NDPBA

SURINAME DISTRICT RISK PROFILES

SUBNATIONAL ASSESSMENT RESULTS

SURINAME

BROKOPONDO

NDPBA SUBNATIONAL PROFILE

PDC | GLOBAL

SURINAME
BROKOPONDO

CAPITAL: BROKOPONDO

Area: 7,364 km2

RISK AND VULNERABILITY

COMPONENT SCORE

MULTI-HAZARD RISK (MHR)
Very High
Score: 0.449 • Rank: 2/10

RESILIENCE (R)
Very Low
Score: 0.360 • Rank: 9/10

MULTI-HAZARD EXPOSURE (MHE)
Very Low
Score: 0.069 • Rank: 9/10

VULNERABILITY (V)
Very High
Score: 0.603 • Rank: 2/10

COPING CAPACITY (CC)
Very Low
Score: 0.324 • Rank: 9/10

Population (2012 Census)
15,909

Households with Unsafe Sanitation Practices
92.7%

Population with Electricity Access
34.8%

Child Labor
12.0%

Adolescent Birth Rate (to women under age 21)
20.9%

MULTI-HAZARD EXPOSURE (MHE)

RANK: 9 / 10 DISTRICTS ASSESSED
SCORE: 0.069

MHE
0.069

Raw MHE
0.034

Relative MHE
0.105

ESTIMATED EXPOSURE TO EACH HAZARD:

Coastal Flooding
19%
3,021
Buildings Exposed: **9%**
Critical Infrastructure Exposed: **19%**

Landslide
25%
3,908
Buildings Exposed: **26%**
Critical Infrastructure Exposed: **31%**

Drought
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

Mosquito-borne Disease
99%
15,603
Buildings Exposed: **99%**
Critical Infrastructure Exposed: **100%**

Earthquake
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

Riverine Flooding
36%
5,701
Buildings Exposed: **21%**
Critical Infrastructure Exposed: **24%**

Extreme Heat
93%
14,577
Buildings Exposed: **85%**
Critical Infrastructure Exposed: **66%**

Sea Level Rise
7%
1,156
Buildings Exposed: **3%**
Critical Infrastructure Exposed: **0%**

NOTE: Population exposure values for Suriname are estimated using PDC's All-hazard Impact Model (AIM) model. Values may differ from Census population.

MULTI-HAZARD EXPOSURE (MHE)

RANK: 9 / 10 DISTRICTS
SCORE: 0.069

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:

Tsunami

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**

Wildfire

1%

209

Buildings Exposed: **1%**

Critical Infrastructure Exposed: **0%**

VULNERABILITY (V)

RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.603

Vulnerability in Brokopondo is primarily driven by Education Vulnerability and Economic Constraints. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Children's Vulnerability

0 — 1 **SCORE: 0.597** **RANK: 2/10** DISTRICTS ASSESSED

12.0% Child Labor Participation

25.4% Childhood Disability

42.9% Children Living with Parents

68.9 Early Childhood Development Index Score (out of 100)

9.9% Lack of Household Support for Childhood Learning

Economic Constraints

0 — 1 **SCORE: 0.630** **RANK: 2/10** DISTRICTS ASSESSED

0.020 Multidimensional Poverty Index

73.8% Population in Poorest Wealth Quintile

96.2% Wealth Quintile Skew (income inequality: poorest two quintiles minus richest two quintiles)

Education Vulnerability

0 — 1 **SCORE: 0.829** **RANK: 2/10** DISTRICTS ASSESSED

32.2% Childhood Literacy

18% Lower Secondary School Completion Rate

79.6% Out of School Rate

Gender Vulnerability

0 — 1 **SCORE: 0.626** **RANK: 2/10** DISTRICTS ASSESSED

20.9% Adolescent Birth Rate (to women under age 21)

14.9% Child Marriage (Female)

0.901 Mass Media Exposure Gender Parity (ratio of female exposure to male exposure rate)

Population Pressures

0 — 1 **SCORE: 0.334** **RANK: 9/10** DISTRICTS ASSESSED

5.6% Elderly Population (over age 60)

12.9% Children Under Age 5

-476 Net Migration

1,399 Population Flux (births minus deaths)

COPING CAPACITY (CC)

RANK: 9 / 10 DISTRICTS ASSESSED
SCORE: 0.324

Brokopondo exhibits weaker Coping Capacity in the areas of Public Health Capacity and Energy and Technology Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Coping Capacity score.

Public Health Capacity

0 — 1 **SCORE: 0.096** **RANK: 9/10** DISTRICTS ASSESSED

78.9% Households with E. Coli Contaminated Drinking Water	**72.8%** Measles Vaccination Rate	**92.7%** Households with Unsafe Sanitation Practices	**0.0** Physicians per 10,000 persons	**0.0** Hospital Bed Density per 10,000 persons	**0.0** Clinics per 10,000 persons

Standard of Living

0 — 1 **SCORE: 0.422** **RANK: 9/10** DISTRICTS ASSESSED

84.4% Households Using Clean Fuels for Cooking and Lighting	**83.6%** Households with Finished Exterior Walls	**45.3%** Rural Access Index (population within 2km of all-season road)	**52.4%** Population that Does Not Share Toilet Facilities

Energy and Technology Capacity

0 — 1 **SCORE: 0.228** **RANK: 9/10** DISTRICTS ASSESSED

10.1% Households with Computer Access	**34.8%** Population with Electricity Access

Infrastructure Capacity

0 — 1 **SCORE: 0.549** **RANK: 9/10** DISTRICTS ASSESSED

63.2 Average Distance to Airport (km)	**104.0** Average Distance to EOC (km)	**89.9** Average Distance to Fire Station (km)	**89.5** Average Distance to Hospital (km)	**25.8** Average Distance to Police Station (km)	**79.2** Average Distance to Port (km)	**32.3** Average Distance to School (km)	**6.1** Average Distance to Telecommunications (km)

RESILIENCE (R)

RANK: 9 / 10 DISTRICTS ASSESSED
SCORE: 0.360

Brokopondo's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

KEY FACTORS INFLUENCING RESILIENCE:

Education Vulnerability

Limited access to education and low literacy rates can hinder a population's ability to understand and act upon hazard alert and warning messages. Emergency messages disseminated to the population must contain clear and simple information that fosters understanding and promotes life-saving action. Low school attendance rates can be further exacerbated due to the disruption caused by a natural disaster and the additional demands placed on households during the recovery process. Efforts to remove impediments to school attendance such as economic constraints, inadequate facilities, geographic isolation, and marginalization will reduce vulnerability and increase opportunities for the population.

Economic Constraints

Economic constraints have individual, household, community, and region-wide influence. Limitations on available financial resources reduce opportunities to invest in mitigation and preparedness measures and limit the ability to facilitate short- and long-term recovery.

Public Health Capacity

Access to improved water and sanitation, and vaccination against childhood diseases improves health outcomes and frees up resources to decrease further susceptibility to impacts. In addition, access to skilled caregivers and dedicated facilities for the treatment of injury and disease enhances the ability of the served population to absorb and manage post-disaster impacts to health and increases the likelihood that disaster-associated health and medical impacts may be addressed.

Energy and Technology Capacity

Homes, businesses, industry, and government all rely on access to energy resources for continuity of daily activities. Expanding, strengthening, and securing the energy network and increasing the availability and quantity of energy reserves will contribute to economic development and increase the speed of recovery processes in the aftermath of a disaster. Furthermore, access to communications infrastructure and technology makes it easier for people to communicate reliably, increasing accessibility to alert and warning information.

HAZARD-SPECIFIC RISK (HSR)

Coastal Flooding
RANK: 9 / 10 DISTRICTS ASSESSED
SCORE: 0.174

Drought
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Earthquake
RANK: 9 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Extreme Heat
RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.501

Landslide
RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.800

Mosquito-borne Disease
RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.664

Riverine Flooding
RANK: 9 / 10 DISTRICTS ASSESSED
SCORE: 0.166

Sea Level Rise
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.179

Tsunami
RANK: 9 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Wildfire
RANK: 6 / 10 DISTRICTS ASSESSED
SCORE: 0.064

MULTI-HAZARD RISK (MHR)

2 / 10
RANK AMONG DISTRICTS
Score: 0.449

Brokopondo's score and ranking are due to Very Low Multi-Hazard Exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

DISTRICTS SCORE
COUNTRY SCORE

Multi-Hazard Exposure

0.069
0.343

Vulnerability

0.603
0.376

Coping Capacity

0.324
0.595

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SURINAME

COMMEWIJNE

NDPBA SUBNATIONAL PROFILE

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SURINAME
COMMEWIJNE

CAPITAL: NIEUW-AMSTERDAM

Area: 2,353 km2

RISK AND VULNERABILITY

COMPONENT SCORE

MULTI-HAZARD RISK (MHR)
Very Low
Score: 0.223 • Rank: 10/10

RESILIENCE (R)
High
Score: 0.803 • Rank: 3/10

MULTI-HAZARD EXPOSURE (MHE)
Low
Score: 0.276 • Rank: 7/10

VULNERABILITY (V)
Very Low
Score: 0.119 • Rank: 10/10

COPING CAPACITY (CC)
High
Score: 0.725 • Rank: 4/10

Population (2012 Census)
31,420

Households with Unsafe Sanitation Practices
64.2%

Population with Electricity Access
72.3%

Child Labor
1.9%

Adolescent Birth Rate (to women under age 21)
11.1%

MULTI-HAZARD EXPOSURE (MHE)

RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.276

ESTIMATED EXPOSURE TO EACH HAZARD:

Coastal Flooding
89%
30,824
Buildings Exposed: **91%**
Critical Infrastructure Exposed: **83%**

Landslide
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

Drought
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

Mosquito-borne Disease
99%
34,331
Buildings Exposed: **99%**
Critical Infrastructure Exposed: **100%**

Earthquake
37%
12,662
Buildings Exposed: **44%**
Critical Infrastructure Exposed: **28%**

Riverine Flooding
81%
28,127
Buildings Exposed: **84%**
Critical Infrastructure Exposed: **58%**

Extreme Heat
100%
34,688
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **100%**

Sea Level Rise
2%
585
Buildings Exposed: **2%**
Critical Infrastructure Exposed: **7%**

NOTE: Population exposure values for Suriname are estimated using PDC's All-hazard Impact Model (AIM) model. Values may differ from Census population.

MULTI-HAZARD EXPOSURE (MHE)

RANK: 7 / 10 DISTRICTS
SCORE: 0.276

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:

Tsunami

3%

974

Buildings Exposed: **4%**

Critical Infrastructure Exposed: **1%**

Wildfire

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**

VULNERABILITY (V)

RANK: 10 / 10 DISTRICTS ASSESSED
SCORE: 0.119

Vulnerability in Commewijne is primarily driven by Population Pressures and Economic Constraints. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Children's Vulnerability

0 — 1 **SCORE: 0.056** **RANK: 9/10** DISTRICTS ASSESSED

1.9% Child Labor Participation

10.0% Childhood Disability

68.2% Children Living with Parents

83.7 Early Childhood Development Index Score (out of 100)

4.3% Lack of Household Support for Childhood Learning

Economic Constraints

0 — 1 **SCORE: 0.117** **RANK: 6/10** DISTRICTS ASSESSED

0.005 Multidimensional Poverty Index

14.2% Population in Poorest Wealth Quintile

-0.6% Wealth Quintile Skew (income inequality: poorest two quintiles minus richest two quintiles)

Education Vulnerability

0 — 1 **SCORE: 0.055** **RANK: 10/10** DISTRICTS ASSESSED

52.9% Childhood Literacy

67% Lower Secondary School Completion Rate

29.2% Out of School Rate

Gender Vulnerability

0 — 1 **SCORE: 0.028** **RANK: 10/10** DISTRICTS ASSESSED

11.1% Adolescent Birth Rate (to women under age 21)

4.4% Child Marriage (Female)

1.002 Mass Media Exposure Gender Parity (ratio of female exposure to male exposure rate)

Population Pressures

0 — 1 **SCORE: 0.338** **RANK: 8/10** DISTRICTS ASSESSED

8.9% Elderly Population (over age 60)

7.9% Children Under Age 5

833 Net Migration

1,035 Population Flux (births minus deaths)

COPING CAPACITY (CC)

RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.725

Commewijne exhibits weaker Coping Capacity in the areas of Public Health Capacity and Energy and Technology Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Coping Capacity score.

Public Health Capacity

0 — 1 **SCORE: 0.446** **RANK: 5/10** DISTRICTS ASSESSED

65.7% Households with E. Coli Contaminated Drinking Water

81.9% Measles Vaccination Rate

64.2% Households with Unsafe Sanitation Practices

5.5 Physicians per 10,000 persons

0.0 Hospital Bed Density per 10,000 persons

3.2 Clinics per 10,000 persons

Standard of Living

0 — 1 **SCORE: 0.820** **RANK: 5/10** DISTRICTS ASSESSED

94.4% Households Using Clean Fuels for Cooking and Lighting

90.5% Households with Finished Exterior Walls

70.0% Rural Access Index (population within 2km of all-season road)

95.2% Population that Does Not Share Toilet Facilities

Energy and Technology Capacity

0 — 1 **SCORE: 0.688** **RANK: 4/10** DISTRICTS ASSESSED

34.0% Households with Computer Access

72.3% Population with Electricity Access

Infrastructure Capacity

0 — 1 **SCORE: 0.946** **RANK: 3/10** DISTRICTS ASSESSED

16.0 Average Distance to Airport (km)

13.9 Average Distance to EOC (km)

5.7 Average Distance to Fire Station (km)

12.6 Average Distance to Hospital (km)

6.4 Average Distance to Police Station (km)

13.0 Average Distance to Port (km)

7.3 Average Distance to School (km)

0.8 Average Distance to Telecommunications (km)

RESILIENCE (R)

RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.803

Commewijne's score and ranking are due to Very Low Vulnerability combined with High Coping Capacity scores.

KEY FACTORS INFLUENCING RESILIENCE:

Population Pressures

Rapid changes in population size and distribution can alter population vulnerability characteristics presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

Economic Constraints

Economic constraints have individual, household, community, and region-wide influence. Limitations on available financial resources reduce opportunities to invest in mitigation and preparedness measures and limit the ability to facilitate short- and long-term recovery.

Public Health Capacity

Access to improved water and sanitation, and vaccination against childhood diseases improves health outcomes and frees up resources to decrease further susceptibility to impacts. In addition, access to skilled caregivers and dedicated facilities for the treatment of injury and disease enhances the ability of the served population to absorb and manage post-disaster impacts to health and increases the likelihood that disaster-associated health and medical impacts may be addressed.

Energy and Technology Capacity

Homes, businesses, industry, and government all rely on access to energy resources for continuity of daily activities. Expanding, strengthening, and securing the energy network and increasing the availability and quantity of energy reserves will contribute to economic development and increase the speed of recovery processes in the aftermath of a disaster. Furthermore, access to communications infrastructure and technology makes it easier for people to communicate reliably, increasing accessibility to alert and warning information.

HAZARD-SPECIFIC RISK (HSR)

Coastal Flooding
RANK: 6 / 10 DISTRICTS ASSESSED
SCORE: 0.356

Drought
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Earthquake
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.229

Extreme Heat
RANK: 8 / 10 DISTRICTS ASSESSED
SCORE: 0.376

Landslide
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Mosquito-borne Disease
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.372

Riverine Flooding
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.325

Sea Level Rise
RANK: 6 / 10 DISTRICTS ASSESSED
SCORE: 0.130

Tsunami
RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.106

Wildfire
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.000

MULTI-HAZARD RISK (MHR)

10 / 10
RANK AMONG DISTRICTS
Score: 0.223

Commewijne's score and ranking are due to Low Multi-Hazard Exposure combined with Very Low Vulnerability and High Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

DISTRICTS SCORE
COUNTRY SCORE

Multi-Hazard Exposure

0.276
0.343

Vulnerability

0.119
0.376

Coping Capacity

0.725
0.595

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SURINAME

CORONIE

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SURINAME
CORONIE

CAPITAL: TOTNESS

Area: 3,902 km2

RISK AND VULNERABILITY

COMPONENT SCORE

MULTI-HAZARD RISK (MHR)
Moderate
Score: 0.360 • Rank: 5/10

RESILIENCE (R)
Moderate
Score: 0.633 • Rank: 6/10

MULTI-HAZARD EXPOSURE (MHE)
High
Score: 0.345 • Rank: 4/10

VULNERABILITY (V)
Moderate
Score: 0.325 • Rank: 5/10

COPING CAPACITY (CC)
Low
Score: 0.590 • Rank: 7/10

Population (2012 Census)
3,391

Households with Unsafe Sanitation Practices
81.1%

Population with Electricity Access
34.2%

Child Labor
27.8%

Adolescent Birth Rate (to women under age 21)
12.5%

MULTI-HAZARD EXPOSURE (MHE)

RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.345

MHE
0.345

Raw MHE
0.000

Relative MHE
0.689

ESTIMATED EXPOSURE TO EACH HAZARD:

Coastal Flooding
92%
3,427
Buildings Exposed: **95%**
Critical Infrastructure Exposed: **99%**

Landslide
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

Drought
99%
3,668
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **0%**

Mosquito-borne Disease
91%
3,367
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **No data**

Earthquake
100%
3,713
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **72%**

Riverine Flooding
33%
1,214
Buildings Exposed: **33%**
Critical Infrastructure Exposed: **25%**

Extreme Heat
100%
3,713
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **100%**

Sea Level Rise
4%
146
Buildings Exposed: **10%**
Critical Infrastructure Exposed: **6%**

NOTE: Population exposure values for Suriname are estimated using PDC's All-hazard Impact Model (AIM) model. Values may differ from Census population.

MULTI-HAZARD EXPOSURE (MHE)

RANK: 4 / 10 DISTRICTS
SCORE: 0.345

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:

Tsunami
0%
0
Buildings Exposed: **3%**
Critical Infrastructure Exposed: **<1%**

Wildfire
83%
3,097
Buildings Exposed: **85%**
Critical Infrastructure Exposed: **58%**

VULNERABILITY (V)

RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.325

Vulnerability in Coronie is primarily driven by Children's Vulnerability and Population Pressures. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Children's Vulnerability

0 — 1 **SCORE: 0.595** **RANK: 3/10** DISTRICTS ASSESSED

27.8% Child Labor Participation

19.3% Childhood Disability

43.7% Children Living with Parents

75.4 Early Childhood Development Index Score (out of 100)

7.9% Lack of Household Support for Childhood Learning

Economic Constraints

0 — 1 **SCORE: 0.075** **RANK: 7/10** DISTRICTS ASSESSED

0.000 Multidimensional Poverty Index

5.7% Population in Poorest Wealth Quintile

0.4% Wealth Quintile Skew (income inequality: poorest two quintiles minus richest two quintiles)

Education Vulnerability

0 — 1 **SCORE: 0.348** **RANK: 5/10** DISTRICTS ASSESSED

40.4% Childhood Literacy

53% Lower Secondary School Completion Rate

44.3% Out of School Rate

Gender Vulnerability

0 — 1 **SCORE: 0.225** **RANK: 5/10** DISTRICTS ASSESSED

12.5% Adolescent Birth Rate (to women under age 21)

8.1% Child Marriage (Female)

0.936 Mass Media Exposure Gender Parity (ratio of female exposure to male exposure rate)

Population Pressures

0 — 1 **SCORE: 0.380** **RANK: 6/10** DISTRICTS ASSESSED

10.6% Elderly Population (over age 60)

8.5% Children Under Age 5

101 Net Migration

79 Population Flux (births minus deaths)

COPING CAPACITY (CC)

RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.590

Coronie exhibits weaker Coping Capacity in the areas of Energy and Technology Capacity and Public Health Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Coping Capacity score.

Public Health Capacity

0 — 1 **SCORE: 0.440** **RANK: 6/10** DISTRICTS ASSESSED

76.8% Households with E. Coli Contaminated Drinking Water	**76.9%** Measles Vaccination Rate	**81.1%** Households with Unsafe Sanitation Practices	**12.7** Physicians per 10,000 persons	**12.7** Hospital Bed Density per 10,000 persons	**3.2** Clinics per 10,000 persons

Standard of Living

0 — 1 **SCORE: 0.877** **RANK: 3/10** DISTRICTS ASSESSED

98.1% Households Using Clean Fuels for Cooking and Lighting	**98.5%** Households with Finished Exterior Walls	**51.7%** Rural Access Index (population within 2km of all-season road)	**96.7%** Population that Does Not Share Toilet Facilities

Energy and Technology Capacity

0 — 1 **SCORE: 0.362** **RANK: 7/10** DISTRICTS ASSESSED

22.4% Households with Computer Access	**34.2%** Population with Electricity Access

Infrastructure Capacity

0 — 1 **SCORE: 0.681** **RANK: 7/10** DISTRICTS ASSESSED

77.8 Average Distance to Airport (km)	**128.7** Average Distance to EOC (km)	**9.5** Average Distance to Fire Station (km)	**72.5** Average Distance to Hospital (km)	**8.1** Average Distance to Police Station (km)	**41.6** Average Distance to Port (km)	**41.5** Average Distance to School (km)	**1.7** Average Distance to Telecommunications (km)

RESILIENCE (R)

RANK: 6 / 10 DISTRICTS ASSESSED
SCORE: 0.633

Coronie's score and ranking are due to Moderate Vulnerability combined with Low Coping Capacity scores.

KEY FACTORS INFLUENCING RESILIENCE:

Children's Vulnerability

Children who are developmentally disadvantaged or have a disability are more susceptible to harm during times of disaster. Furthermore, children engaged in child labor, where safety concerns may be an issue, and in living arrangements lacking adult supervision, are more likely to suffer negative consequences as a result of an emergency situation. Efforts to support the cognitive, physical, social and emotional development of young children will reduce their vulnerability and have positive bearing on their future health and well-being.

Population Pressures

Rapid changes in population size and distribution can alter population vulnerability characteristics presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

Energy and Technology Capacity

Homes, businesses, industry, and government all rely on access to energy resources for continuity of daily activities. Expanding, strengthening, and securing the energy network and increasing the availability and quantity of energy reserves will contribute to economic development and increase the speed of recovery processes in the aftermath of a disaster. Furthermore, access to communications infrastructure and technology makes it easier for people to communicate reliably, increasing accessibility to alert and warning information.

Public Health Capacity

Access to improved water and sanitation, and vaccination against childhood diseases improves health outcomes and frees up resources to decrease further susceptibility to impacts. In addition, access to skilled caregivers and dedicated facilities for the treatment of injury and disease enhances the ability of the served population to absorb and manage post-disaster impacts to health and increases the likelihood that disaster-associated health and medical impacts may be addressed.

HAZARD-SPECIFIC RISK (HSR)

Coastal Flooding
RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.487

Drought
RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.373

Earthquake
RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.477

Extreme Heat
RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.495

Landslide
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Mosquito-borne Disease
RANK: 6 / 10 DISTRICTS ASSESSED
SCORE: 0.389

Riverine Flooding
RANK: 10 / 10 DISTRICTS ASSESSED
SCORE: 0.144

Sea Level Rise
RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.192

Tsunami
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.066

Wildfire
RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.443

MULTI-HAZARD RISK (MHR)

5 / 10
RANK AMONG DISTRICTS
Score: 0.360

Coronie's score and ranking are due to High Multi-Hazard Exposure combined with Moderate Vulnerability and Low Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

DISTRICTS SCORE
COUNTRY SCORE

Multi-Hazard Exposure

0.345
0.343

Vulnerability

0.325
0.376

Coping Capacity

0.590
0.595

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SURINAME

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MAROWIJNE

CAPITAL: ALBINA

Area: 4,627 km2

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR)
High
Score: 0.425 • Rank: 3/10

RESILIENCE (R)
Low
Score: 0.503 • Rank: 8/10

MULTI-HAZARD EXPOSURE (MHE)
Moderate
Score: 0.281 • Rank: 6/10

VULNERABILITY (V)
High
Score: 0.549 • Rank: 3/10

COPING CAPACITY (CC)
Low
Score: 0.555 • Rank: 8/10

Population (2012 Census)
18,294

Households with Unsafe Sanitation Practices
76.4%

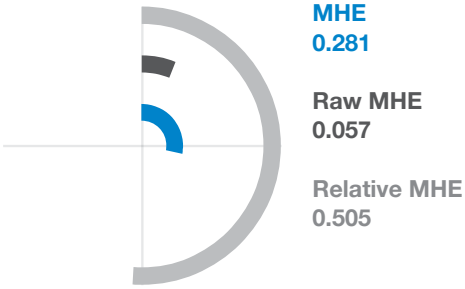
Population with Electricity Access
43.9%

Child Labor
4.8%

Adolescent Birth Rate (to women under age 21)
13.2%

MULTI-HAZARD EXPOSURE (MHE)

RANK: 6 / 10 DISTRICTS ASSESSED
SCORE: 0.281



ESTIMATED EXPOSURE TO EACH HAZARD:

Coastal Flooding
52%
10,583
Buildings Exposed: **60%**
Critical Infrastructure Exposed: **65%**

Landslide
1%
212
Buildings Exposed: **1%**
Critical Infrastructure Exposed: **2%**

Drought
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

Mosquito-borne Disease
98%
19,825
Buildings Exposed: **99%**
Critical Infrastructure Exposed: **100%**

Earthquake
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

Riverine Flooding
74%
14,936
Buildings Exposed: **77%**
Critical Infrastructure Exposed: **55%**

Extreme Heat
100%
20,191
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **100%**

Sea Level Rise
19%
3,899
Buildings Exposed: **26%**
Critical Infrastructure Exposed: **33%**

NOTE: Population exposure values for Suriname are estimated using PDC's All-hazard Impact Model (AIM) model. Values may differ from Census population.

MULTI-HAZARD EXPOSURE (MHE)

RANK: 6 / 10 DISTRICTS
SCORE: 0.281

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:

Tsunami
<1%
9
Buildings Exposed: **5%**
Critical Infrastructure Exposed: **17%**

Wildfire
84%
16,882
Buildings Exposed: **81%**
Critical Infrastructure Exposed: **80%**

VULNERABILITY (V)

RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.549

Vulnerability in Marowijne is primarily driven by Education Vulnerability and Children's Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Children's Vulnerability

0 — 1 **SCORE: 0.516** **RANK: 4/10** DISTRICTS ASSESSED

4.8%	14.1%	45.6%	61.9	23.1%
Child Labor Participation	Childhood Disability	Children Living with Parents	Early Childhood Development Index Score (out of 100)	Lack of Household Support for Childhood Learning

Economic Constraints

0 — 1 **SCORE: 0.475** **RANK: 3/10** DISTRICTS ASSESSED

0.017	52.6%	69.6%
Multidimensional Poverty Index	Population in Poorest Wealth Quintile	Wealth Quintile Skew (income inequality: poorest two quintiles minus richest two quintiles)

Education Vulnerability

0 — 1 **SCORE: 0.778** **RANK: 3/10** DISTRICTS ASSESSED

25.5%	23%	62.1%
Childhood Literacy	Lower Secondary School Completion Rate	Out of School Rate

Gender Vulnerability

0 — 1 **SCORE: 0.510** **RANK: 3/10** DISTRICTS ASSESSED

13.2%	14.2%	0.831
Adolescent Birth Rate (to women under age 21)	Child Marriage (Female)	Mass Media Exposure Gender Parity (ratio of female exposure to male exposure rate)

Population Pressures

0 — 1 **SCORE: 0.467** **RANK: 4/10** DISTRICTS ASSESSED

8.1%	13.9%	27	697
Elderly Population (over age 60)	Children Under Age 5	Net Migration	Population Flux (births minus deaths)

COPING CAPACITY (CC)

RANK: 8 / 10 DISTRICTS ASSESSED
SCORE: 0.555

Marowijne exhibits weaker Coping Capacity in the areas of Energy and Technology Capacity and Infrastructure Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Coping Capacity score.

Public Health Capacity

0 — 1 **SCORE: 0.676** **RANK: 1/10** DISTRICTS ASSESSED

58.4% Households with E. Coli Contaminated Drinking Water	**91.2%** Measles Vaccination Rate	**76.4%** Households with Unsafe Sanitation Practices	**4.4** Physicians per 10,000 persons	**36.4** Hospital Bed Density per 10,000 persons	**6.6** Clinics per 10,000 persons

Standard of Living

0 — 1 **SCORE: 0.672** **RANK: 7/10** DISTRICTS ASSESSED

93.4% Households Using Clean Fuels for Cooking and Lighting	**88.0%** Households with Finished Exterior Walls	**56.3%** Rural Access Index (population within 2km of all-season road)	**78.6%** Population that Does Not Share Toilet Facilities

Energy and Technology Capacity

0 — 1 **SCORE: 0.317** **RANK: 8/10** DISTRICTS ASSESSED

13.9% Households with Computer Access	**43.9%** Population with Electricity Access

Infrastructure Capacity

0 — 1 **SCORE: 0.557** **RANK: 8/10** DISTRICTS ASSESSED

101.7 Average Distance to Airport (km)	**102.8** Average Distance to EOC (km)	**26.5** Average Distance to Fire Station (km)	**25.9** Average Distance to Hospital (km)	**56.1** Average Distance to Police Station (km)	**20.3** Average Distance to Port (km)	**91.0** Average Distance to School (km)	**2.6** Average Distance to Telecommunications (km)

RESILIENCE (R)

RANK: 8 / 10 DISTRICTS ASSESSED
SCORE: 0.503

Marowijne's score and ranking are due to High Vulnerability combined with Low Coping Capacity scores.

KEY FACTORS INFLUENCING RESILIENCE:

Education Vulnerability

Limited access to education and low literacy rates can hinder a population's ability to understand and act upon hazard alert and warning messages. Emergency messages disseminated to the population must contain clear and simple information that fosters understanding and promotes life-saving action. Low school attendance rates can be further exacerbated due to the disruption caused by a natural disaster and the additional demands placed on households during the recovery process. Efforts to remove impediments to school attendance such as economic constraints, inadequate facilities, geographic isolation, and marginalization will reduce vulnerability and increase opportunities for the population.

Children's Vulnerability

Children who are developmentally disadvantaged or have a disability are more susceptible to harm during times of disaster. Furthermore, children engaged in child labor, where safety concerns may be an issue, and in living arrangements lacking adult supervision, are more likely to suffer negative consequences as a result of an emergency situation. Efforts to support the cognitive, physical, social and emotional development of young children will reduce their vulnerability and have positive bearing on their future health and well-being.

Energy and Technology Capacity

Homes, businesses, industry, and government all rely on access to energy resources for continuity of daily activities. Expanding, strengthening, and securing the energy network and increasing the availability and quantity of energy reserves will contribute to economic development and increase the speed of recovery processes in the aftermath of a disaster. Furthermore, access to communications infrastructure and technology makes it easier for people to communicate reliably, increasing accessibility to alert and warning information.

Infrastructure Capacity

The density, quality, and resilience of infrastructure influences how local populations access critical lifelines including transportation, communications, emergency services, and skilled health care. Establishing and maintaining a robust network of systems and resources helps to safeguard communities by providing more options for bringing outside resources into an impacted area, improving the ability of disaster management stakeholders to effectively reach vulnerable populations.

HAZARD-SPECIFIC RISK (HSR)

Coastal Flooding
RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.444

Drought
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Earthquake
RANK: 9 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Extreme Heat
RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.585

Landslide
RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.148

Mosquito-borne Disease
RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.577

Riverine Flooding
RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.474

Sea Level Rise
RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.521

Tsunami
RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.275

Wildfire
RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.606

MULTI-HAZARD RISK (MHR)

3 / 10
RANK AMONG DISTRICTS
Score: 0.425

Marowijne's score and ranking are due to Moderate Multi-Hazard Exposure combined with High Vulnerability and Low Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

DISTRICTS SCORE
COUNTRY SCORE

Multi-Hazard Exposure
0.281
0.343

Vulnerability
0.549
0.376

Coping Capacity
0.555
0.595

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SURINAME

NICKERIE

NDPBA SUBNATIONAL PROFILE

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SURINAME
NICKERIE

CAPITAL: NIEUW-NICKERIE

Area: 5,353 km2

RISK AND VULNERABILITY

COMPONENT SCORE

MULTI-HAZARD RISK (MHR)
Low
Score: 0.327 • Rank: 7/10

RESILIENCE (R)
Very High
Score: 0.815 • Rank: 2/10

MULTI-HAZARD EXPOSURE (MHE)
High
Score: 0.609 • Rank: 3/10

VULNERABILITY (V)
Very Low
Score: 0.132 • Rank: 9/10

COPING CAPACITY (CC)
High
Score: 0.761 • Rank: 3/10

Population (2012 Census)
34,233

Households with Unsafe Sanitation Practices
55.1%

Population with Electricity Access
74.3%

Child Labor
3.9%

Adolescent Birth Rate (to women under age 21)
13.1%

MULTI-HAZARD EXPOSURE (MHE)

RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.609

MHE
0.609

Raw MHE
0.218

Relative MHE
1.000

ESTIMATED EXPOSURE TO EACH HAZARD:

Coastal Flooding
100%
25,940
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **100%**

Landslide
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

Drought
8%
2,070
Buildings Exposed: **14%**
Critical Infrastructure Exposed: **3%**

Mosquito-borne Disease
100%
25,890
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **100%**

Earthquake
100%
25,960
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **82%**

Riverine Flooding
98%
25,550
Buildings Exposed: **98%**
Critical Infrastructure Exposed: **79%**

Extreme Heat
100%
25,960
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **100%**

Sea Level Rise
56%
14,435
Buildings Exposed: **56%**
Critical Infrastructure Exposed: **21%**

NOTE: Population exposure values for Suriname are estimated using PDC's All-hazard Impact Model (AIM) model. Values may differ from Census population.

MULTI-HAZARD EXPOSURE (MHE)

RANK: 3 / 10 DISTRICTS
SCORE: 0.609

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:

Tsunami
51%
13,204
Buildings Exposed: **49%**
Critical Infrastructure Exposed: **44%**

Wildfire
100%
25,900
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **90%**

VULNERABILITY (V)

RANK: 9 / 10 DISTRICTS ASSESSED
SCORE: 0.132

Vulnerability in Nickerie is primarily driven by Population Pressures and Education Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Children's Vulnerability

0 — 1 **SCORE: 0.027** **RANK: 10/10** DISTRICTS ASSESSED

3.9%	7.1%	66.5%	86.8	3.4%
Child Labor Participation	Childhood Disability	Children Living with Parents	Early Childhood Development Index Score (out of 100)	Lack of Household Support for Childhood Learning

Economic Constraints

0 — 1 **SCORE: 0.071** **RANK: 8/10** DISTRICTS ASSESSED

0.002	10.6%	-10.5%
Multidimensional Poverty Index	Population in Poorest Wealth Quintile	Wealth Quintile Skew (income inequality: poorest two quintiles minus richest two quintiles)

Education Vulnerability

0 — 1 **SCORE: 0.105** **RANK: 9/10** DISTRICTS ASSESSED

56.7%	50%	26.1%
Childhood Literacy	Lower Secondary School Completion Rate	Out of School Rate

Gender Vulnerability

0 — 1 **SCORE: 0.090** **RANK: 9/10** DISTRICTS ASSESSED

13.1%	4.9%	0.997
Adolescent Birth Rate (to women under age 21)	Child Marriage (Female)	Mass Media Exposure Gender Parity (ratio of female exposure to male exposure rate)

Population Pressures

0 — 1 **SCORE: 0.367** **RANK: 7/10** DISTRICTS ASSESSED

11.0%	7.4%	-352	652
Elderly Population (over age 60)	Children Under Age 5	Net Migration	Population Flux (births minus deaths)

COPING CAPACITY (CC)

RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.761

Nickerie exhibits weaker Coping Capacity in the areas of Public Health Capacity and Energy and Technology Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Coping Capacity score.

Public Health Capacity

0 — 1 **SCORE: 0.638** **RANK: 2/10** DISTRICTS ASSESSED

63.0% Households with E. Coli Contaminated Drinking Water	**99.6%** Measles Vaccination Rate	**55.1%** Households with Unsafe Sanitation Practices	**4.7** Physicians per 10,000 persons	**39.7** Hospital Bed Density per 10,000 persons	**2.0** Clinics per 10,000 persons

Standard of Living

0 — 1 **SCORE: 0.835** **RANK: 4/10** DISTRICTS ASSESSED

92.5% Households Using Clean Fuels for Cooking and Lighting	**89.6%** Households with Finished Exterior Walls	**80.1%** Rural Access Index (population within 2km of all-season road)	**96.6%** Population that Does Not Share Toilet Facilities

Energy and Technology Capacity

0 — 1 **SCORE: 0.727** **RANK: 3/10** DISTRICTS ASSESSED

36.6% Households with Computer Access	**74.3%** Population with Electricity Access

Infrastructure Capacity

0 — 1 **SCORE: 0.843** **RANK: 5/10** DISTRICTS ASSESSED

11.5 Average Distance to Airport (km)	**198.4** Average Distance to EOC (km)	**8.2** Average Distance to Fire Station (km)	**8.3** Average Distance to Hospital (km)	**8.1** Average Distance to Police Station (km)	**5.8** Average Distance to Port (km)	**2.9** Average Distance to School (km)	**0.7** Average Distance to Telecommunications (km)

RESILIENCE (R)

RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.815

Nickerie's score and ranking are due to Very Low Vulnerability combined with High Coping Capacity scores.

KEY FACTORS INFLUENCING RESILIENCE:

Population Pressures

Rapid changes in population size and distribution can alter population vulnerability characteristics presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

Education Vulnerability

Limited access to education and low literacy rates can hinder a population's ability to understand and act upon hazard alert and warning messages. Emergency messages disseminated to the population must contain clear and simple information that fosters understanding and promotes life-saving action. Low school attendance rates can be further exacerbated due to the disruption caused by a natural disaster and the additional demands placed on households during the recovery process. Efforts to remove impediments to school attendance such as economic constraints, inadequate facilities, geographic isolation, and marginalization will reduce vulnerability and increase opportunities for the population.

Public Health Capacity

Access to improved water and sanitation, and vaccination against childhood diseases improves health outcomes and frees up resources to decrease further susceptibility to impacts. In addition, access to skilled caregivers and dedicated facilities for the treatment of injury and disease enhances the ability of the served population to absorb and manage post-disaster impacts to health and increases the likelihood that disaster-associated health and medical impacts may be addressed.

Energy and Technology Capacity

Homes, businesses, industry, and government all rely on access to energy resources for continuity of daily activities. Expanding, strengthening, and securing the energy network and increasing the availability and quantity of energy reserves will contribute to economic development and increase the speed of recovery processes in the aftermath of a disaster. Furthermore, access to communications infrastructure and technology makes it easier for people to communicate reliably, increasing accessibility to alert and warning information.

HAZARD-SPECIFIC RISK (HSR)

Coastal Flooding
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.371

Drought
RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.249

Earthquake
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.361

Extreme Heat
RANK: 9 / 10 DISTRICTS ASSESSED
SCORE: 0.363

Landslide
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Mosquito-borne Disease
RANK: 9 / 10 DISTRICTS ASSESSED
SCORE: 0.362

Riverine Flooding
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.368

Sea Level Rise
RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.403

Tsunami
RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.427

Wildfire
RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.431

MULTI-HAZARD RISK (MHR)

7 / 10
RANK AMONG DISTRICTS
Score: 0.327

Nickerie's score and ranking are due to High Multi-Hazard Exposure combined with Very Low Vulnerability and High Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

DISTRICTS SCORE
COUNTRY SCORE

Multi-Hazard Exposure

0.609
0.343

Vulnerability

0.132
0.376

Coping Capacity

0.761
0.595

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SURINAME

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SURINAME
PARA

CAPITAL: ONVERWACHT

Area: 5,393 km2

RISK AND VULNERABILITY

COMPONENT SCORE

MULTI-HAZARD RISK (MHR)
Low
Score: 0.324 • Rank: 8/10

RESILIENCE (R)
Low
Score: 0.582 • Rank: 7/10

MULTI-HAZARD EXPOSURE (MHE)
Low
Score: 0.136 • Rank: 8/10

VULNERABILITY (V)
High
Score: 0.455 • Rank: 4/10

COPING CAPACITY (CC)
Moderate
Score: 0.618 • Rank: 6/10

Population (2012 Census)
24,700

Households with Unsafe Sanitation Practices
78.2%

Population with Electricity Access
58.8%

Child Labor
3.9%

Adolescent Birth Rate (to women under age 21)
16.3%

MULTI-HAZARD EXPOSURE (MHE)

RANK: 8 / 10 DISTRICTS ASSESSED
SCORE: 0.136

MHE
0.136

Raw MHE
0.074

Relative MHE
0.197

ESTIMATED EXPOSURE TO EACH HAZARD:

Coastal Flooding
48%
13,939
Buildings Exposed: **43%**
Critical Infrastructure Exposed: **45%**

Landslide
<1%
90
Buildings Exposed: **<1%**
Critical Infrastructure Exposed: **1%**

Drought
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

Mosquito-borne Disease
100%
29,167
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **100%**

Earthquake
14%
3,944
Buildings Exposed: **16%**
Critical Infrastructure Exposed: **7%**

Riverine Flooding
52%
15,153
Buildings Exposed: **46%**
Critical Infrastructure Exposed: **19%**

Extreme Heat
100%
29,167
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **100%**

Sea Level Rise
4%
1,241
Buildings Exposed: **1%**
Critical Infrastructure Exposed: **1%**

NOTE: Population exposure values for Suriname are estimated using PDC's All-hazard Impact Model (AIM) model. Values may differ from Census population.

MULTI-HAZARD EXPOSURE (MHE)

RANK: 8 / 10 DISTRICTS
SCORE: 0.136

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:

Tsunami
<1%
47
Buildings Exposed: **<1%**
Critical Infrastructure Exposed: **0%**

Wildfire
2%
539
Buildings Exposed: **<1%**
Critical Infrastructure Exposed: **1%**

VULNERABILITY (V)

RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.455

Vulnerability in Para is primarily driven by Gender Vulnerability and Education Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Children's Vulnerability

0 — 1 **SCORE: 0.424** **RANK: 5/10** DISTRICTS ASSESSED

3.9% Child Labor Participation

19.4% Childhood Disability

45.9% Children Living with Parents

76.2 Early Childhood Development Index Score (out of 100)

13.6% Lack of Household Support for Childhood Learning

Economic Constraints

0 — 1 **SCORE: 0.449** **RANK: 4/10** DISTRICTS ASSESSED

0.028 Multidimensional Poverty Index

48.0% Population in Poorest Wealth Quintile

55.0% Wealth Quintile Skew (income inequality: poorest two quintiles minus richest two quintiles)

Education Vulnerability

0 — 1 **SCORE: 0.472** **RANK: 4/10** DISTRICTS ASSESSED

39.8% Childhood Literacy

40% Lower Secondary School Completion Rate

51.6% Out of School Rate

Gender Vulnerability

0 — 1 **SCORE: 0.473** **RANK: 4/10** DISTRICTS ASSESSED

16.3% Adolescent Birth Rate (to women under age 21)

14.8% Child Marriage (Female)

0.953 Mass Media Exposure Gender Parity (ratio of female exposure to male exposure rate)

Population Pressures

0 — 1 **SCORE: 0.456** **RANK: 5/10** DISTRICTS ASSESSED

8.2% Elderly Population (over age 60)

11.5% Children Under Age 5

1,092 Net Migration

1,809 Population Flux (births minus deaths)

COPING CAPACITY (CC)

RANK: 6 / 10 DISTRICTS ASSESSED
SCORE: 0.618

Para exhibits weaker Coping Capacity in the areas of Public Health Capacity and Energy and Technology Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Coping Capacity score.

Public Health Capacity

0 — 1 **SCORE: 0.380** **RANK: 8/10** DISTRICTS ASSESSED

71.3% Households with E. Coli Contaminated Drinking Water

81.1% Measles Vaccination Rate

78.2% Households with Unsafe Sanitation Practices

5.0 Physicians per 10,000 persons

0.0 Hospital Bed Density per 10,000 persons

3.8 Clinics per 10,000 persons

Standard of Living

0 — 1 **SCORE: 0.669** **RANK: 8/10** DISTRICTS ASSESSED

87.9% Households Using Clean Fuels for Cooking and Lighting

86.4% Households with Finished Exterior Walls

65.9% Rural Access Index (population within 2km of all-season road)

82.3% Population that Does Not Share Toilet Facilities

Energy and Technology Capacity

0 — 1 **SCORE: 0.526** **RANK: 6/10** DISTRICTS ASSESSED

25.7% Households with Computer Access

58.8% Population with Electricity Access

Infrastructure Capacity

0 — 1 **SCORE: 0.897** **RANK: 4/10** DISTRICTS ASSESSED

17.1 Average Distance to Airport (km)

31.8 Average Distance to EOC (km)

17.8 Average Distance to Fire Station (km)

18.5 Average Distance to Hospital (km)

8.8 Average Distance to Police Station (km)

17.3 Average Distance to Port (km)

10.1 Average Distance to School (km)

2.3 Average Distance to Telecommunications (km)

RESILIENCE (R)

RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.582

Para's score and ranking are due to High Vulnerability combined with Moderate Coping Capacity scores.

KEY FACTORS INFLUENCING RESILIENCE:

Gender Vulnerability

Marginalized populations are less likely to have their needs met under pre-disaster conditions, and therefore become even more susceptible to harm during times of disaster. Foster gender-based inclusion and courses of action that recognize the role of women in society and support changes to policies and programs that promote gender-equal access to education, vocational training, health care, and economic participation.

Education Vulnerability

Limited access to education and low literacy rates can hinder a population's ability to understand and act upon hazard alert and warning messages. Emergency messages disseminated to the population must contain clear and simple information that fosters understanding and promotes life-saving action. Low school attendance rates can be further exacerbated due to the disruption caused by a natural disaster and the additional demands placed on households during the recovery process. Efforts to remove impediments to school attendance such as economic constraints, inadequate facilities, geographic isolation, and marginalization will reduce vulnerability and increase opportunities for the population.

Public Health Capacity

Access to improved water and sanitation, and vaccination against childhood diseases improves health outcomes and frees up resources to decrease further susceptibility to impacts. In addition, access to skilled caregivers and dedicated facilities for the treatment of injury and disease enhances the ability of the served population to absorb and manage post-disaster impacts to health and increases the likelihood that disaster-associated health and medical impacts may be addressed.

Energy and Technology Capacity

Homes, businesses, industry, and government all rely on access to energy resources for continuity of daily activities. Expanding, strengthening, and securing the energy network and increasing the availability and quantity of energy reserves will contribute to economic development and increase the speed of recovery processes in the aftermath of a disaster. Furthermore, access to communications infrastructure and technology makes it easier for people to communicate reliably, increasing accessibility to alert and warning information.

HAZARD-SPECIFIC RISK (HSR)

Coastal Flooding
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.346

Drought
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Earthquake
RANK: 8 / 10 DISTRICTS ASSESSED
SCORE: 0.187

Extreme Heat
RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.544

Landslide
RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.096

Mosquito-borne Disease
RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.544

Riverine Flooding
RANK: 8 / 10 DISTRICTS ASSESSED
SCORE: 0.235

Sea Level Rise
RANK: 8 / 10 DISTRICTS ASSESSED
SCORE: 0.127

Tsunami
RANK: 8 / 10 DISTRICTS ASSESSED
SCORE: 0.025

Wildfire
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.069

MULTI-HAZARD RISK (MHR)

8 / 10
RANK AMONG DISTRICTS
Score: 0.324

Para's score and ranking are due to Low Multi-Hazard Exposure combined with High Vulnerability and Moderate Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

DISTRICTS SCORE
COUNTRY SCORE

Multi-Hazard Exposure

0.136
0.343

Vulnerability

0.455
0.376

Coping Capacity

0.618
0.595

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SURINAME

PARAMARIBO

NDPBA SUBNATIONAL PROFILE

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SURINAME
PARAMARIBO

CAPITAL: PARAMARIBO

Area: 182 km2

RISK AND VULNERABILITY

COMPONENT SCORE

MULTI-HAZARD RISK (MHR)
High
Score: 0.362 • Rank: 4/10

RESILIENCE (R)
Very High
Score: 0.822 • Rank: 1/10

MULTI-HAZARD EXPOSURE (MHE)
Very High
Score: 0.730 • Rank: 1/10

VULNERABILITY (V)
Low
Score: 0.233 • Rank: 7/10

COPING CAPACITY (CC)
Very High
Score: 0.878 • Rank: 1/10

Population (2012 Census)
240,924

Households with Unsafe Sanitation Practices
33.6%

Population with Electricity Access
98.3%

Child Labor
4.3%

Adolescent Birth Rate (to women under age 21)
10.7%

MULTI-HAZARD EXPOSURE (MHE)

RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.730

MHE
0.730

Raw MHE
1.000

Relative MHE
0.460

ESTIMATED EXPOSURE TO EACH HAZARD:

Coastal Flooding
49%
105,787
Buildings Exposed: **43%**
Critical Infrastructure Exposed: **52%**

Landslide
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

Drought
20%
42,425
Buildings Exposed: **13%**
Critical Infrastructure Exposed: **4%**

Mosquito-borne Disease
100%
217,460
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **100%**

Earthquake
100%
217,460
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **85%**

Riverine Flooding
79%
171,810
Buildings Exposed: **68%**
Critical Infrastructure Exposed: **37%**

Extreme Heat
100%
217,460
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **100%**

Sea Level Rise
1%
2,968
Buildings Exposed: **2%**
Critical Infrastructure Exposed: **<1%**

NOTE: Population exposure values for Suriname are estimated using PDC's All-hazard Impact Model (AIM) model. Values may differ from Census population.

MULTI-HAZARD EXPOSURE (MHE)

RANK: 1 / 10 DISTRICTS
SCORE: 0.730

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:

Tsunami
7%
14,509
Buildings Exposed: **8%**
Critical Infrastructure Exposed: **8%**

Wildfire
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

VULNERABILITY (V)

RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.233

Vulnerability in Paramaribo is primarily driven by Population Pressures and Children's Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Children's Vulnerability

0 — 1 **SCORE: 0.320** **RANK: 6/10** DISTRICTS ASSESSED

4.3% Child Labor Participation

14.4% Childhood Disability

46.3% Children Living with Parents

81.2 Early Childhood Development Index Score (out of 100)

10.4% Lack of Household Support for Childhood Learning

Economic Constraints

0 — 1 **SCORE: 0.023** **RANK: 10/10** DISTRICTS ASSESSED

0.005 Multidimensional Poverty Index

8.0% Population in Poorest Wealth Quintile

-28.4% Wealth Quintile Skew (income inequality: poorest two quintiles minus richest two quintiles)

Education Vulnerability

0 — 1 **SCORE: 0.156** **RANK: 8/10** DISTRICTS ASSESSED

51.9% Childhood Literacy

51% Lower Secondary School Completion Rate

27.5% Out of School Rate

Gender Vulnerability

0 — 1 **SCORE: 0.132** **RANK: 7/10** DISTRICTS ASSESSED

10.7% Adolescent Birth Rate (to women under age 21)

7.3% Child Marriage (Female)

0.968 Mass Media Exposure Gender Parity (ratio of female exposure to male exposure rate)

Population Pressures

0 — 1 **SCORE: 0.536** **RANK: 3/10** DISTRICTS ASSESSED

11.5% Elderly Population (over age 60)

8.6% Children Under Age 5

-4,661 Net Migration

9,099 Population Flux (births minus deaths)

COPING CAPACITY (CC)

RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.878

Paramaribo exhibits weaker Coping Capacity in the areas of Public Health Capacity and Standard of Living. The bar charts indicate the socioeconomic themes contributing to the overall Coping Capacity score.

Public Health Capacity

0 — 1 **SCORE: 0.599** **RANK: 3/10** DISTRICTS ASSESSED

59.0% Households with E. Coli Contaminated Drinking Water

79.5% Measles Vaccination Rate

33.6% Households with Unsafe Sanitation Practices

1.3 Physicians per 10,000 persons

60.2 Hospital Bed Density per 10,000 persons

0.5 Clinics per 10,000 persons

Standard of Living

0 — 1 **SCORE: 0.911** **RANK: 2/10** DISTRICTS ASSESSED

97.2% Households Using Clean Fuels for Cooking and Lighting

94.5% Households with Finished Exterior Walls

85.9% Rural Access Index (population within 2km of all-season road)

92.4% Population that Does Not Share Toilet Facilities

Energy and Technology Capacity

0 — 1 **SCORE: 1.000** **RANK: 1/10** DISTRICTS ASSESSED

49.9% Households with Computer Access

98.3% Population with Electricity Access

Infrastructure Capacity

0 — 1 **SCORE: 1.000** **RANK: 1/10** DISTRICTS ASSESSED

4.7 Average Distance to Airport (km)

4.4 Average Distance to EOC (km)

2.6 Average Distance to Fire Station (km)

3.0 Average Distance to Hospital (km)

2.4 Average Distance to Police Station (km)

4.7 Average Distance to Port (km)

1.3 Average Distance to School (km)

0.1 Average Distance to Telecommunications (km)

RESILIENCE (R)

RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.822

Paramaribo's score and ranking are due to Low Vulnerability combined with Very High Coping Capacity scores.

KEY FACTORS INFLUENCING RESILIENCE:

Population Pressures

Rapid changes in population size and distribution can alter population vulnerability characteristics presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

Children's Vulnerability

Children who are developmentally disadvantaged or have a disability are more susceptible to harm during times of disaster. Furthermore, children engaged in child labor, where safety concerns may be an issue, and in living arrangements lacking adult supervision, are more likely to suffer negative consequences as a result of an emergency situation. Efforts to support the cognitive, physical, social and emotional development of young children will reduce their vulnerability and have positive bearing on their future health and well-being.

Public Health Capacity

Access to improved water and sanitation, and vaccination against childhood diseases improves health outcomes and frees up resources to decrease further susceptibility to impacts. In addition, access to skilled caregivers and dedicated facilities for the treatment of injury and disease enhances the ability of the served population to absorb and manage post-disaster impacts to health and increases the likelihood that disaster-associated health and medical impacts may be addressed.

Standard of Living

Well-constructed homes with access to basic amenities and proximity to improved road networks enable households to meet the demands of daily routines and maintain livelihoods. A standard of living that meets basic household needs also frees up resources to decrease further susceptibility to impacts as a result of a disaster and speeds recovery.

HAZARD-SPECIFIC RISK (HSR)

Coastal Flooding
RANK: 8 / 10 DISTRICTS ASSESSED
SCORE: 0.310

Drought
RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.358

Earthquake
RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.422

Extreme Heat
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.422

Landslide
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Mosquito-borne Disease
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.422

Riverine Flooding
RANK: 6 / 10 DISTRICTS ASSESSED
SCORE: 0.339

Sea Level Rise
RANK: 9 / 10 DISTRICTS ASSESSED
SCORE: 0.117

Tsunami
RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.276

Wildfire
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.000

MULTI-HAZARD RISK (MHR)

4 / 10
RANK AMONG DISTRICTS
Score: 0.362

Paramaribo's score and ranking are due to Very High Multi-Hazard Exposure combined with Low Vulnerability and Very High Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

DISTRICTS SCORE
COUNTRY SCORE

Multi-Hazard Exposure

0.730
0.343

Vulnerability

0.233
0.376

Coping Capacity

0.878
0.595

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SURINAME

SARAMACCA

NDPBA SUBNATIONAL PROFILE

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SURINAME
SARAMACCA

CAPITAL: GRONINGEN

Area: 3,636 km2

RISK AND VULNERABILITY

COMPONENT SCORE

MULTI-HAZARD RISK (MHR)
Very Low
Score: 0.284 • Rank: 9/10

RESILIENCE (R)
Moderate
Score: 0.729 • Rank: 5/10

MULTI-HAZARD EXPOSURE (MHE)
Moderate
Score: 0.309 • Rank: 5/10

VULNERABILITY (V)
Low
Score: 0.231 • Rank: 8/10

COPING CAPACITY (CC)
Moderate
Score: 0.689 • Rank: 5/10

Population (2012 Census)
17,480

Households with Unsafe Sanitation Practices
70.9%

Population with Electricity Access
71.4%

Child Labor
3.2%

Adolescent Birth Rate (to women under age 21)
10.8%

MULTI-HAZARD EXPOSURE (MHE)

RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.309

MHE
0.309

Raw MHE
0.095

Relative MHE
0.524

ESTIMATED EXPOSURE TO EACH HAZARD:

Coastal Flooding
95%
19,530
Buildings Exposed: **97%**
Critical Infrastructure Exposed: **97%**

Landslide
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

Drought
1%
257
Buildings Exposed: **2%**
Critical Infrastructure Exposed: **<1%**

Mosquito-borne Disease
98%
20,270
Buildings Exposed: **97%**
Critical Infrastructure Exposed: **No data**

Earthquake
100%
20,590
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **61%**

Riverine Flooding
94%
19,290
Buildings Exposed: **94%**
Critical Infrastructure Exposed: **48%**

Extreme Heat
100%
20,590
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **100%**

Sea Level Rise
14%
2,969
Buildings Exposed: **21%**
Critical Infrastructure Exposed: **22%**

NOTE: Population exposure values for Suriname are estimated using PDC's All-hazard Impact Model (AIM) model. Values may differ from Census population.

MULTI-HAZARD EXPOSURE (MHE)

RANK: 5 / 10 DISTRICTS
SCORE: 0.309

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:

Tsunami

0%

0

Buildings Exposed: **1%**

Critical Infrastructure Exposed: **<1%**

Wildfire

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**

VULNERABILITY (V)

RANK: 8 / 10 DISTRICTS ASSESSED
SCORE: 0.231

Vulnerability in Saramacca is primarily driven by Population Pressures and Education Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Children's Vulnerability

0 — 1 **SCORE: 0.148** **RANK: 8/10** DISTRICTS ASSESSED

3.2%	11.1%	67.4%	79.0	10.6%
Child Labor Participation	Childhood Disability	Children Living with Parents	Early Childhood Development Index Score (out of 100)	Lack of Household Support for Childhood Learning

Economic Constraints

0 — 1 **SCORE: 0.190** **RANK: 5/10** DISTRICTS ASSESSED

0.009	21.6%	12.7%
Multidimensional Poverty Index	Population in Poorest Wealth Quintile	Wealth Quintile Skew (income inequality: poorest two quintiles minus richest two quintiles)

Education Vulnerability

0 — 1 **SCORE: 0.305** **RANK: 6/10** DISTRICTS ASSESSED

48.5%	49%	47.5%
Childhood Literacy	Lower Secondary School Completion Rate	Out of School Rate

Gender Vulnerability

0 — 1 **SCORE: 0.188** **RANK: 6/10** DISTRICTS ASSESSED

10.8%	8.9%	0.958
Adolescent Birth Rate (to women under age 21)	Child Marriage (Female)	Mass Media Exposure Gender Parity (ratio of female exposure to male exposure rate)

Population Pressures

0 — 1 **SCORE: 0.324** **RANK: 10/10** DISTRICTS ASSESSED

9.3%	8.0%	195	485
Elderly Population (over age 60)	Children Under Age 5	Net Migration	Population Flux (births minus deaths)

COPING CAPACITY (CC)

RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.689

Saramacca exhibits weaker Coping Capacity in the areas of Public Health Capacity and Energy and Technology Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Coping Capacity score.

Public Health Capacity

0 — 1 **SCORE: 0.534** **RANK: 4/10** DISTRICTS ASSESSED

64.8% Households with E. Coli Contaminated Drinking Water	**86.7%** Measles Vaccination Rate	**70.9%** Households with Unsafe Sanitation Practices	**6.4** Physicians per 10,000 persons	**0.0** Hospital Bed Density per 10,000 persons	**5.8** Clinics per 10,000 persons

Standard of Living

0 — 1 **SCORE: 0.782** **RANK: 6/10** DISTRICTS ASSESSED

87.0% Households Using Clean Fuels for Cooking and Lighting	**89.1%** Households with Finished Exterior Walls	**80.1%** Rural Access Index (population within 2km of all-season road)	**92.9%** Population that Does Not Share Toilet Facilities

Energy and Technology Capacity

0 — 1 **SCORE: 0.602** **RANK: 5/10** DISTRICTS ASSESSED

26.7% Households with Computer Access	**71.4%** Population with Electricity Access

Infrastructure Capacity

0 — 1 **SCORE: 0.838** **RANK: 6/10** DISTRICTS ASSESSED

32.6 Average Distance to Airport (km)	**35.2** Average Distance to EOC (km)	**25.4** Average Distance to Fire Station (km)	**32.8** Average Distance to Hospital (km)	**5.7** Average Distance to Police Station (km)	**35.3** Average Distance to Port (km)	**25.1** Average Distance to School (km)	**1.1** Average Distance to Telecommunications (km)

RESILIENCE (R)

RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.729

Saramacca's score and ranking are due to Low Vulnerability combined with Moderate Coping Capacity scores.

KEY FACTORS INFLUENCING RESILIENCE:

Population Pressures

Rapid changes in population size and distribution can alter population vulnerability characteristics presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

Education Vulnerability

Limited access to education and low literacy rates can hinder a population's ability to understand and act upon hazard alert and warning messages. Emergency messages disseminated to the population must contain clear and simple information that fosters understanding and promotes life-saving action. Low school attendance rates can be further exacerbated due to the disruption caused by a natural disaster and the additional demands placed on households during the recovery process. Efforts to remove impediments to school attendance such as economic constraints, inadequate facilities, geographic isolation, and marginalization will reduce vulnerability and increase opportunities for the population.

Public Health Capacity

Access to improved water and sanitation, and vaccination against childhood diseases improves health outcomes and frees up resources to decrease further susceptibility to impacts. In addition, access to skilled caregivers and dedicated facilities for the treatment of injury and disease enhances the ability of the served population to absorb and manage post-disaster impacts to health and increases the likelihood that disaster-associated health and medical impacts may be addressed.

Energy and Technology Capacity

Homes, businesses, industry, and government all rely on access to energy resources for continuity of daily activities. Expanding, strengthening, and securing the energy network and increasing the availability and quantity of energy reserves will contribute to economic development and increase the speed of recovery processes in the aftermath of a disaster. Furthermore, access to communications infrastructure and technology makes it easier for people to communicate reliably, increasing accessibility to alert and warning information.

HAZARD-SPECIFIC RISK (HSR)

Coastal Flooding
RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.433

Drought
RANK: 6 / 10 DISTRICTS ASSESSED
SCORE: 0.057

Earthquake
RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.406

Extreme Heat
RANK: 6 / 10 DISTRICTS ASSESSED
SCORE: 0.434

Landslide
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Mosquito-borne Disease
RANK: 8 / 10 DISTRICTS ASSESSED
SCORE: 0.371

Riverine Flooding
RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.374

Sea Level Rise
RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.329

Tsunami
RANK: 6 / 10 DISTRICTS ASSESSED
SCORE: 0.053

Wildfire
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.000

MULTI-HAZARD RISK (MHR)

9 / 10
RANK AMONG DISTRICTS
Score: 0.284

Saramacca's score and ranking are due to Moderate Multi-Hazard Exposure combined with Low Vulnerability and Moderate Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

DISTRICTS SCORE
COUNTRY SCORE

Multi-Hazard Exposure
0.309
0.343

Vulnerability
0.231
0.376

Coping Capacity
0.689
0.595

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SURINAME

SIPALIWINI

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SURINAME
SIPALIWINI

CAPITAL: N/A

Area: 130,567 km2

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR)
Very High
Score: 0.634 • Rank: 1/10

RESILIENCE (R)
Very Low
Score: 0.068 • Rank: 10/10

MULTI-HAZARD EXPOSURE (MHE)
Very Low
Score: 0.039 • Rank: 10/10

VULNERABILITY (V)
Very High
Score: 0.880 • Rank: 1/10

COPING CAPACITY (CC)
Very Low
Score: 0.016 • Rank: 10/10

Population (2012 Census)
37,065

Households with Unsafe Sanitation Practices
97.7%

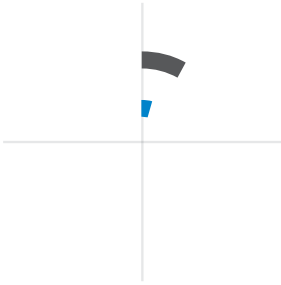
Population with Electricity Access
2.3%

Child Labor
24.4%

Adolescent Birth Rate (to women under age 21)
25.2%

MULTI-HAZARD EXPOSURE (MHE)

RANK: 10 / 10 DISTRICTS ASSESSED
SCORE: 0.039



MHE
0.039

Raw MHE
0.078

Relative MHE
0.000

ESTIMATED EXPOSURE TO EACH HAZARD:

Coastal Flooding
7%
3,085
Buildings Exposed: **3%**
Critical Infrastructure Exposed: **16%**

Landslide
9%
3,842
Buildings Exposed: **7%**
Critical Infrastructure Exposed: **13%**

Drought
7%
2,877
Buildings Exposed: **2%**
Critical Infrastructure Exposed: **0%**

Mosquito-borne Disease
73%
30,430
Buildings Exposed: **64%**
Critical Infrastructure Exposed: **58%**

Earthquake
9%
3,846
Buildings Exposed: **3%**
Critical Infrastructure Exposed: **17%**

Riverine Flooding
43%
17,748
Buildings Exposed: **45%**
Critical Infrastructure Exposed: **42%**

Extreme Heat
49%
20,406
Buildings Exposed: **45%**
Critical Infrastructure Exposed: **50%**

Sea Level Rise
<1%
131
Buildings Exposed: **<1%**
Critical Infrastructure Exposed: **2%**

NOTE: Population exposure values for Suriname are estimated using PDC's All-hazard Impact Model (AIM) model. Values may differ from Census population.

MULTI-HAZARD EXPOSURE (MHE)

RANK: 10 / 10 DISTRICTS
SCORE: 0.039

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:

Tsunami
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

Wildfire
19%
7,731
Buildings Exposed: **20%**
Critical Infrastructure Exposed: **11%**

VULNERABILITY (V)

RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.880

Vulnerability in Sipaliwini is primarily driven by Economic Constraints and Education Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Children's Vulnerability

0 — 1 **SCORE: 0.846** **RANK: 1/10** DISTRICTS ASSESSED

24.4%	13.7%	38.7%	54.5	39.3%
Child Labor Participation	Childhood Disability	Children Living with Parents	Early Childhood Development Index Score (out of 100)	Lack of Household Support for Childhood Learning

Economic Constraints

0 — 1 **SCORE: 1.000** **RANK: 1/10** DISTRICTS ASSESSED

0.124	96.1%	99.3%
Multidimensional Poverty Index	Population in Poorest Wealth Quintile	Wealth Quintile Skew (income inequality: poorest two quintiles minus richest two quintiles)

Education Vulnerability

0 — 1 **SCORE: 1.000** **RANK: 1/10** DISTRICTS ASSESSED

24.5%	13%	91.5%
Childhood Literacy	Lower Secondary School Completion Rate	Out of School Rate

Gender Vulnerability

0 — 1 **SCORE: 1.000** **RANK: 1/10** DISTRICTS ASSESSED

25.2%	16.6%	0.663
Adolescent Birth Rate (to women under age 21)	Child Marriage (Female)	Mass Media Exposure Gender Parity (ratio of female exposure to male exposure rate)

Population Pressures

0 — 1 **SCORE: 0.552** **RANK: 2/10** DISTRICTS ASSESSED

8.9%	15.1%	-989	2,254
Elderly Population (over age 60)	Children Under Age 5	Net Migration	Population Flux (births minus deaths)

COPING CAPACITY (CC)

RANK: 10 / 10 DISTRICTS ASSESSED
SCORE: 0.016

Sipaliwini exhibits weaker Coping Capacity in the areas of Public Health Capacity and Standard of Living. The bar charts indicate the socioeconomic themes contributing to the overall Coping Capacity score.

Public Health Capacity

0 — 1 **SCORE: 0.000** **RANK: 10/10** DISTRICTS ASSESSED

85.3%	63.4%	97.7%	0.0	0.0	0.0
Households with E. Coli Contaminated Drinking Water	Measles Vaccination Rate	Households with Unsafe Sanitation Practices	Physicians per 10,000 persons	Hospital Bed Density per 10,000 persons	Clinics per 10,000 persons

Standard of Living

0 — 1 **SCORE: 0.000** **RANK: 10/10** DISTRICTS ASSESSED

54.2%	74.7%	8.3%	41.9%
Households Using Clean Fuels for Cooking and Lighting	Households with Finished Exterior Walls	Rural Access Index (population within 2km of all-season road)	Population that Does Not Share Toilet Facilities

Energy and Technology Capacity

0 — 1 **SCORE: 0.000** **RANK: 10/10** DISTRICTS ASSESSED

4.8%	2.3%
Households with Computer Access	Population with Electricity Access

Infrastructure Capacity

0 — 1 **SCORE: 0.062** **RANK: 10/10** DISTRICTS ASSESSED

142.3	185.1	150.4	151.4	69.8	147.9	52.5	21.3
Average Distance to Airport (km)	Average Distance to EOC (km)	Average Distance to Fire Station (km)	Average Distance to Hospital (km)	Average Distance to Police Station (km)	Average Distance to Port (km)	Average Distance to School (km)	Average Distance to Telecommunications (km)

RESILIENCE (R)

RANK: 10 / 10 DISTRICTS ASSESSED
SCORE: 0.068

Sipaliwini's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

KEY FACTORS INFLUENCING RESILIENCE:

Economic Constraints

Economic constraints have individual, household, community, and region-wide influence. Limitations on available financial resources reduce opportunities to invest in mitigation and preparedness measures and limit the ability to facilitate short- and long-term recovery.

Education Vulnerability

Limited access to education and low literacy rates can hinder a population's ability to understand and act upon hazard alert and warning messages. Emergency messages disseminated to the population must contain clear and simple information that fosters understanding and promotes life-saving action. Low school attendance rates can be further exacerbated due to the disruption caused by a natural disaster and the additional demands placed on households during the recovery process. Efforts to remove impediments to school attendance such as economic constraints, inadequate facilities, geographic isolation, and marginalization will reduce vulnerability and increase opportunities for the population.

Public Health Capacity

Access to improved water and sanitation, and vaccination against childhood diseases improves health outcomes and frees up resources to decrease further susceptibility to impacts. In addition, access to skilled caregivers and dedicated facilities for the treatment of injury and disease enhances the ability of the served population to absorb and manage post-disaster impacts to health and increases the likelihood that disaster-associated health and medical impacts may be addressed.

Standard of Living

Well-constructed homes with access to basic amenities and proximity to improved road networks enable households to meet the demands of daily routines and maintain livelihoods. A standard of living that meets basic household needs also frees up resources to decrease further susceptibility to impacts as a result of a disaster and speeds recovery.

HAZARD-SPECIFIC RISK (HSR)

Coastal Flooding
RANK: 10 / 10 DISTRICTS ASSESSED
SCORE: 0.009

Drought
RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.172

Earthquake
RANK: 6 / 10 DISTRICTS ASSESSED
SCORE: 0.290

Extreme Heat
RANK: 10 / 10 DISTRICTS ASSESSED
SCORE: 0.167

Landslide
RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.677

Mosquito-borne Disease
RANK: 10 / 10 DISTRICTS ASSESSED
SCORE: 0.209

Riverine Flooding
RANK: 1 / 10 DISTRICTS ASSESSED
SCORE: 0.483

Sea Level Rise
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.129

Tsunami
RANK: 9 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Wildfire
RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.436

MULTI-HAZARD RISK (MHR)

1 / 10
RANK AMONG DISTRICTS
Score: 0.634

Sipaliwini's score and ranking are due to Very Low Multi-Hazard Exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

DISTRICTS SCORE
COUNTRY SCORE

Multi-Hazard Exposure

0.039
0.343

Vulnerability

0.880
0.376

Coping Capacity

0.016
0.595

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SURINAME

WANICA

NDPBA SUBNATIONAL PROFILE

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SURINAME
WANICA

CAPITAL: LELYDORP

Area: 443 km2

RISK AND VULNERABILITY

COMPONENT SCORE

MULTI-HAZARD RISK (MHR)
Moderate
Score: 0.357 • Rank: 6/10

RESILIENCE (R)
High
Score: 0.781 • Rank: 4/10

MULTI-HAZARD EXPOSURE (MHE)
Very High
Score: 0.634 • Rank: 2/10

VULNERABILITY (V)
Moderate
Score: 0.235 • Rank: 6/10

COPING CAPACITY (CC)
Very High
Score: 0.797 • Rank: 2/10

Population (2012 Census)
118,222

Households with Unsafe Sanitation Practices
53.1%

Population with Electricity Access
97.8%

Child Labor
3.9%

Adolescent Birth Rate (to women under age 21)
9.8%

MULTI-HAZARD EXPOSURE (MHE)

RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.634

MHE
0.634

Raw MHE
0.813

Relative MHE
0.455

ESTIMATED EXPOSURE TO EACH HAZARD:

Coastal Flooding
74%
131,070
Buildings Exposed: **74%**
Critical Infrastructure Exposed: **71%**

Landslide
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

Drought
<1%
1,140
Buildings Exposed: **<1%**
Critical Infrastructure Exposed: **<1%**

Mosquito-borne Disease
100%
177,340
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **100%**

Earthquake
85%
151,290
Buildings Exposed: **76%**
Critical Infrastructure Exposed: **56%**

Riverine Flooding
89%
157,560
Buildings Exposed: **85%**
Critical Infrastructure Exposed: **56%**

Extreme Heat
100%
177,340
Buildings Exposed: **100%**
Critical Infrastructure Exposed: **100%**

Sea Level Rise
<1%
600
Buildings Exposed: **1%**
Critical Infrastructure Exposed: **<1%**

NOTE: Population exposure values for Suriname are estimated using PDC's All-hazard Impact Model (AIM) model. Values may differ from Census population.

MULTI-HAZARD EXPOSURE (MHE)

RANK: 2 / 10 DISTRICTS
SCORE: 0.634

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:

Tsunami
<1%
188
Buildings Exposed: **<1%**
Critical Infrastructure Exposed: **<1%**

Wildfire
0%
0
Buildings Exposed: **0%**
Critical Infrastructure Exposed: **0%**

VULNERABILITY (V)

RANK: 6 / 10 DISTRICTS ASSESSED
SCORE: 0.235

Vulnerability in Wanica is primarily driven by Population Pressures and Education Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Children's Vulnerability

0 — 1 **SCORE: 0.167** **RANK: 7/10** DISTRICTS ASSESSED

3.9%	10.6%	60.6%	82.6	9.8%
Child Labor Participation	Childhood Disability	Children Living with Parents	Early Childhood Development Index Score (out of 100)	Lack of Household Support for Childhood Learning

Economic Constraints

0 — 1 **SCORE: 0.071** **RANK: 9/10** DISTRICTS ASSESSED

0.002	10.5%	-9.9%
Multidimensional Poverty Index	Population in Poorest Wealth Quintile	Wealth Quintile Skew (income inequality: poorest two quintiles minus richest two quintiles)

Education Vulnerability

0 — 1 **SCORE: 0.246** **RANK: 7/10** DISTRICTS ASSESSED

50.0%	56%	47.4%
Childhood Literacy	Lower Secondary School Completion Rate	Out of School Rate

Gender Vulnerability

0 — 1 **SCORE: 0.112** **RANK: 8/10** DISTRICTS ASSESSED

9.8%	7.1%	0.963
Adolescent Birth Rate (to women under age 21)	Child Marriage (Female)	Mass Media Exposure Gender Parity (ratio of female exposure to male exposure rate)

Population Pressures

0 — 1 **SCORE: 0.578** **RANK: 1/10** DISTRICTS ASSESSED

7.8%	9.2%	4,230	6,451
Elderly Population (over age 60)	Children Under Age 5	Net Migration	Population Flux (births minus deaths)

COPING CAPACITY (CC)

RANK: 2 / 10 DISTRICTS ASSESSED
SCORE: 0.797

Wanica exhibits weaker Coping Capacity in the areas of Public Health Capacity and Energy and Technology Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Coping Capacity score.

Public Health Capacity

0 — 1 **SCORE: 0.433** **RANK: 7/10** DISTRICTS ASSESSED

63.7% Households with E. Coli Contaminated Drinking Water	**87.8%** Measles Vaccination Rate	**53.1%** Households with Unsafe Sanitation Practices	**1.8** Physicians per 10,000 persons	**11.1** Hospital Bed Density per 10,000 persons	**0.7** Clinics per 10,000 persons

Standard of Living

0 — 1 **SCORE: 0.918** **RANK: 1/10** DISTRICTS ASSESSED

93.9% Households Using Clean Fuels for Cooking and Lighting	**93.8%** Households with Finished Exterior Walls	**93.3%** Rural Access Index (population within 2km of all-season road)	**94.7%** Population that Does Not Share Toilet Facilities

Energy and Technology Capacity

0 — 1 **SCORE: 0.866** **RANK: 2/10** DISTRICTS ASSESSED

38.1% Households with Computer Access	**97.8%** Population with Electricity Access

Infrastructure Capacity

0 — 1 **SCORE: 0.972** **RANK: 2/10** DISTRICTS ASSESSED

10.0 Average Distance to Airport (km)	**12.7** Average Distance to EOC (km)	**5.4** Average Distance to Fire Station (km)	**7.7** Average Distance to Hospital (km)	**3.4** Average Distance to Police Station (km)	**10.9** Average Distance to Port (km)	**3.6** Average Distance to School (km)	**0.4** Average Distance to Telecommunications (km)

RESILIENCE (R)

RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.781

Wanica's score and ranking are due to Moderate Vulnerability combined with Very High Coping Capacity scores.

KEY FACTORS INFLUENCING RESILIENCE:

Population Pressures

Rapid changes in population size and distribution can alter population vulnerability characteristics presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

Education Vulnerability

Limited access to education and low literacy rates can hinder a population's ability to understand and act upon hazard alert and warning messages. Emergency messages disseminated to the population must contain clear and simple information that fosters understanding and promotes life-saving action. Low school attendance rates can be further exacerbated due to the disruption caused by a natural disaster and the additional demands placed on households during the recovery process. Efforts to remove impediments to school attendance such as economic constraints, inadequate facilities, geographic isolation, and marginalization will reduce vulnerability and increase opportunities for the population.

Public Health Capacity

Access to improved water and sanitation, and vaccination against childhood diseases improves health outcomes and frees up resources to decrease further susceptibility to impacts. In addition, access to skilled caregivers and dedicated facilities for the treatment of injury and disease enhances the ability of the served population to absorb and manage post-disaster impacts to health and increases the likelihood that disaster-associated health and medical impacts may be addressed.

Energy and Technology Capacity

Homes, businesses, industry, and government all rely on access to energy resources for continuity of daily activities. Expanding, strengthening, and securing the energy network and increasing the availability and quantity of energy reserves will contribute to economic development and increase the speed of recovery processes in the aftermath of a disaster. Furthermore, access to communications infrastructure and technology makes it easier for people to communicate reliably, increasing accessibility to alert and warning information.

HAZARD-SPECIFIC RISK (HSR)

Coastal Flooding
RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.417

Drought
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.071

Earthquake
RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.394

Extreme Heat
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.453

Landslide
RANK: 5 / 10 DISTRICTS ASSESSED
SCORE: 0.000

Mosquito-borne Disease
RANK: 4 / 10 DISTRICTS ASSESSED
SCORE: 0.453

Riverine Flooding
RANK: 3 / 10 DISTRICTS ASSESSED
SCORE: 0.419

Sea Level Rise
RANK: 10 / 10 DISTRICTS ASSESSED
SCORE: 0.068

Tsunami
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.044

Wildfire
RANK: 7 / 10 DISTRICTS ASSESSED
SCORE: 0.000

MULTI-HAZARD RISK (MHR)

6 / 10
RANK AMONG DISTRICTS
Score: 0.357

Wanica's score and ranking are due to Very High Multi-Hazard Exposure combined with Moderate Vulnerability and Very High Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

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