

Better solutions.
Fewer disasters.
Safer world.



Santiago

Dominican Republic National Disaster Preparedness
Baseline Assessment
Province Profile

Findings: Risk and Vulnerability Assessment (RVA)

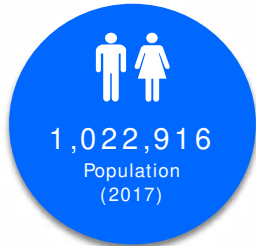
Province: Santiago

Province Capital: Santiago de los Caballeros

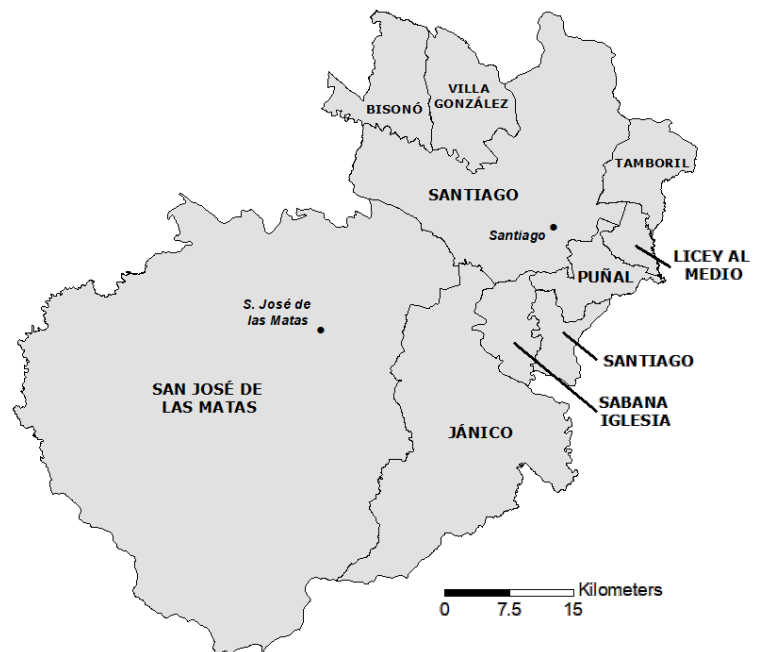


Area: 3,167 km²

Located in the north of the country, Santiago is the second most populated province in Dominican Republic. Santiago is an important political and financial center which includes the production of rum, textiles, tobacco, leather goods and furniture.



Municipality	Population
Santiago	734,026
Villa Bisonó	44,687
Jánico	18,028
Licey Al Medio	27,113
San José	
De Las Matas	40,986
Tamboril	54,879
Villa González	39,649
Puñal	49,381
Sabana Iglesia	14,167



Multi-Hazard Risk Rank:
High (14 of 32)

Lack of Resilience Rank:
Very Low (31 of 32)

RVA Component Scores

Table 1. Province Scores and Ranks (compared across Provinces) for each Index

Multi-Hazard Risk		Lack of Resilience		Multi-Hazard Exposure		Vulnerability		Coping Capacity	
High		Very Low		Very High		Very Low		Very High	
Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)
0.528	14	0.327	31	0.930	1	0.261	31	0.606	2

Multi-Hazard Exposure (MHE)

Multi-Hazard Exposure¹ Rank: 1 of 32 Provinces (Score: 0.930)

Table 2. Estimated ambient population² exposed to each hazard



Cyclone

100%

1,095,394
People



Earthquake

100%

1,095,394
People



Landslide

80%

873,076 People



Flood

66%

728,380 People



Tsunami

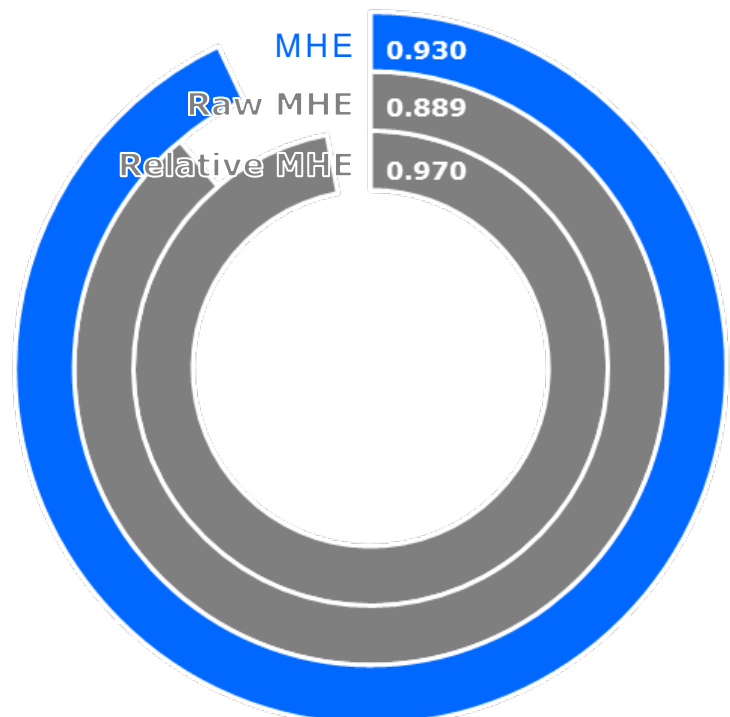
0%

0 People

Case Study: Community-Based Mapping in Santiago

Santiago is exposed to a multitude of risks, and the Dominican Red Cross has worked to provide effective risk solutions to the province through a community-based mapping approach. By encouraging communities to engage in their own hazard and capacities identification, the Dominican Red Cross has been able to successfully develop detailed maps for the purposes of risk management across the province. These maps have been shared with relevant stakeholders in Santiago, encouraging partner collaboration through a shared understanding of community vulnerabilities.

“Community Learning on Disaster Risk Management in Dominican Republic” – DIPECHO, March 2011



¹ Multi-Hazard Exposure: Average exposure of the population to hazards.

² Ambient Population: 24-hour average estimate of the population in each province. Ambient population typically differs from census population.

Findings: Risk and Vulnerability Assessment (RVA)

Vulnerability (V)

Vulnerability³ Rank: 31 of 32 Provinces (Score: 0.261) Vulnerability in Santiago is strongly influenced by moderate Population Pressures and Gender Inequality. The bar chart on the right indicates the socioeconomic themes contributing to the Province's overall Vulnerability score.

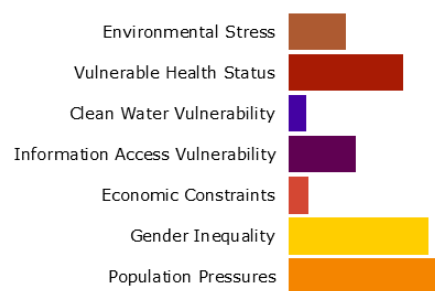









Table 3. Component Scores for each Vulnerability Sub-component

	Environmental Stress	3.1% Province Susceptible to Drought	0.9% Average Annual Forest Change				
	Vulnerable Health Status	24.3 Infant Mortality Rate	102.7 Maternal Mortality Rate	8.2 Chronic Malnutrition	5.5% Population Disabled		
	Clean Water Vulnerability	4.8% Households without Access to Improved Water	2.5% Households without Access to Flush Toilets				
	Information Access Vulnerability	11.8% Illiteracy	87.2% Primary School Enrollment	83.0% Households without Internet	16.1% Households without TV	43.0% Households without Radio	7.0 Average years of Schooling
	Economic Constraints	50.0 Economic Dependency Ratio	31.6% Population in Poverty	23.9% CEP Beneficiaries			
	Gender Inequality	37.5% Female Seats in Government	1.1 Female to Male Years of Schooling	0.43 Female to Male Labor Ratio			
	Population Pressures	0.83% Average Annual Population Change	2.6% Average Annual Urban Population Change				

³ Vulnerability: The socioeconomic conditions that are associated with the susceptibility to disruptions in a country's normal functions.

Findings: Risk and Vulnerability Assessment (RVA)

Coping Capacity (CC)

Coping Capacity⁴ Rank: 2 of 32 Provinces (Score: 0.606)
Santiago exhibits weakness in the thematic areas of Governance and Health Care Capacity. The bar chart on the right indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.

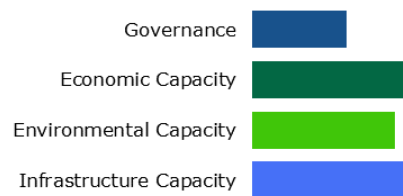







Table 4. Component Scores for each Coping Capacity Sub-component

	Economic Capacity	1.00 Debt to Service Ratio	94.1% Employment Rate (Male)	RD\$ 33,371 Average Annual Income per Capita			
	Governance	64.9% Registered Voter Participation (2016 Election)	20.3 Homicide Rate per 100k persons	82.6% Households with Garbage Collection			
	Environmental Capacity	43.5% Protected or Reforested Land					
	Infrastructure Capacity						
	Health Care Capacity		10.2 Hospital Beds per 10,000 Persons	14.2 Nurses per 10,000 Persons	16.5 Physicians per 10,000 Persons	3.8 km Average Distance to Nearest Hospital	0.69 Vaccination Index ⁵
	Communications Capacity		30.1% Households with Access to Fixed Phone Line	81.8% Households with Access to Mobile Phone			
	Transportation Capacity		29.8 km Average Distance to Nearest Port or Airport	2.11 km Total Length of Road per km ² (area)			

⁴ Coping Capacity: The systems, means, and abilities of a country to absorb and respond to events that could potentially disrupt normal function.

⁵ Vaccination Coverage Index: Coverage of DPT (diphtheria, pertussis, and tetanus), Polio, Tuberculosis, and Measles vaccinations. Index values range from 0 to 1, with 1 indicating higher coverage.

Lack of Resilience (LR)

Lack of Resilience⁶ Rank: 31 of 32 Provinces (Score: 0.327)

Santiago's score and ranking are due to very low Vulnerability combined with very high Coping Capacity scores. Santiago ranks 31st in Vulnerability and 2nd in Coping Capacity.

Table 5. The 3 Thematic areas with the Weakest Relative Scores



Health Care
Infrastructure
Capacity



Governance



Population
Pressures

Multi-Hazard Risk (MHR)

Multi-Hazard Risk⁷ Rank: 14 of 32 Provinces (Score: 0.528)

Santiago's score and ranking are due to very high Multi-Hazard Exposure combined with very low Vulnerability and very high Coping Capacity.

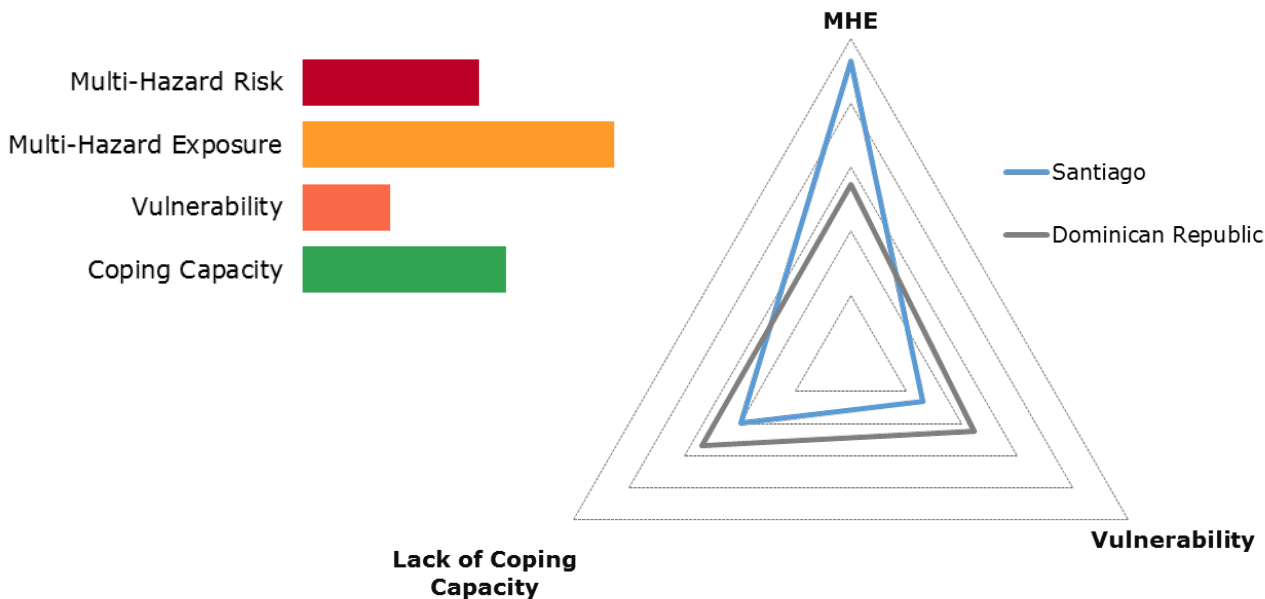


Figure 1. Province Multi-Hazard Risk Component Scores Compared to Overall Average Country Scores

⁶ Lack of Resilience: The susceptibility to impact from the short-term inability to absorb, respond to, and recover from disruptions to a country's normal function. This index provides a hazard-independent look at current socio-economic conditions.

⁷ Multi-Hazard Risk: The likelihood of losses or disruptions to a country's normal function due to interaction between multi-hazard exposure, socioeconomic vulnerability, and coping capacity.

Successes



Lowest economic constraints

Ranked 32 of 32 provinces, low economic constraints indicate an increased ability to invest in mitigation and preparedness measures at the individual, household, and provincial level.



High overall coping capacity

Ranking 2 of 32 provinces, high coping capacity indicates the province's ability, using existing skills and resources, to face and manage adverse conditions, emergencies, or disasters.

Recommendations

01

Increase health care availability

Increase clinics and medical personnel through incentivized programs and investments to increase the health resilience of the population.

02

Improve governance

Provide additional support for local police, firefighters, and emergency medical resources to improve public safety and reduce crime rates. In addition, seek partnerships with the private sector to increase the provision of services, such as garbage collection.

03

Reduce population pressure

Rapid population changes are difficult to plan for, and can destabilize social, economic, and environmental systems. Analyze trends in the province to determine potential population changes and increase the update frequency of plans and SOPS to accommodate the changes.