

Better solutions.
Fewer disasters.
Safer world.



Hermanas Mirabal

Dominican Republic National Disaster Preparedness
Baseline Assessment
Province Profile

Findings: Risk and Vulnerability Assessment (RVA)

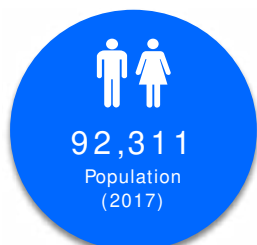
Province: Hermanas Mirabal

Province Capital: Salcedo



Area: 483 km²

Hermanas Mirabal province is located in the central north of the country and includes humid sub-tropical forests. Its economy is mainly agriculturally based including banana, cassava, cocoa and coffee.



Municipality	Population
Salcedo	39,613
Tenares	27,798
Villa Tapia	24,900



**Multi-Hazard Risk Rank:
High (9 of 32)**

**Lack of Resilience Rank:
Low (9 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		Low		High		Low		High	
Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)
0.538	9	0.453	22	0.707	8	0.392	23	0.486	11

Multi-Hazard Exposure (MHE)

Multi-Hazard Exposure¹ Rank: 8 of 32 Provinces (Score: 0.707)

Table 2. Estimated ambient population² exposed to each hazard



Cyclone

100%

118,680 People



Earthquake

100%

118,680 People



Landslide

69%

82,395 People



Flood

82%

97,340 People



Tsunami

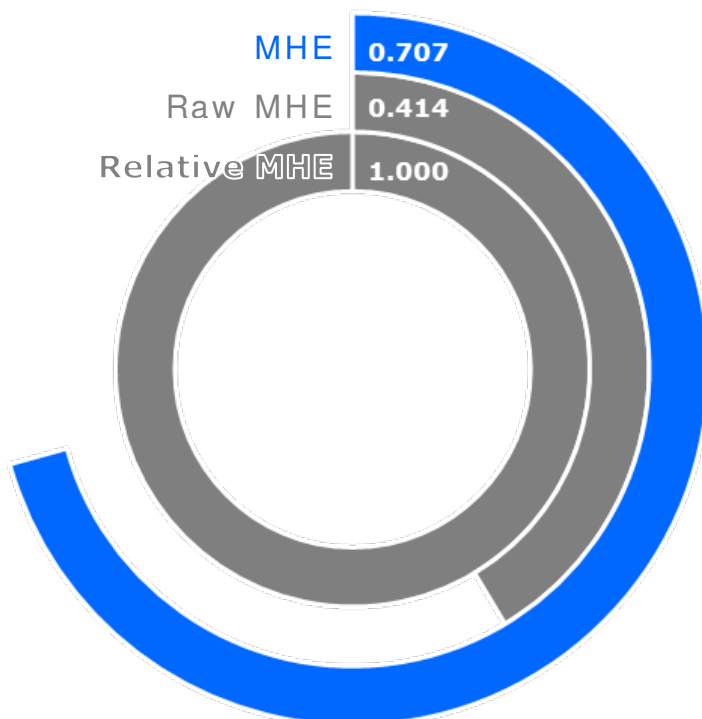
0%

0 People

Case Study: Climate Shock Vulnerability in Hermanas Mirabal

A 2018 joint study completed by the United Nations World Food Program (WFP) and the Dominican Republic's Ministry of Economy, Planning and Development (MEPyD) found that seventy-seven municipalities in the country are "vulnerable to climate-related shocks," including Hermanas Mirabal. Information from the study will be used to plan and implement programs aimed at increasing the resilience of the population. Increasing social protection and risk reduction initiatives will be additional outcomes of the study.

"Study: 77 Municipalities Vulnerable to Climate Shocks" – Dominican Today, 3 August 2018



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: 23 of 32 Provinces (Score: 0.392) Vulnerability in Hermanas Mirabal is influenced by Clean Water Vulnerability, Gender Inequality, and Vulnerable Health Status. The bar chart on the right indicates the socioeconomic themes contributing to the Province's overall Vulnerability score.

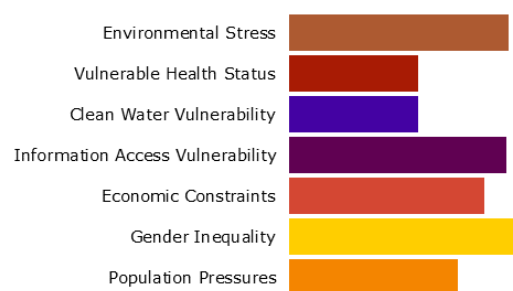









Table 3. Component Scores for each Vulnerability Sub-component

	Environmental Stress	0% Province Susceptible to Drought	-0.9% Average Annual Forest Change				
	Vulnerable Health Status	14.4 Infant Mortality Rate	299.9 Maternal Mortality Rate	10.5 Chronic Malnutrition	5.8% Population Disabled		
	Clean Water Vulnerability	45.2% Households without Access to Improved Water	3.4% Households without Access to Flush Toilets				
	Information Access Vulnerability	14.4% Illiteracy	85.1% Primary School Enrollment	93.2% Households without Internet	18.1% Households without TV	45.2% Households without Radio	6.8 Average years of Schooling
	Economic Constraints	55.8 Economic Dependency Ratio	36.4% Population in Poverty	37.4% CEP Beneficiaries			
	Gender Inequality	41.0% Female Seats in Government	1.1 Female to Male Years of Schooling	0.50 Female to Male Labor Ratio			
	Population Pressures	0.03% Average Annual Population Change	1.9% 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: 11 of 32 Provinces (Score: 0.486) Hermanas Mirabal exhibits notable weaknesses in the thematic areas of Environmental Capacity and Governance. The bar chart on the right indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.

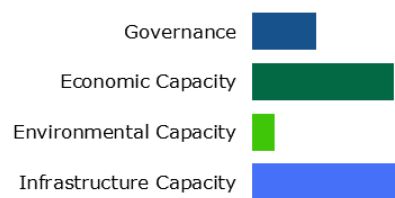


Table 4. Component Scores for each Coping Capacity Sub-component

	Economic Capacity	0.72 Debt to Service Ratio	93.1% Employment Rate (Male)	RD\$ 20,319 Average Annual Income per Capita			
	Governance	72.1% Registered Voter Participation (2016 Election)	20.6 Homicide Rate per 100k persons	43.5% Households with Garbage Collection			
	Environmental Capacity	6.9% Protected or Reforested Land					
	Infrastructure Capacity						
	Health Care Capacity		28.4 Hospital Beds per 10,000 Persons	53.9 Nurses per 10,000 Persons	25.6 Physicians per 10,000 Persons	2.5 km Average Distance to Nearest Hospital	0.50 Vaccination Index ⁵
	Communications Capacity		19.0% Households with Access to Fixed Phone Line	75.5% Households with Access to Mobile Phone			
	Transportation Capacity		26.5 km Average Distance to Nearest Port or Airport	0.86 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: 22 of 32 Provinces (Score: 0.453)

Hermanas Mirabel's score and ranking are due to low Vulnerability combined with high Coping Capacity scores. Hermanas Mirabal ranks 23rd in Vulnerability and 11th in Coping Capacity.

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



Environmental Capacity



Governance



Gender Inequality

Multi-Hazard Risk (MHR)

Multi-Hazard Risk⁷ Rank: 9 of 32 Provinces (Score: 0.538)

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

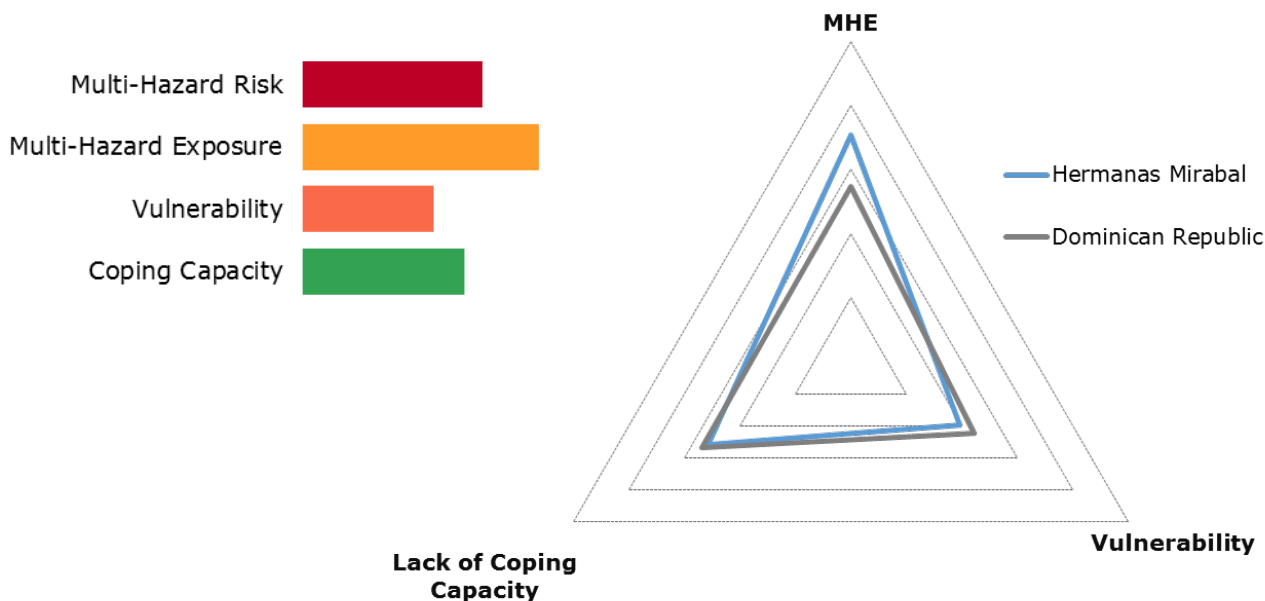


Figure 1. Province Multi-Hazard Risk Component Scores Compared to Overall Average Country Scores

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



Low economic constraints

Ranked 22 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 infrastructure capacity

Ranked 4 of 32 provinces, well developed infrastructure – communication, health care, transportation - facilitates the exchange of information, and physical distribution of goods and services to the population.



Low population pressures

Ranked 29 of 32 provinces, limited population change allows disaster managers to form accurate evacuation, sheltering, and resource plans.

Recommendations

01

Improve environmental capacity

Invest in protected areas to reduce environmental stress and degradation.

02

Promote gender equality

Reduce inequality, ensuring that vulnerable populations have their needs met under 'normal' conditions and are less susceptible to disaster impacts.

03

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.