

Better solutions.
Fewer disasters.
Safer world.



Samaná

Dominican Republic National Disaster Preparedness
Baseline Assessment
Province Profile

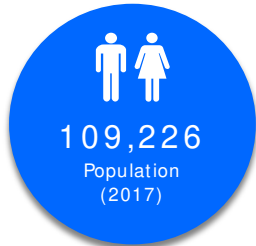
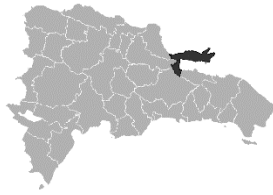
Findings: Risk and Vulnerability Assessment (RVA)

Province: Samaná

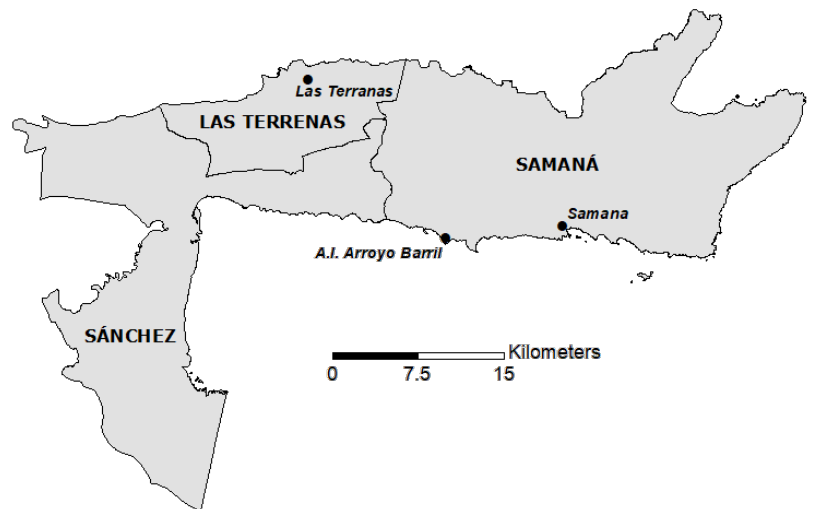
Province Capital: Samaná City

Area: 973 km²

The northeast province of Samaná serves as a commercial and manufacturing center for the hinterland, which yields timber, cacao, coconuts, rice, and marble. Tanning is also an important economic activity.



Municipality	Population
Samaná	62,589
Sánchez	26,376
Las Terrenas	2,219



**Multi-Hazard Risk Rank:
Medium (20 of 32)**

**Lack of Resilience Rank:
Medium (17 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	
Medium		Medium		Medium		Medium		Medium	
Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)
0.507	20	0.491	17	0.540	18	0.446	16	0.463	16

Multi-Hazard Exposure (MHE)

Multi-Hazard Exposure¹ Rank: 18 of 32 Provinces (Score: 0.540)

Table 2. Estimated ambient population² exposed to each hazard



Cyclone

100%

111,079 People



Earthquake

100%

111,079 People



Landslide

65%

71,811 People



Flood

14%

15,565 People



Tsunami

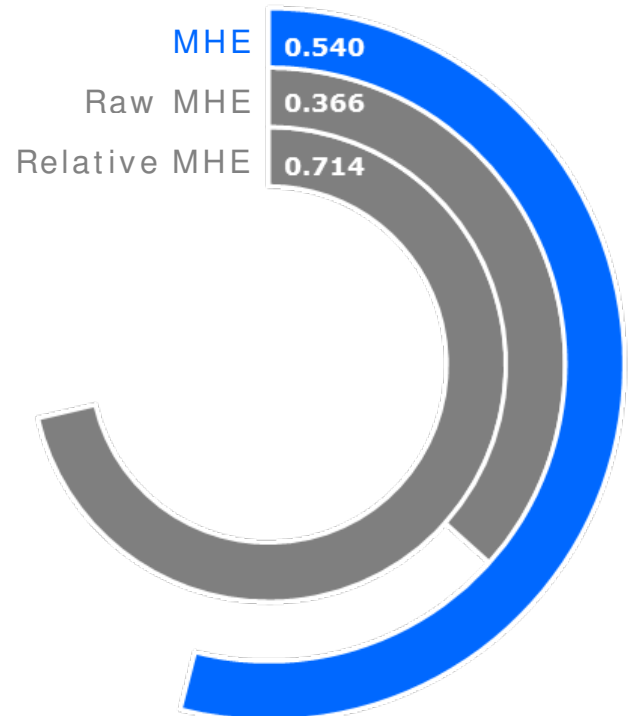
22%

24,471 People

Case Study: Conservation in Samaná

In the Province of Samaná, an NGO is working towards the conservation of the province's natural resources and areas through community participation and sustainable development. Established in 1991, The Center for the Conservation of Samaná Bay and its Surroundings focuses on coordinating conservation efforts with the development of the province, requiring legitimate community buy-in as well as engagement from the private sector and national government. Actions include community participation, training and environmental education, sustainable development, and biodiversity conservation – in the hopes of alleviating poverty and protecting the province's natural resources.

- Center for the Conservation and Eco-Development of Samaná Bay and its Surroundings, http://www.dlwap.de/cebse/body_cebse.html



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: 16 of 32 Provinces (Score: 0.446) Vulnerability in Samaná is influenced by Population Pressures, Information Access Vulnerability, and Environmental Stress. The bar chart on the right indicates the socioeconomic themes contributing to the Province's overall Vulnerability score.

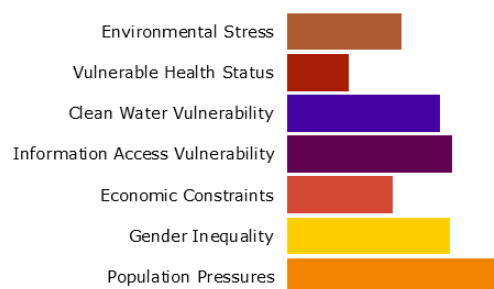









Table 3. Component Scores for each Vulnerability Sub-component

	Environmental Stress	0% Province Susceptible to Drought	-4.9% Average Annual Forest Change				
	Vulnerable Health Status	10.4 Infant Mortality Rate	94.4 Maternal Mortality Rate	11.1 Chronic Malnutrition	4.6% Population Disabled		
	Clean Water Vulnerability	26.8% Households without Access to Improved Water	10.9% Households without Access to Flush Toilets				
	Information Access Vulnerability	15.4% Illiteracy	86.3% Primary School Enrollment	94.6% Households without Internet	26.4% Households without TV	59.8% Households without Radio	6.3 Average years of Schooling
	Economic Constraints	55.8 Economic Dependency Ratio	47.7% Population in Poverty	35.8% CEP Beneficiaries			
	Gender Inequality	40.9% Female Seats in Government	1.1 Female to Male Years of Schooling	0.45 Female to Male Labor Ratio			
	Population Pressures	1.03% Average Annual Population Change	6.5% 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: 16 of 32 Provinces (Score: 0.463) The thematic areas with the weakest relative scores are Governance, and Infrastructure (Health Care Capacity and Communications). The bar chart on the right indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.

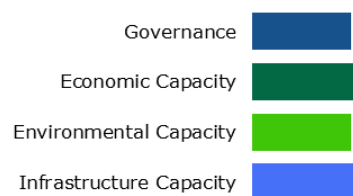









Table 4. Component Scores for each Coping Capacity Sub-component

	Economic Capacity	0.85 Debt to Service Ratio	90.6% Employment Rate (Male)	RD\$ 27,992 Average Annual Income per Capita			
	Governance	77.1% Registered Voter Participation (2016 Election)	20.7 Homicide Rate per 100k persons	54.9% Households with Garbage Collection			
	Environmental Capacity	30.3% Protected or Reforested Land					
	Infrastructure Capacity						
	Health Care Capacity		11.5 Hospital Beds per 10,000 Persons	18.6 Nurses per 10,000 Persons	14.6 Physicians per 10,000 Persons	4.0 km Average Distance to Nearest Hospital	0.38 Vaccination Index ⁵
	Communications Capacity		6.5% Households with Access to Fixed Phone Line	72.8% Households with Access to Mobile Phone			
	Transportation Capacity		9.6 km Average Distance to Nearest Port or Airport	0.51 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: 17 of 32 Provinces (Score: 0.491)

Samaná's score and ranking are due to moderate Vulnerability combined with moderate Coping Capacity scores. Samaná ranks 16th in Vulnerability and 16th in Coping Capacity.

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



Population Pressures



Health Care Infrastructure Capacity



Communications Infrastructure Capacity

Multi-Hazard Risk (MHR)

Multi-Hazard Risk⁷ Rank: 20 of 32 Provinces (Score: 0.507)

Samaná's score and ranking are due to moderate Multi-Hazard Exposure combined with moderate Vulnerability and Coping Capacity.

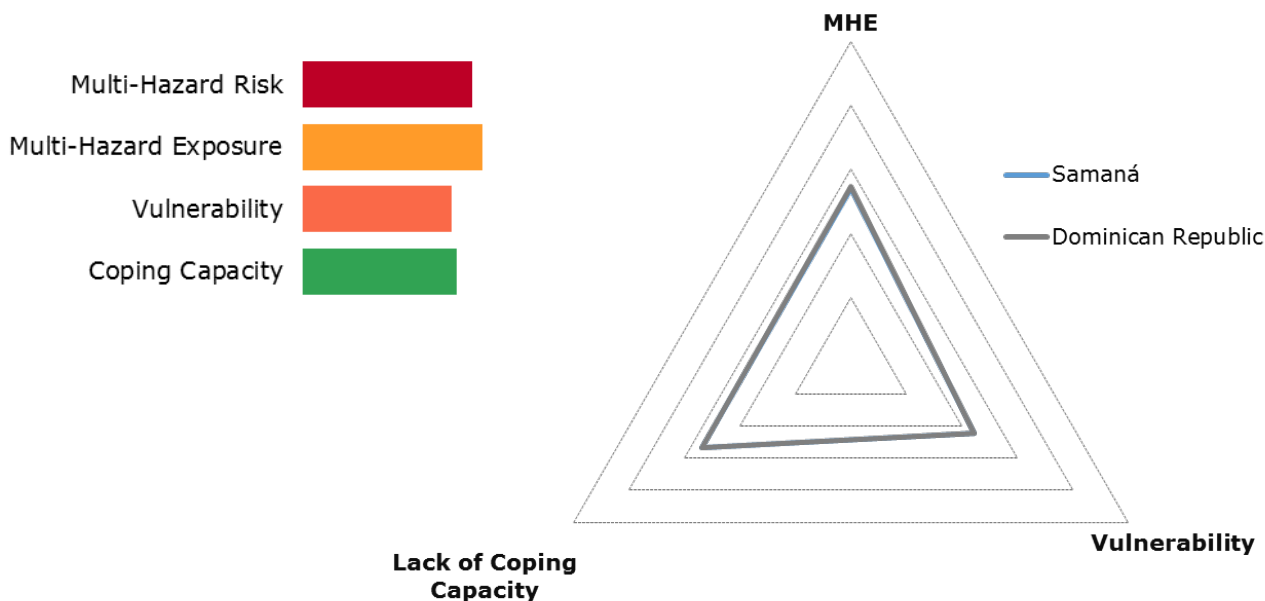


Figure 1. Province Multi-Hazard Risk Component Scores Compared to Overall Average Country Scores

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



High transportation capacity

Ranked 7 of 32 provinces, well developed transportation networks facilitate the movement of goods and services, decreasing wait times for response and relief supplies.



High environmental capacity

Ranked 8 of 32 provinces, high environmental capacity indicates that natural resources and agriculture will be more resilient to the effects of a disaster and may recover faster.



Low vulnerable health status

Ranked 30 of 32 provinces, low health vulnerability could indicate a population that will be more resilient to the negative health impacts associated with major disaster events.

Recommendations

01

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.

02

Invest in communication infrastructure

Invest in communication infrastructure to allow for easier access to information and education material, increasing literacy and situational awareness of the population.

03

Increase health education and access

Provide increased access to healthcare services through construction of facilities, incentive programs for doctors and nurses to practice in remote areas, and general health-education programs for the population. Increasing healthcare access facilitates access to vital resources before, during, and after a disaster event.