,965,000**

Drinking water in Sint Maarten is purchased from Seven Seas Water Corporation, and distributed by GEBE throughout the country. Drinking water in the system is produced by desalination plants owned by Seven Seas. GEBE purchases bulk water and manages storage and distribution to all customers in Sint Maarten. Damage and losses from Irma were in management infrastructure, water storage tanks, and pump enclosures. Losses to GEBE were primarily in office equipment, cost of trucking water to consumers, and lost water revenue. As with electrical power, the water sector manages critical lifeline infrastructure on which the entire country depends. Infrastructure vulnerabilities identified in the system leave the population at risk, particularly when system capacities for water storage are already limited. Recovery priorities in the water

[27] GEBE, February 2018.


Photo: © Edgardo Lynch/E2

sector are focused on rebuilding and optimizing water tank storage to improve emergency reserves and system operations; relocating direct pumping facilities and operations, which are vulnerable to flooding; and improving water system management hardware and software to assist with system planning and optimization.

Telecoms/Information and Communication Technology (ICT)

DAMAGES **$50,661,000**

NEEDS **$24,526,000**

(estimate only reflects TelEM, not sector-wide, needs)

Damage to the telecom sector was extensive, primarily from strong winds. The Government-owned telecommunications service provider is the Sint Maarten Telecommunications Holding Company N.V. (TelEm Group). TelEm also provides services to the islands of Saba and Statia. The distribution system consists of a mix of above-ground and buried transmission lines. There are presently approximately 36,000 customers in Sint Maarten using cellular and digital data services. There are also other private service providers, including UTS, Coral Telecom, and WTN Cable TV and Broadcast Services. During Hurricane Irma, as facilities became exposed to wind damage, additional damage was caused by exposure to wind-driven moisture and rainfall. Communications services are critical to the overall economy of Sint Maarten, even more so during major emergencies. Accordingly, the recovery and resilience strategy focuses on developing a robust and resilient communications infrastructure with redundancy built in to ensure offshore communications remain uninterrupted.

C. Government Recovery and Resilience

Total Government Damages

$49,970,000

Total Government Losses

$230,097,000

Total Government Recovery Needs

$401,157,000

The recovery and resilience strategy for governmental entities goes well beyond repairing and reconstructing key first responder facilities and other public buildings to

recommend significant improvements to Sint Maarten's DRM apparatus. This includes the proposed establishment of a National Platform for Disaster Risk Reduction to provide the enabling environment to improve coordination, develop integrated policies, and improve institutional arrangements for more effective DRM and climate change adaptation in the country. Improvements to early warning systems and emergency communications systems would enhance coordination among fire, police, and emergency management agencies. The strategy recommends significant improvements to public financial management capacity and modernization of the tax system. Given the public safety and security concerns raised in the immediate aftermath of Hurricane Irma, the strategy also identifies key reconstruction investments and recommends improvements to the justice, public safety, and security system to promote the maintenance of law and order and to ensure Sint Maarten remains a destination of choice in the Caribbean.

Disaster Risk Management

DAMAGES **$1,453,000**

LOSSES **$97,000**

NEEDS **$51,192,000**

The national DRM framework faced serious challenges in the aftermath of Hurricane Irma, highlighting the need for improved disaster risk information and communication, enhanced DRM capacities, and better access to risk financing options. Key needs for improved disaster risk information and communication include building the capacity of the National Meteorological Service (NMS), with an up-to-date hydro-meteorological infrastructure and access to modern forecasting and service delivery technologies, including geospatial information management technologies, strengthened early warning systems, and improved telecommunications to ensure timely access by vulnerable communities.

Additionally, there is a strong need to strengthen national geospatial management capacity, essential to adequate risk planning and disaster response. Among other activities identified, it is strongly recommended that the strategic plan for the National Spatial Data Infrastructure be fully implemented across Government agencies. It will also be important to develop data tools, Post Disaster Needs Assessment (PDNA) capacity, and assessment tools such as a Quality of Life Index (QLI). The Fire Department was considerably damaged by Irma, interrupting its internet access and other means of communication. The Emergency Operations Center (EOC) could not operate within the Fire Department facilities and was compelled to temporarily relocate to the Government Administration Building. The safety of this key emergency response agency must be rapidly improved to ensure effectiveness for the next hurricane season. The Government should actively pursue its full integration into the Caribbean Community's (CARICOM's) Caribbean Disaster Emergency Agency (CDEMA) to benefit from the growing body of knowledge regarding the implementation of effective DRM approaches and agencies and the promotion of an enabling institutional and operational framework for DRM.

In addition, the Government will explore the feasibility of developing a comprehensive disaster risk financing strategy that incorporates risk-retention and risk-transfer mechanisms (e.g., a properly capitalized national Sovereign/Emergency Fund or negotiated ex-ante financing facilities, such as the World Bank's Development Policy Loan with a Catastrophe Deferred Drawdown Option or the Caribbean Catastrophe Risk Insurance Facility (CCRIF)).[28]

Governance and Public Financial Management

DAMAGES **$3,000,000**

LOSSES **$230,000,000**

NEEDS **$220,632,000**

The improvement of the Government's PFM system (resource generation, resource allocation, and expenditure management) would benefit from institutional

[28] CCRIF is a not-for-profit risk pooling facility, owned, operated, and registered in the Caribbean for (originally) Caribbean governments. It offers parametric insurance designed to limit the financial impact of catastrophic hurricanes, earthquakes, and excess rainfall events by quickly providing short-term liquidity when a policy is triggered, thus giving member governments the opportunity to purchase natural catastrophe coverage at a price substantially below what they would be able to obtain through a non-pooled arrangement. In 2014 the entity was renamed CCRIF SPC (segregated portfolio company) to facilitate offering new products and expansion into new geographic areas.

Photo: © Edgardo Lynch/E2

Photo: © Randle Martina

strengthening. This, in turn, would strengthen investor confidence, foster public support for Government initiatives, and aid in the recovery and longer-term development efforts.

The Government's PFM system challenges have been noted in several reports issued by the SOAB (internal auditor), Algemene Rekenkamer (General Audit Chamber, external auditor), and CFT (Council of Financial Supervision). PFM system challenges (particularly in the context of constrained annual national budgets) were exacerbated by the additional resource needs to help address the aftermath of Hurricanes Irma and Maria. Recently the Kingdom Council of Ministers mandated that Sint Maarten provide a monthly accountability of the execution of the 2018 budget, which entails an overview of the revenue, expenditures, liquidities, and financial management, underscoring the urgent need to modernize the PFM system. The reform of the PFM and the implementation of a Government Financial Management Information System (GFMIS) will give Government more effective means to control budget execution, fiscal expenditure management, and reporting for effective planning and decision-making. Integral to this strategy of upgrading PFM is modernizing the Government's ICT system. A number of sectors (e.g., Education and Justice) have specifically identified the need to boost ICT capacity, emblematic of the government-wide need for additional capacity in this important area.

The Ministry of Finance proposes to address deficiencies in the resource generation and expenditure management areas through the following interventions: (a) tax reform and related ICT system modernization, and (b) an enhanced PFM framework and GFMIS. Tax reform (e.g., legal framework, housing, tax base, collection, compliance, etc.) and the related ICT system improvement will support increased resource mobilization. A key objective is to reconstruct the Tax Receivers/Registry building, which was seriously damaged by Hurricane Irma, to unite the Receivers and the Tax Departments in one building. (Since 10 October 2010 these entities are by law one organization, but in practice they are still in separate locations.)

Finally, from a budget perspective, Sint Maarten has the daunting challenge of a cumulative budget deficit of $230 million until 2019. There is a significant risk and sense of

urgency to resolve this matter by finding a funding source that is financially sustainable over the repayment period.

Justice, Public Safety, and Security

DAMAGES **TBD**[29]

LOSSES **TBD**

NEEDS **$83,816,000**

The insecurity in the aftermath of Hurricane Irma highlighted the need for improvement of public safety and security in Sint Maarten. The buildings, equipment and overall organizational capacity of the entities within the Justice chain (e.g. Prison, Police, Court House, OM (Public Prosecutor), Foundation Judicial Institutes, Immigration Department, Court of Guardianship, Coast Guard, Customs, National Detectives, Financial Intelligence Unit, Judicial Affairs, Staff Bureau) were impacted by the hurricane. Physical damage to security-related structures has rendered key sites inoperable or only partially operable, including the national prison, which required the evacuation of some 60 prisoners to off-island locations in the Netherlands and Curaçao. All police stations and a number of other Ministry of Justice buildings were damaged, including destruction of the 911 dispatch center. Post-hurricane conditions highlighted the need to improve the 911 dispatch center and rebuild it in a more secure location. Lapses in communication during and after the disaster added to the security challenges, limiting coordination among emergency and security personnel and hampering off-island communication as well.

Ensuring safety, security, law and order and stability after Irma has been the Ministry's main focus. Maintaining these core objectives throughout the relief and recovery phase and beyond is essential for rebuilding Sint Maarten's society and having tourists and businesses return to the island. Therefore, the recovery strategy in this sector seeks to (a) repair and strengthen physical facilities such as the prison and police stations, (b) relocate and equip the 911 dispatch center with the ultimate goal of improving the resilience of the emergency communications network among fire, police, and emergency management agencies; (c) properly equip law enforcement staff to replace vehicles and uniforms damaged by the hurricanes; and (d) address critical ICT needs.

The immediate needs focus on infrastructure repairs, equipment and enhanced emergency communications to strengthen operational capacity. The short- to medium term needs include the construction of a new prison facility as a vital component of maintaining safety, security, law and order in Sint Maarten, while strengthening the Foundation for Judicial Institutes and the Court of Guardianship is vital to safeguarding and improving social welfare and stability.

Additional Public Buildings[30]

DAMAGES **$45,517,000**

LOSSES **TBD**[31]

NEEDS **$45,517,000**

The impact of Hurricanes Irma and Maria on the public building sector has been significant. However, as is typical in post-disaster scenarios, accurate estimates are difficult owing to the potential for discovery of hidden damages during the repair/reconstruction phase. Damage was primarily wind-related, but damage continues to accrue as rainfall impacts vulnerable structures. Estimates relate only to those buildings that are Government-owned. Much of the Government workspace is rented. For example, the current Government Administration Building, which suffered damage, is rented and thus not included in this estimate.

Where possible, damages and needs related to public buildings have been categorized by the respective sector, so schools appear under Education, the hospital under Health, the prison under Justice, Public Safety and Security, and emergency services buildings under DRM. Among the more critical additional public buildings are the post office, the national library and the national civil aviation building.

[29] Additional analysis and investigation is needed.

[30] Additional analysis and investigation is needed through site visits and engineering assessments. Where possible, damages and need for public buildings have been included in the relevant sectors (e.g., schools appear in Education) and thus are not included here.

[31] Additional analysis and investigation is needed through site visits and engineering assessments.

Photo: © Randle Martina

VIII. Implementation Framework

A well-designed implementation strategy is fundamental to the success of the NRRP. To guide the recovery and resilience building process, an implementation framework will be established to operationalize the NRRP.

This framework will consist of five pillars: (a) institutional arrangements, (b) policy development, (c) a prioritization and sequencing approach, (d) a financing strategy, and (e) coordination, monitoring and evaluation (M&E), and communications mechanisms.

The framework will enable Sint Maarten to identify, prioritize, and sequence interventions that produce a resilient community, economy, and government and will help to develop the institutional arrangements, policies, financing strategy and monitoring, evaluation and coordination systems to support resilient recovery.

The implementation framework has the following objectives:

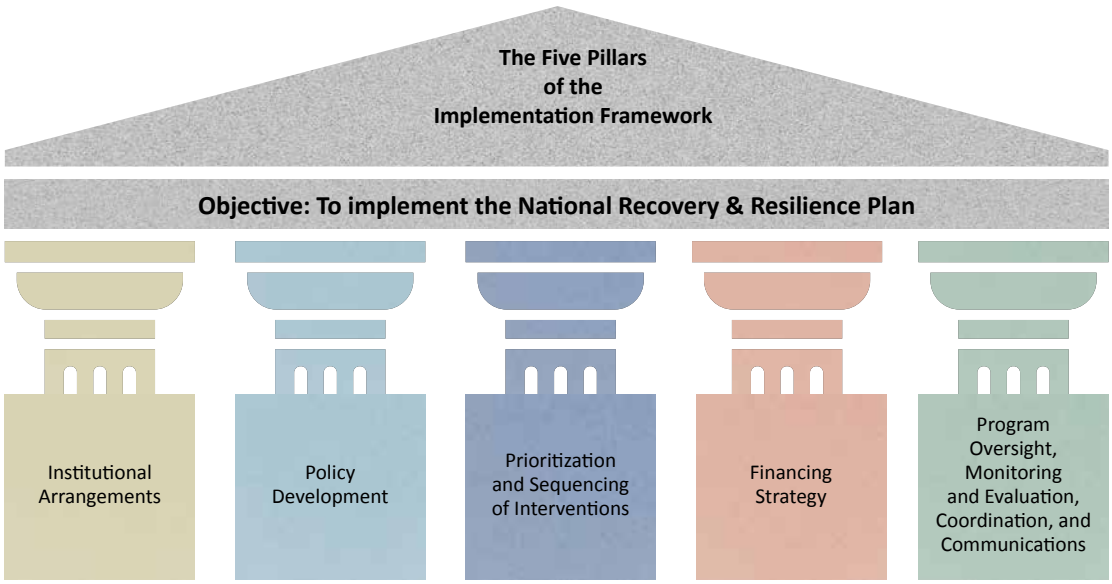
- To establish institutional arrangements and to strengthen the capacity that is needed to implement the NRRP
- To develop policies and strategies for the identified recovery and resilience activities
- To ensure prioritization and sequencing of proposed interventions
- To identify both public and private sources of financing for NRRP implementation
- To establish strong coordination and M&E mechanisms as well as effective communication with all stakeholders.

A. Institutional Arrangements

As a small island developing state, Sint Maarten has limited resources and capacity, which poses a severe challenge for the implementation of the NRRP. To strengthen implementation capacity, the Government is establishing a National Recovery Program Bureau (NRPB) that will coordinate recovery and resilience projects.

The NRPB will be responsible for project implementation arrangements and coordination of the NRRP in partnership with the relevant ministries. Until the Bureau is established and adequately staffed, the Interim Recovery Committee will lead implementation efforts.

Figure 4. Implementation Framework



The NRPB will handle technical, administrative, legal, financial, procurement and safeguards responsibilities to ensure effective implementation with technical input provided by the relevant line ministries.

In addition to the implementation of individual projects, there is a need for dialogue, coordination, and capacity building. This requires the NRPB and the relevant ministries to:

- conduct an institutional mapping and capacity study of key institutions, resulting in a comprehensive capacity-building plan
- develop a multi-annual plan for operationalizing the NRRP
- design a fiduciary and operational framework
- establish an institutional repository for continuous updating of the recovery needs database.

B. Policy Development

Another prerequisite for the successful implementation of the NRRP is the development of policies and strategies to strengthen the impact of the identified recovery and resilience activities highlighted throughout this document. The establishment of these and other policies and strategies will have to be based on close discussions between policy-makers and stakeholders, including planning and financial institutions.

C. Prioritization and Sequencing of Recovery and Resilience Interventions

The NRRP recommends a wide range of interventions to support recovery and resilience, the cost of which exceeds the funding that is currently available. This requires serious prioritization within and across sectors. A coherent, well-coordinated and transparent prioritization and sequencing process is necessary to promote equitable and demand-responsive recovery across affected communities and to ensure the proper balance between hardware and software.

The first step of the prioritization and sequencing process is to verify whether the proposed interventions contribute to the overarching goal of the NRRP, which is to restore, secure, and strengthen the well-being of the people of Sint Maarten.

This prioritization and sequencing process should be iterative and updated throughout the implementation of the NRRP. Priorities should be identified based on the specific needs that are revealed during the different phases of NRRP implementation.

The first step of the prioritization and sequencing process is to verify whether the proposed interventions contribute to the overarching goal of the NRRP, which is to restore, secure, and strengthen the well-being of the people of Sint Maarten. The question that needs to be addressed is the extent to which a proposed intervention helps to restore and secure livelihoods in a sustainable manner.

A second step is to apply agreed-upon criteria that are related to the financing possibilities and the impact of the proposed interventions. The agreed-upon criteria in Table 5 follow the Organization for Economic Cooperation and Development (OECD) Development Action Committee (DAC) standard criteria for aid evaluation. These criteria are universally used for calls for proposals by international development aid institutions (e.g., UN, World Bank, etc.) to prioritize and sequence proposed interventions.

Table 5. Criteria for the Prioritization and Sequencing Process

Criterion	Definition
Added value	What the proposed intervention will achieve over and above what would be achieved without it (through other sources of public or private funding)
Relevance	To what extent the proposed intervention is consistent with the scope and objectives of the NRRP
Impact	How many people among the most affected and/or the most vulnerable populations benefit from the intervention
Effectiveness	To what extent the proposed intervention is likely to achieve its objectives
Resilience	To what extent the proposed intervention sustainably boosts Sint Maarten's resilience to the effects of future disasters and climate change. Investments should favor projects with a long-term vision that strengthens sustainable communities, economy and government
Sustainability	To what extent the benefits of the proposed intervention is likely to continue after the funding ends

A final step in the prioritization and sequencing process is to consider which targets or sectors should be incentivized. It is recommended that the following be incentivized:

Table 6. Targets/Sectors to be Incentivized during the Prioritization and Sequencing Process

Target/Sector	Definition
Social protection	Interventions that address needs specific to vulnerable groups, with an emphasis on housing
Continuity of critical services	Interventions that promote the provision of critical Government services
Financial leverage	Interventions that attract other sources of funding (public or private)
Supporting local workforce	Interventions that will make full use of local labor force and its potential
Governance capacity	Interventions that strengthen institutional capacity to implement recovery and resilience program
Supporting ecological sustainability	Interventions that contribute to a sustainable environment and ecology
Public health	Interventions that mitigate imminent threats to public health
Employment	Interventions that increase employment opportunities in key sectors
Education	Interventions that restore and increase the long-term resilience of critical education infrastructure
Public financial management	Interventions that promote enhanced Government resource generation, resource allocation, and expenditure management
Critical Infrastructure	Interventions that restore and increase the long-term resilience of critical infrastructure

D. Financing Strategy

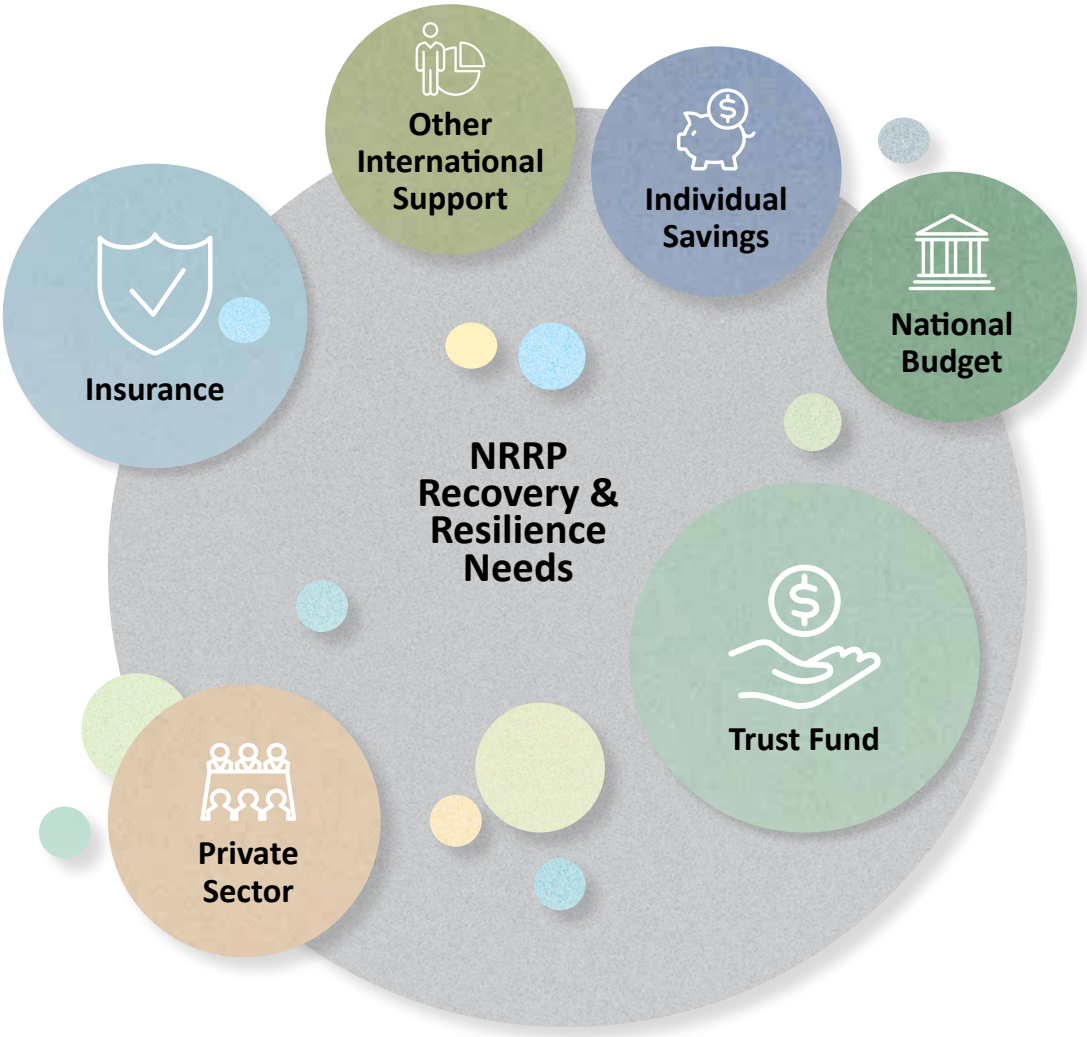
Given the gap between recovery and resilience needs and the available funding, the NRRP will need to be supported by the mobilization of additional funds. An analysis of the current funding outlook conducted in May 2018 reveals a significant funding gap between the $2.3 billion in recovery and resilience needs and the currently available funding. The $580 million[32] Sint Maarten Recovery, Reconstruction and Resilience Trust Fund provided by the Netherlands, will finance some of the recovery and resilience building activities identified in the NRRP. Additional sources of funding include insurance payments for property, which are estimated to ultimately total between $320-430 million (with current payouts as of March 2018 of $254 million and total claims of $497 million).[33]

An analysis of the current funding outlook conducted in May 2018 reveals an estimated funding gap of $1.3-1.4 billion between $2.3 billion in recovery and resilience needs and currently available funding estimated between $0.9 and $1.0 billion. The Sint Maarten Recovery, Reconstruction and Resilience Trust Fund (funded by the Netherlands, managed by the World Bank and implemented

[32] € 470 million at the April 2018 US$ exchange rate. In total, the Netherlands has reserved €550 million for the recovery of Sint Maarten. A maximum of €470 million will be made available through the Trust Fund.

[33] Analysis based on insurance data provided by the Central Bank of Curaçao and Sint Maarten as of March 31, 2018.

Figure 5. Recovery and Resilience Financing Outlook



by Sint Maarten) will provide $580 million in funding (at April 2018 € exchange rate). Insurance payments for property are estimated to ultimately total between $319-$431 million (with current payouts as of March 2018 of $254 million and total claims of $497 million).[34] Taken together, the Trust Fund and insurance payouts would range between $0.9 and $1.0 billion.

Additional funding to narrow the gap could come from the national budget, the private sector, individual savings and additional support from the international community. To manage the recovery and resilience process efficiently, an effective fund tracking mechanism for both on-budget and off-budget funds should be developed. Sound fund tracking and a strong public financial management (PFM) system are essential to ensuring efficient recovery and resilience program implementation, enhancing donor confidence, and mobilizing additional funds for recovery and resilience building.

Specific activities for this pillar include:

- Conduct an analysis of supply side of available funding through public sources, insurance industry, private sector, international partners, and community contributions
- Develop a recovery financing strategy
- Establish an aid tracking system in collaboration with Government and international partners.

[34] Central Bank of Curaçao and Sint Maarten, March 31, 2018.

E. Coordination, Monitoring & Evaluation, and Communications

A final and crucial component of the implementation framework is program oversight, through coordination, M&E, and communications. Effective M&E systems enable the progress of recovery to be assessed, ensure compliance with sectoral recovery policies and strategies, and provide early warning for corrective action. Ongoing M&E by the National Recovery Program Bureau and the ministries is critical to identify mid-course corrections in the implementation and adjustment of strategy, particularly in response to community feedback about project design and results. In addition, coordination mechanisms must be established, along with an effective communications plan, to reach the widest possible range of stakeholders.

Specific activities for this pillar include:

- Map existing coordination mechanisms
- Optimize coordination mechanisms
- Establish M&E systems
- Establish strategic communications plan

Photo: © Randle Martina

ANNEX 1

Summary of Sector Needs Periodization

	Needs (USD)				
	Immediate	Short-Term	Medium-Term	Long-Term	Total Needs
Community Recovery					
Housing *	105,350,000	213,400,000	215,000,000	-	533,750,000
Health	5,204,000	35,104,000	9,904,000	-	50,212,000
Education, Culture, Youth, and Sport	9,981,000	24,914,000	81,779,000	3,304,000	119,978,000
Sanitation and Solid Waste Management	11,000,000	128,860,000	55,500,000	-	195,360,000
Employment, Livelihoods, and Social Protection	20,030,000	43,960,000	35,704,000	2,073,000	101,767,000
Environment, Ecology, and Biodiversity	30,000	2,180,000	1,870,000	1,760,000	5,840,000
Community Recovery Total	**151,595,000**	**448,418,000**	**399,757,000**	**7,137,000**	**1,006,907,000**
Economic Recovery					
Tourism and Commerce	168,000,000	109,100,000	116,000,000	52,750,000	445,850,000
Finance	35,000,000	26,000,000	2,500,000	1,000,000	64,500,000
Airport	67,300,000	111,897,000	-	-	179,197,000
Ports and Marinas	1,500,000	74,500,000	5,750,000	10,500,000	92,250,000
Roads and Drainage	-	1,600,000	34,400,000	-	36,000,000
Electricity	7,629,000	13,670,000	35,420,000	-	56,719,000
Water	9,829,000	13,108,000	13,028,000	-	35,965,000
Telecoms/ICT	-	15,246,000	8,080,000	1,200,000	24,526,000
Economic Recovery Total	**289,258,000**	**365,121,000**	**215,178,000**	**65,450,000**	**935,007,000**
Government Recovery					
Disaster Risk Management	12,435,000	24,897,000	10,160,000	3,700,000	51,192,000
Governance and Public Financial Management	7,500,000	160,794,000	36,794,000	15,544,000	220,632,000
Justice, Public Safety, and Security *	10,380,000	37,436,000	36,000,000	-	83,816,000
Additional Public Buildings *	6,183,000	17,356,000	10,978,000	11,000,000	45,517,000
Government Recovery Total	**36,498,000**	**240,483,000**	**93,932,000**	**30,244,000**	**401,157,000**
Grand Total	**477,351,000**	**1,054,022,000**	**708,867,000**	**102,831,000**	**2,343,071,000**

* Additional analysis and investigation is needed. Where possible, public buildings have been included in the relevant sectors (e.g., schools appear in Education) and thus are not included here.

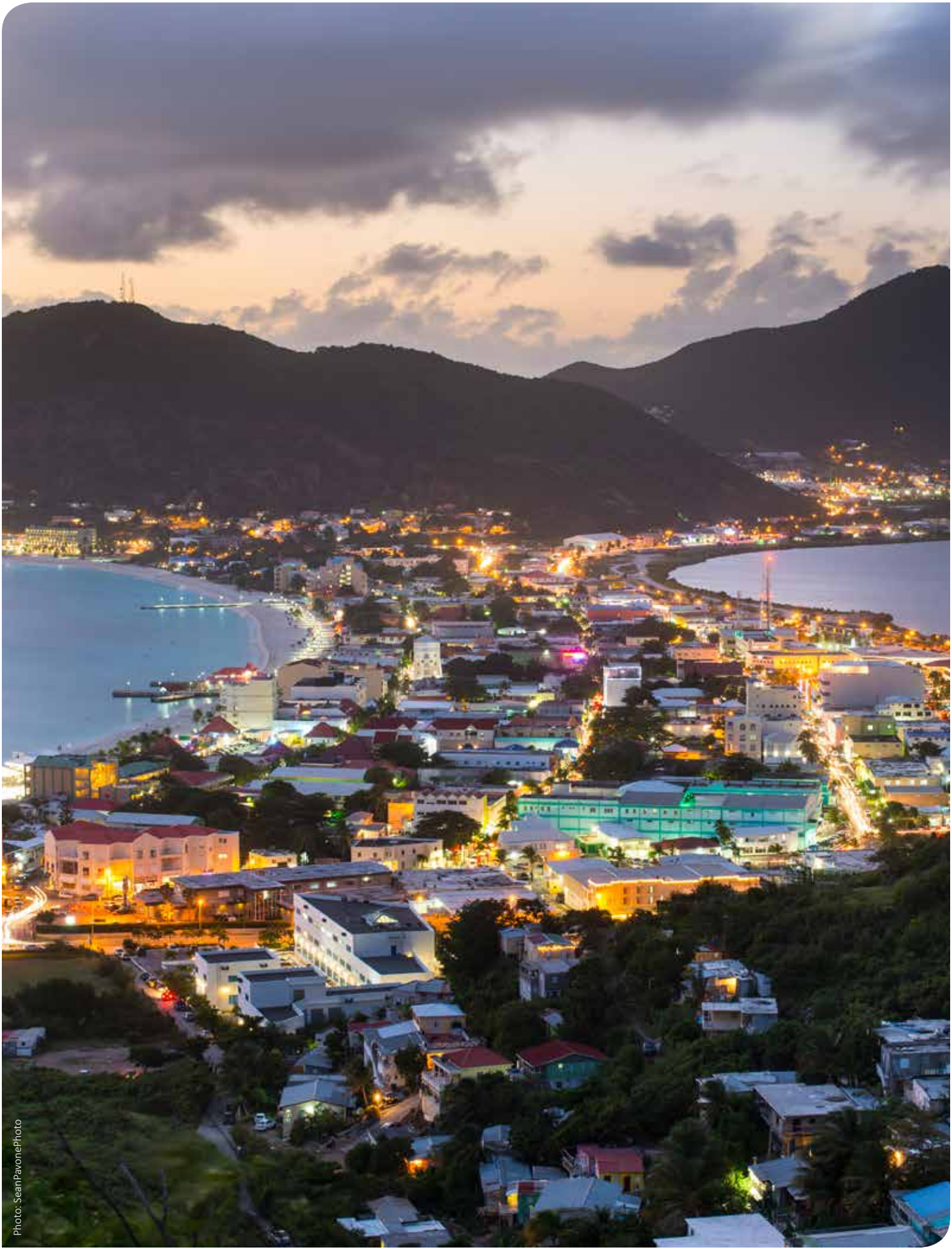


Photo: SeanPavonePhoto

ANNEX 2

Overview of Proposed Needs Interventions

Community Recovery and Resilience Action Plan

	Needs (USD)				
	Immediate	Short-Term	Medium-Term	Long-Term	Total Needs
Housing					
Repair damage to housing (incl. roof repairs) and address existing social housing needs (incl. hidden homelessness)	100,000,000	208,300,000	200,000,000	-	508,300,000
Support Sint Maarten Housing Development Foundation with repair of damaged housing, construction of new hurricane shelter, development of designs for new resilient social housing and elaboration of a new business plan	5,000,000	1,000,000	-	-	6,000,000
Conduct analysis of tax structure for proposed tax relief on recovery and resilience expenses for home and business owners	250,000	-	-	-	250,000
Conduct engineering review of the suitability of existing building codes and available alternatives	100,000	-	-	-	100,000
Explore options for informal settlement upgrading to increase disaster resilience	-	100,000	-	-	100,000
Conduct pilot informal settlement upgrading project	-	-	15,000,000	-	15,000,000
Capitalize housing mortgage guarantee fund to encourage home ownership	-	4,000,000	-	-	4,000,000
Total	**105,350,000**	**213,400,000**	**215,000,000**	**-**	**533,750,000**
Health					
Support construction and outfitting of a new disaster resilient hospital (additional costs to update design to new wind speed standards post-Irma)	-	30,000,000	-	-	30,000,000
Conduct preventive health activities for vector and mold control	107,000	-	-	-	107,000
Purchase ambulances to replace damaged vehicles, including equipment	300,000	700,000	-	-	1,000,000
Procure equipment for ambulance department	297,000	-	-	-	297,000
Develop and procure health information systems (software design, development, training, equipment)	-	-	1,000,000	-	1,000,000
Support continuation health insurance coverage	4,500,000	4,404,000	8,904,000	-	17,808,000
Total	**5,204,000**	**35,104,000**	**9,904,000**	**-**	**50,212,000**

	Needs (USD)				
	Immediate	Short-Term	Medium-Term	Long-Term	Total Needs
Education, Culture, Youth, and Sport					
Provide temporary housing for schools per relocation plans	644,000	-	-	-	644,000
Perform emergency repairs for education facilities	5,000,000	5,674,000	-	-	10,674,000
Implement Phase 2 of school repair and reconstruction	-	-	45,000,000	-	45,000,000
Implement food programs for vulnerable children	1,230,000	1,000,000	3,555,000	2,000,000	7,785,000
Provide psychological care and support to teachers, students, and staff	228,000	-	-	-	228,000
Repair and rebuild cultural facilities and monuments	-	8,622,000	8,622,000	-	17,244,000
Repair and rebuild sports facilities	-	1,387,000	6,400,000	-	7,787,000
Develop disaster preparedness, emergency, school safety, and recovery plans in all facilities	300,000	1,802,000	1,542,000	-	3,644,000
Provide trainings on disaster risk management and child protection/safety	1,000,000	2,172,000	-	-	3,172,000
Strengthen and implement afterschool programs to increase well-being of youngest members of society	479,000	1,139,000	1,264,000	1,304,000	4,186,000
Identify and support vulnerable children needing immediate assistance to avoid underprivileged and impoverished conditions	700,000	-	-	-	700,000
Adjust youth policy action plan to enhance child protection and address youth risks	-	359,000	359,000	-	718,000
Develop, implement and assess pilot daycare programs to assist parents engaged in trainings and job searches	-	250,000	-	-	250,000
Develop accredited education, training, and courses for hospitality workers and civilians to be (re)trained in construction (in addition to the emergency income support through training and skills program focused on hospitality and marine sector workers)	400,000	460,000	860,000	-	1,720,000
Facilitate existing tertiary and vocational education and training (USM and NIPA)	-	1,670,000	-	-	1,670,000
Develop MECYS ICT-based information system and M&E system	-	379,000	283,000	-	662,000
Create a monument fund and legal framework utilizing private/public partnership	-	-	13,894,000	-	13,894,000
Total	**9,981,000**	**24,914,000**	**81,779,000**	**3,304,000**	**119,978,000**

	Needs (USD)				
	Immediate	Short-Term	Medium-Term	Long-Term	Total Needs
Sanitation and Solid Waste Management					
Remove hurricane debris and implement short-term solut*ions* o*n sol*id waste management	10,000,000	5,000,000	-	-	15,000,000
Procure waste management equipment	-	1,200,000	-	-	1,200,000
Construct sustainable solution for solid waste management (e.g., waste-to-energy plant or incineration, and associated infrastructure), including reform of solid waste legislation	-	120,000,000	-	-	120,000,000
Purchase recycling collection trucks	-	240,000	-	-	240,000
Purchase recycling bins and containers	-	120,000	-	-	120,000
Conduct recycling campaign	-	-	300,000	-	300,000
Expand Cannegieter Street Phase 2 sewerage network	-	-	2,900,000	-	2,900,000
Expand Cannegieter Street Phase 3 sewerage network	-	-	2,100,000	-	2,100,000
Expand Voges Street Phase 3 sewerage network	-	-	1,800,000	-	1,800,000
Build sewerage lifting station Philipsburg West and connections	-	1,200,000	-	-	1,200,000
Build sewerage lifting station New Admin Bldg.	-	600,000	-	-	600,000
Build sewerage lifting station FOGA	-	500,000	-	-	500,000
Build Cay Bay sewerage treatment plant (STP)	-	-	12,000,000	-	12,000,000
Expand Union Road sewerage network	-	-	6,600,000	-	6,600,000
Expand Cay Bay sewerage network	-	-	4,300,000	-	4,300,000
Expand Orange Grove Road sewerage network	-	-	3,400,000	-	3,400,000
Expand Well Road sewerage network	-	-	2,400,000	-	2,400,000
Build Cole Bay Lifting Station 1	-	-	1,100,000	-	1,100,000
Expand Welfare Road sewerage network	-	-	1,000,000	-	1,000,000
Purchase land for Cole Bay sewage treatment plant	1,000,000	-	-	-	1,000,000
Expand St. Peters sewerage network	-	-	5,000,000	-	5,000,000
Expand Cul-de-Sac sewerage network	-	-	3,000,000	-	3,000,000
Expand Retreat Estate sewerage network	-	-	1,600,000	-	1,600,000
Expand South Reward sewerage network (Gov't Homes)	-	-	1,400,000	-	1,400,000
Expand Cay Hill/Little Bay sewerage network	-	-	3,500,000	-	3,500,000
Expand main Line along Welgelegen Road	-	-	3,100,000	-	3,100,000
Total	**11,000,000**	**128,860,000**	**55,500,000**	**-**	**195,360,000**

	Needs (USD)				
	Immediate	Short-Term	Medium-Term	Long-Term	Total Needs
Employment, Livelihoods, and Social Protection					
Expand the Emergency Income Support through Training and Skills Program focused on hospitality and marine sector workers	13,500,000	13,500,000	-	-	27,000,000
Establish cash-for-work program to boost livelihoods and assist debris removal program	3,000,000	-	-	-	3,000,000
Create new job opportunities and improve employability in key sectors (e.g., green jobs and construction)	-	2,500,000	3,035,000	-	5,535,000
Create an unemployment insurance fund, including feasibility study and initial capital	-	150,000	6,133,000	-	6,283,000
Enhance a national employment services center	-	310,000	536,000	2,073,000	2,919,000
Provide temporary housing for persons displaced by Irma	1,255,000	-	-	-	1,255,000
Assess emergency shelter needs and optimum distribution	100,000	-	-	-	100,000
Construct new, multi-use emergency shelters that serve as one-stop shops to improve key social services	-	25,000,000	25,000,000	-	50,000,000
Build two multi-use emergency relocation centers to house displaced families following an emergency	-	2,000,000	-	-	2,000,000
Expand psychosocial support programs	1,000,000	-	1,000,000	-	2,000,000
Implement a communication outreach strategy	600,000	150,000	-	-	750,000
Develop an online beneficiary registry	250,000	150,000	-	-	400,000
Implement a socioeconomic needs assessment	250,000	-	-	-	250,000
Develop a monitoring and evaluation tool (Quality of Life Index) as part of a post-disaster management system	75,000	-	-	-	75,000
Provide technical support to SMEs	-	200,000	-	-	200,000
Total	**20,030,000**	**43,960,000**	**35,704,000**	**2,073,000**	**101,767,000**

	Needs (USD)				
	Immediate	Short-Term	Medium-Term	Long-Term	Total Needs
Environment, Ecology, and Biodiversity					
Implement vessel and commodity recycling program	-	600,000	100,000	100,000	800,000
Create a Hilltop National Park and other terrestrial parks; create recreational paths and eco-tourism	-	-	300,000	500,000	800,000
Develop a holistic nature and environment policy and management plan	-	30,000	60,000	-	90,000
Review and update energy policy plan	-	-	30,000	20,000	50,000
Administer a detailed survey of beaches and cleanup of dangerous debris	30,000	-	-	-	30,000
Implement interventions aimed at coral reef damage recovery and restoration	-	180,000	150,000	125,000	455,000
Implement interventions aimed at mangrove stands and seagrass bed damage recovery	-	200,000	200,000	200,000	600,000
Conduct baseline biodiversity survey	-	100,000	50,000	50,000	200,000
Cleanup sea-turtle nesting grounds and monitor nesting successes	-	50,000	10,000	10,000	70,000
Strengthen institutional capacity for environmental conservation, management, and enforcement, including support to key environmental NGOs	-	700,000	500,000	390,000	1,590,000
Upgrade nature and environment research facilities and equipment (incl. coral rehabilitation and nursery, Simpson Bay Lagoon management)	-	150,000	150,000	125,000	425,000
Develop a tree planting and landscaping policy program, create a nature compensation fund, build a nursery and continue reforestation project operations	-	5,000	135,000	130,000	270,000
Strengthen coastal management and protection in relation to climate change	-	50,000	25,000	25,000	100,000
Develop and implement a nature and environment public awareness campaign and education for sustainable development programs	-	80,000	80,000	80,000	240,000
Update environmental norms through new legislation (e.g., norms on air quality, noise, soil pollution, etc.)	-	30,000	30,000	-	60,000
Conduct surveys and research into sustainable eco-tourism development	-	-	40,000	-	40,000
Develop spay, neuter, and animal chip registration program	-	5,000	10,000	5,000	20,000
Total	**30,000**	**2,180,000**	**1,870,000**	**1,760,000**	**5,840,000**

	Needs (USD)				
	Immediate	Short-Term	Medium-Term	Long-Term	Total Needs
Tourism and Commerce					
Repair/reconstruct damaged hotels, including making available conditional financing for sustainable recovery of tourism sector	165,000,000	100,000,000	100,000,000	50,000,000	415,000,000
Create post-emergency marketing/PR strategy	2,000,000	3,000,000	7,000,000	-	12,000,000
Recover and revitalize Philipsburg and Simpson Bay commercial district to enhance product and ensure sustainability	500,000	2,000,000	1,500,000	-	4,000,000
Create tourism resilience strategic plan	250,000	250,000	-	-	500,000
Implement the tourism sector crisis management plan and training for stakeholders	250,000	1,000,000	500,000	-	1,750,000
Redevelop vendor market	-	500,000	4,000,000	500,000	5,000,000
Facilitate recovery and create resilience amongst transport operators	-	1,000,000	1,000,000	1,000,000	3,000,000
Create SME/SBDC/Investment agency	-	250,000	1,400,000	750,000	2,400,000
Develop tourism data analysis statistical system	-	500,000	500,000	500,000	1,500,000
Review and create TOUR Map to sustainable tourism sector	-	250,000	100,000	-	350,000
Perform diversification feasibility study	-	250,000	-	-	250,000
Review and revise sustainable economic development plan	-	100,000	-	-	100,000
Total	**168,000,000**	**109,100,000**	**116,000,000**	**52,750,000**	**445,850,000**
Finance					
Capitalize Partial Credit Guarantee to increase accessibility to capital	35,000,000	25,000,000	-	-	60,000,000
Institute the Gaming Control Board to improve market regulation and increase revenue	-	500,000	2,000,000	500,000	3,000,000
Implement automated customs data system (such as ASYCUDA) to improve management of import and export data	-	500,000	500,000	500,000	1,500,000
Total	**35,000,000**	**26,000,000**	**2,500,000**	**1,000,000**	**64,500,000**
Airport					
Repair terminal building	64,000,000	37,781,000	-	-	101,781,000
Replace furniture and equipment	-	50,898,000	-	-	50,898,000
Upgrade roof structure to higher wind standard and preventing inflow rainwater	-	11,593,000	-	-	11,593,000
Replace radar equipment	-	9,041,000	-	-	9,041,000
Repair airport traffic services building	3,300,000	-	-	-	3,300,000
Repair other buildings	-	1,325,000	-	-	1,325,000
Re-install perimeter fencing	-	1,259,000	-	-	1,259,000
Total	**67,300,000**	**111,897,000**	**-**	**-**	**179,197,000**

	Needs (USD)				
	Immediate	Short-Term	Medium-Term	Long-Term	Total Needs
Ports and Marinas					
Salvage Boats	1,000,000	2,000,000	-	-	3,000,000
Repair pier cruise terminal	500,000	-	-	-	500,000
Repair port building/facilities	-	5,000,000	5,000,000	-	10,000,000
Repair revetments + quay wall	-	2,000,000	-	-	2,000,000
Repave cargo terminal	-	600,000	-	-	600,000
Repair marinas	-	55,000,000	-	-	55,000,000
Institute vessel registration	-	7,500,000	750,000	500,000	8,750,000
Repair causeway bridge landing near airport	-	2,400,000	-	-	2,400,000
Upgrade pier	-	-	-	10,000,000	10,000,000
Total	**1,500,000**	**74,500,000**	**5,750,000**	**10,500,000**	**92,250,000**
Roads and Drainage					
Construct Link 6 evacuation route	-	-	10,000,000	-	10,000,000
Assess, design and build master drainage system - Philipsburg	-	200,000	6,700,000	-	6,900,000
Construct Coralita trench	-	1,400,000	-	-	1,400,000
Construct Cay Hill drainage system	-	-	3,500,000	-	3,500,000
Construct Welgelegen road drainage system	-	-	3,100,000	-	3,100,000
Construct Cole Bay (various) drainage systems	-	-	3,500,000	-	3,500,000
Construct Zagersgut trench	-	-	1,500,000	-	1,500,000
Construct St. Peters trench Phase 2	-	-	900,000	-	900,000
Construct Genip trench	-	-	700,000	-	700,000
Build retention basin Jose Lake Ball Park	-	-	3,000,000	-	3,000,000
Build Little Bay floodgate channel	-	-	1,500,000	-	1,500,000
Total	**-**	**1,600,000**	**34,400,000**	**-**	**36,000,000**
Electricity					
Conduct emergency repairs	1,980,000	-	-	-	1,980,000
Repair powerhouse and plant office	750,000	790,000	-	-	1,540,000
Install streetlights	3,899,000	-	-	-	3,899,000
Install electrical meters	-	3,917,000	-	-	3,917,000
Repair transformer stations	1,000,000	1,430,000	-	-	2,430,000
Complete trenches (placing remaining overland electricity distribution lines underground)	-	5,473,000	-	-	5,473,000
Continue solar energy program (2MW)	-	2,000,000	-	-	2,000,000
Conduct Green Energy Tariff study	-	60,000	-	-	60,000
Improve LNG storage and handling	-	-	11,000,000	-	11,000,000
Convert two dual fuel generators to LNG	-	-	7,920,000	-	7,920,000
Replace generator (dual fuel LNG/HFO)	-	-	16,500,000	-	16,500,000
Total	**7,629,000**	**13,670,000**	**35,420,000**	**-**	**56,719,000**

	Needs (USD)				
	Immediate	Short-Term	Medium-Term	Long-Term	Total Needs
Water					
Conduct emergency repairs	550,000	-	-	-	550,000
Replace and enhance resilience of water storage tanks	8,000,000	500,000	2,130,000	-	10,630,000
Repair pump house	15,000	-	-	-	15,000
Repair pump stations	64,000	-	-	-	64,000
Replace and enhance resilience of water meters	1,200,000	4,027,000	-	-	5,227,000
Install automated meter infrastructure	-	300,000	-	-	300,000
Repair Hope Estate complex	-	8,256,000	-	-	8,256,000
Supervisory control and data acquisition (SCADA) installations (electrical and water)	-	-	60,000	-	60,000
Procure GIS software and hardware; water system management and analysis software	-	25,000	-	-	25,000
Repair GEBE headquarters	-	-	10,838,000	-	10,838,000
Total	**9,829,000**	**13,108,000**	**13,028,000**	**-**	**35,965,000**

Telecoms/ICT					
Conduct emergency repairs	-	13,152,000	-	-	13,152,000
Repair underground installations	-	-	3,395,000	-	3,395,000
Install primary route through SMPR-1 - redundancy increase from Puerto Rico to USA	-	-	-	1,200,000	1,200,000
Install secondary route through SSCS - IRU investment	-	-	1,965,000	-	1,965,000
Install tertiary standby route during hurricane season (6 months)	-	120,000	-	-	120,000
Diversify SLTE system (2 different locations in Sint Maarten and Puerto Rico)	-	-	650,000	-	650,000
Install collapsible antenna structures	-	192,000	-	-	192,000
Reinforce tower structure for hurricane	-	625,000	-	-	625,000
Install generators to sites without generators	-	629,000	-	-	629,000
Build fuel depot in Cole Bay	-	-	50,000	-	50,000
Upgrade HQ 2nd gen & larger fuel tank	-	300,000	-	-	300,000
Install metro backhaul core network redundancy	-	-	400,000	-	400,000
Install communications on wheels	-	-	500,000	-	500,000
Develop recovery spares (SP)	-	228,000	-	-	228,000
Retrofit and strengthen substations	-	-	1,120,000	-	1,120,000
Total	**-**	**15,246,000**	**8,080,000**	**1,200,000**	**24,526,000**

Government Recovery and Resilience Action Plan

	Needs (USD)				
	Immediate	Short-Term	Medium-Term	Long-Term	Total Needs
Disaster Risk Management					
Promote Sint Maarten's engagement with international initiatives aimed at enhancing DRM and climate change adaptation (CCA). In particular, ensure SXM's participation in CARICOM's DRR/CCA initiatives, such as the Caribbean Disaster Emergency Management Agency (CDEMA), and explore the feasibility of joining the Caribbean Catastrophe Risk Insurance Facility (CCRIF)	-	500,000	500,000	-	1,000,000
Conduct an assessment of Sint Maarten's disaster risks and develop a digitized/updatable national atlas of disaster risk profiles	-	750,000	200,000	-	950,000
Develop a national geospatial data system and network	-	700,000	-	-	700,000
Incorporate DRM considerations into relevant land/water/coastal managing and planning processes	-	200,000	150,000	-	350,000
Develop emergency preparedness and contingency plans at all levels	750,000	750,000	1,000,000	-	2,500,000
Improve emergency preparedness and response capacity by conducting regular emergency preparedness/response drills at national and subnational level	500,000	500,000	1,000,000	-	2,000,000
As part of the national DRM policy, strengthen the capacity of the leading DRM agency. Establish a National Platform for DRR according to international best practice	-	1,000,000	500,000	-	1,500,000
Develop a disaster risk and CCA curriculum and conduct awareness campaigns at all levels	-	700,000	500,000	-	1,200,000
Develop and adopt an integrated DRM policy that includes CCA considerations and defines the enabling regulatory and institutional framework for its successful implementation. Promote the inclusion of DRR and CCA into the country's key development policies	-	500,000	500,000	-	1,000,000
Improve DRM governance by promoting the active participation of vulnerable groups and communities in disaster risk management	-	500,000	500,000	-	1,000,000
Conduct an assessment of regulatory and institutional frameworks for DRM and CCA. Evaluate the country's DRM institutional structure and capacity, identify gaps, map government and non-governmental agencies and other stakeholders involved in DRM, design an improved DRM structure, and develop an institutional capacity building plan	-	275,000	250,000	200,000	725,000
Conduct an assessment of regulatory and institutional frameworks for financing disaster response in Sint Maarten. Develop an action plan for building the enabling regulatory and institutional frameworks needed for implementing the country's Disaster Risk Financing (DRF) Strategy	-	150,000	250,000	100,000	500,000

	Needs (USD)				
	Immediate	Short-Term	Medium-Term	Long-Term	Total Needs
Disaster Risk Management— Fire Department					
Repair Fire Department	842,000	-	-	-	842,000
Build airport fire substation	-	6,000,000	-	-	6,000,000
Build bunkers for storage of emergency supplies	-	5,000,000	-	-	5,000,000
Expand fire station/EOC construction and fiber optic connection	4,100,000	-	-	-	4,100,000
Replace damaged/destroyed emergency vehicles (e.g., fire trucks, SUVs, etc.)	-	1,000,000	-	-	1,000,000
Procure additional equipment (e.g., drones, pumps, etc.)	3,150,000	-	-	-	3,150,000
Develop a unified emergency dispatch center	-	-	-	2,000,000	2,000,000
Develop USAR capacity through needs assessment, equipment and ongoing training	50,000	300,000	500,000	400,000	1,250,000
Develop a DMR III communications system and repair of existing radio equipment	-	-	1,280,000	-	1,280,000
Implement emergency messaging system	1,200,000	-	-	-	1,200,000
Develop high-angle rescue capacities	-	-	1,000,000	-	1,000,000
Develop water rescue capacities	-	-	1,000,000	-	1,000,000
Procure materials for education purposes	-	800,000	-	-	800,000
Build siren system	300,000	-	-	-	300,000
Develop governance continuity plan	-	200,000	-	-	200,000
Build an alarm center and communications	-	200,000	-	-	200,000
Develop training plan to optimize emergency response capabilities, expand training center, integrate disaster management software	50,000	150,000	-	-	200,000
Procure external assistance with disaster plan	-	100,000	-	-	100,000
Finalize tsunami project	-	50,000	-	-	50,000
Develop an early warning system (CAP SERVER)	-	35,000	-	-	35,000
Provide certified training in incident command and disaster management	35,000	-	-	-	35,000
Develop Fire Department, internal GIS capacity	-	-	30,000	-	30,000
Collect information on different disasters and coping mechanisms	-	30,000	-	-	30,000
Build disaster management app	-	7,000	-	-	7,000
Disaster Risk Management— Hydro-Meteorological Services					
Build hurricane-proof facilities for meteorological department	-	4,000,000	-	-	4,000,000
Create joint hazard and risk information program	-	500,000	1,000,000	1,000,000	2,500,000
Invest in new radar systems between St Martin/European Union	633,000	-	-	-	633,000
Rebuild weather station and office facilities	575,000	-	-	-	575,000
Upgrade capacity/equipment within meteorological department	250,000	-	-	-	250,000
Total	**12,435,000**	**24,897,000**	**10,160,000**	**3,700,000**	**51,192,000**

	Needs (USD)				
	Immediate	Short-Term	Medium-Term	Long-Term	Total Needs
Governance and Public Financial Management					
Reconstruct damaged tax building	-	5,000,000	7,000,000	-	12,000,000
Address general ICT needs/E-Gov	-	10,000,000	2,000,000	2,000,000	14,000,000
Modernize taxation IT systems	-	3,500,000	3,000,000	2,000,000	8,500,000
Maintain IT systems	-	3,500,000	3,500,000	-	7,000,000
Develop, implement, and asses tax reform to improve compliance (legislation, ICT, and housing of tax administration and recievers)	-	1,386,000	2,386,000	136,000	3,908,000
Design standard for automatic exchange of financial account information (Common Reporting Standard)	-	1,000,000	-	-	1,000,000
Develop financial support packages for large, low interest loans	-	125,000,000	-	-	125,000,000
Create interest-subsidizing loans and mortgages	7,500,000	7,500,000	15,000,000	7,500,000	37,500,000
Establish Government Integrated Financial Management Information System	-	-	3,500,000	3,500,000	7,000,000
Reform PFM legislation and procedures	-	3,500,000	-	-	3,500,000
Enhance statistical data tools of the STAT dept.	-	408,000	408,000	408,000	1,224,000
Total	**7,500,000**	**160,794,000**	**36,794,000**	**15,544,000**	**220,632,000**
Justice, Public Safety, and Security					
Conduct emergency repairs to existing Point Blanche prison facility	3,000,000	-	-	-	3,000,000
Additional security costs until repairs are made, including housing prisoners in Netherlands and Curaçao and additional security at Pointe Blanche	4,200,000	-	-	-	4,200,000
Build new Point Blanche prison facility	-	25,000,000	25,000,000	-	50,000,000
Temporarily relocate prisoners during construction	-	4,000,000	4,000,000	-	8,000,000
Repair police head office (Philipsburg)	1,200,000	3,000,000	-	-	4,200,000
Repair police substation (Simpson Bay)	200,000	-	-	-	200,000
Repair police substation (Cole Bay)	-	26,000	-	-	26,000
Repair police substation (Maho)	-	10,000	-	-	10,000
Repair Justice Academy of Sint Maarten	-	292,000	-	-	292,000
Reconstruct and equip Justice Institute (Cole Bay)	-	-	7,000,000	-	7,000,000
Repair additional police offices in Philipsburg	-	108,000	-	-	108,000
Relocate and equip new 911 call center	300,000	700,000	-	-	1,000,000
Repair Court House	-	200,000	-	-	200,000
Procure Foundation Judicial Institutes (SJIB) temporary housing	-	200,000	-	-	200,000
Repair and strengthen emergency communications network	-	1,200,000	-	-	1,200,000
Procure and install ICT systems for Ministry of Justice	-	2,500,000	-	-	2,500,000
Replace damaged/destroyed vehicles of the Ministry of Justice	1,200,000	-	-	-	1,200,000
Replace damaged uniforms	280,000	-	-	-	280,000
Enhance child protection services	-	200,000	-	-	200,000
Total	**10,380,000**	**37,436,000**	**36,000,000**	**-**	**83,816,000**
Additional Public Buildings					
Additional public buildings repairs	6,183,000	17,356,000	10,978,000	11,000,000	45,517,000
Total	**6,183,000**	**17,356,000**	**10,978,000**	**11,000,000**	**45,517,000**

Photo: © Loic Bryan/Artistic Drive

ANNEX 3
Acknowledgments

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