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Fewer disasters.  
Safer world.



# Pedernales

Dominican Republic National Disaster Preparedness  
Baseline Assessment  
Province Profile

## Findings: Risk and Vulnerability Assessment (RVA)

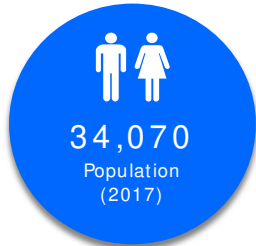
### Province: Pedernales

Province Capital: Pedernales



Area: 2,309 km<sup>2</sup>

The most southwestern province, Pedernales serves as a commercial center for the surrounding agricultural region, which yields sugarcane, coffee and corn. Bauxite is also mined in Pedernales.



Municipality	Population
Pedernales	26,202
Oviedo	7,868



0 7.5 15 Kilometers

**Multi-Hazard Risk Rank:  
Very Low (29 of 32)**

**Lack of Resilience Rank:  
Very High (5 of 32)**

## RVA Component Scores

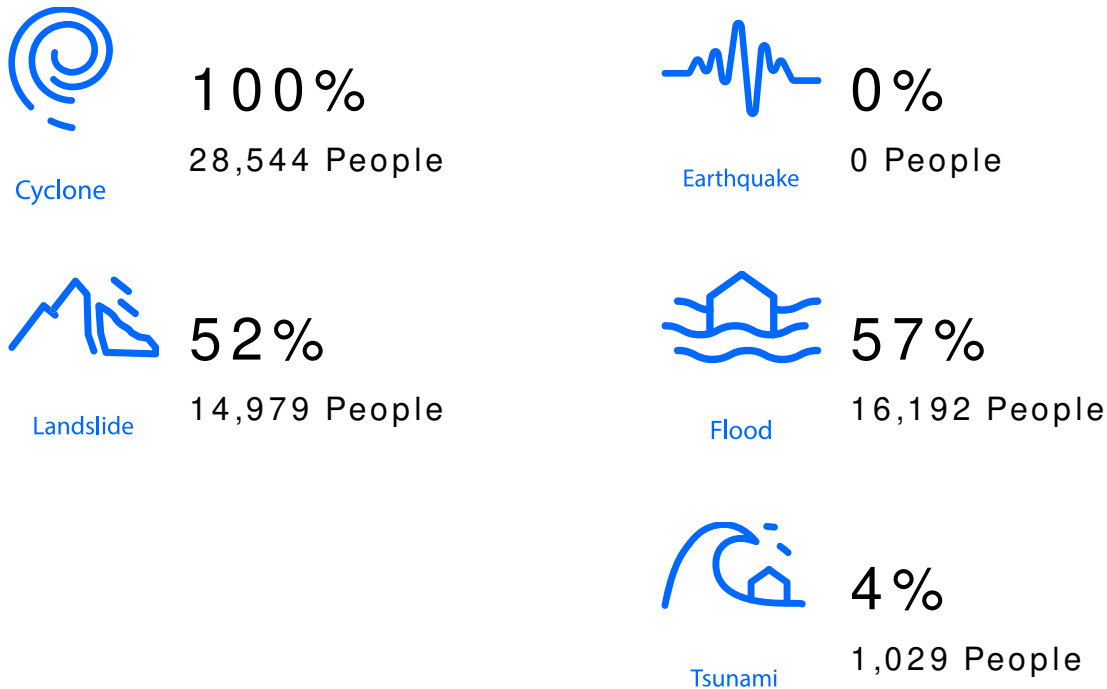
Table 1. Province Scores and Ranks (compared across Provinces) for each Index

Multi-Hazard Risk		Lack of Resilience		Multi-Hazard Exposure		Vulnerability		Coping Capacity	
Very Low		Very High		Very Low		Very High		Low	
Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)
0.440	29	0.606	5	0.109	31	0.631	3	0.419	25

## Multi-Hazard Exposure (MHE)

Multi-Hazard Exposure<sup>1</sup> Rank: 31 of 32 Provinces (Score: 0.109)

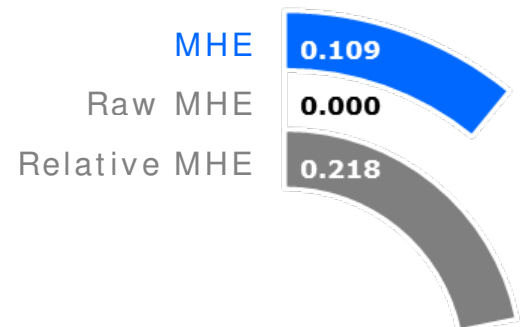
Table 2. Estimated ambient population<sup>2</sup> exposed to each hazard



### Case Study: EU Disaster Preparedness Projects in Pedernales

During 2015-2016, the European Union’s DIPECHO program invested \$2.7 million “in the provinces of Dajabon, San Cristobal and Pedernales [...] to reduce the impact of natural hazards by preparing vulnerable populations and the strengthening of state institutions in disaster risk management issues.” The DIPECHO projects were implemented at both the national and subnational levels in areas prone to disaster impacts, and were developed in collaboration with local communities. Projects included “risk maps, emergency and contingency plans, early warning systems, and community educational campaigns.”

*“Dominican Republic prepares for disaster: Launches new projects funded by the EU” – UNDRR AM, 25 May 2015*



<sup>1</sup> Multi-Hazard Exposure: Average exposure of the population to hazards.

<sup>2</sup> 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)

Vulnerability<sup>3</sup> Rank: 3 of 32 Provinces (Score: 0.631) Vulnerability in Pedernales is strongly influenced by Information Access Vulnerability, Economic Constraints, and Clean Water Vulnerability. The bar chart on the right indicates the socioeconomic themes contributing to the Province's overall Vulnerability score.

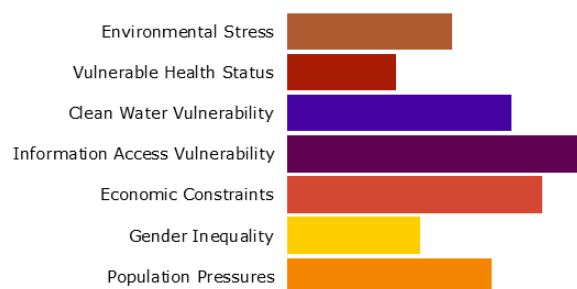









Table 3. Component Scores for each Vulnerability Sub-component

	Environmental Stress	68.6% Province Susceptible to Drought	0.55% Average Annual Forest Change				
	Vulnerable Health Status	6.3 Infant Mortality Rate	<b>NO DATA</b> Maternal Mortality Rate	16.7 Chronic Malnutrition	5.7% Population Disabled		
	Clean Water Vulnerability	21.7% Households without Access to Improved Water	24.8% Households without Access to Flush Toilets				
	Information Access Vulnerability	37.7% Illiteracy	60.8% Primary School Enrollment	96.9% Households without Internet	51.6% Households without TV	67.9% Households without Radio	4.4 Average years of Schooling
	Economic Constraints	66.1 Economic Dependency Ratio	77.9% Population in Poverty	54.7% CEP Beneficiaries			
	Gender Inequality	32.4% Female Seats in Government	1.1 Female to Male Years of Schooling	0.39 Female to Male Labor Ratio			
	Population Pressures	1.07% Average Annual Population Change	5.1% Average Annual Urban Population Change				

<sup>3</sup> 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 Capacity<sup>4</sup> Rank: 25 of 32 Provinces (Score: 0.419) The thematic areas with the weakest relative scores are Infrastructure (Communications and Transportation) and Economic Capacity. The bar chart on the right indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.

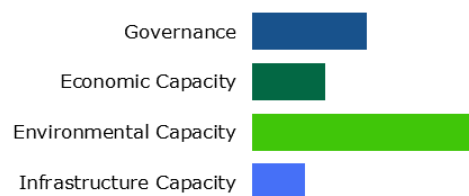









Table 4. Component Scores for each Coping Capacity Sub-component

	<b>Economic Capacity</b>	1.02 Debt to Service Ratio	93.1% Employment Rate (Male)	RD\$ 12,512 Average Annual Income per Capita			
	<b>Governance</b>	79.0% Registered Voter Participation (2016 Election)	18.1 Homicide Rate per 100k persons	52.9% Households with Garbage Collection			
	<b>Environmental Capacity</b>	68.7% Protected or Reforested Land					
	<b>Infrastructure Capacity</b>						
	<b>Health Care Capacity</b>		7.3 Hospital Beds per 10,000 Persons	11.5 Nurses per 10,000 Persons	12.1 Physicians per 10,000 Persons	10.2 km Average Distance to Nearest Hospital	0.96 Vaccination Index <sup>5</sup>
	<b>Communications Capacity</b>		3.7% Households with Access to Fixed Phone Line	53.7% Households with Access to Mobile Phone			
	<b>Transportation Capacity</b>		19.0 km Average Distance to Nearest Port or Airport	0.17 km Total Length of Road per km <sup>2</sup> (area)			

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

<sup>5</sup> 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 Resilience<sup>6</sup> Rank: 5 of 32 Provinces (Score: 0.606)

Pedernales's score and ranking are due to very high Vulnerability combined with low Coping Capacity scores. Pedernales ranks 3rd in Vulnerability and 25th in Coping Capacity.

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



Communications  
Infrastructure  
Capacity



Information  
Access  
Vulnerability



Economic  
Constraints

## Multi-Hazard Risk (MHR)

Multi-Hazard Risk<sup>7</sup> Rank: 29 of 32 Provinces (Score: 0.440)

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

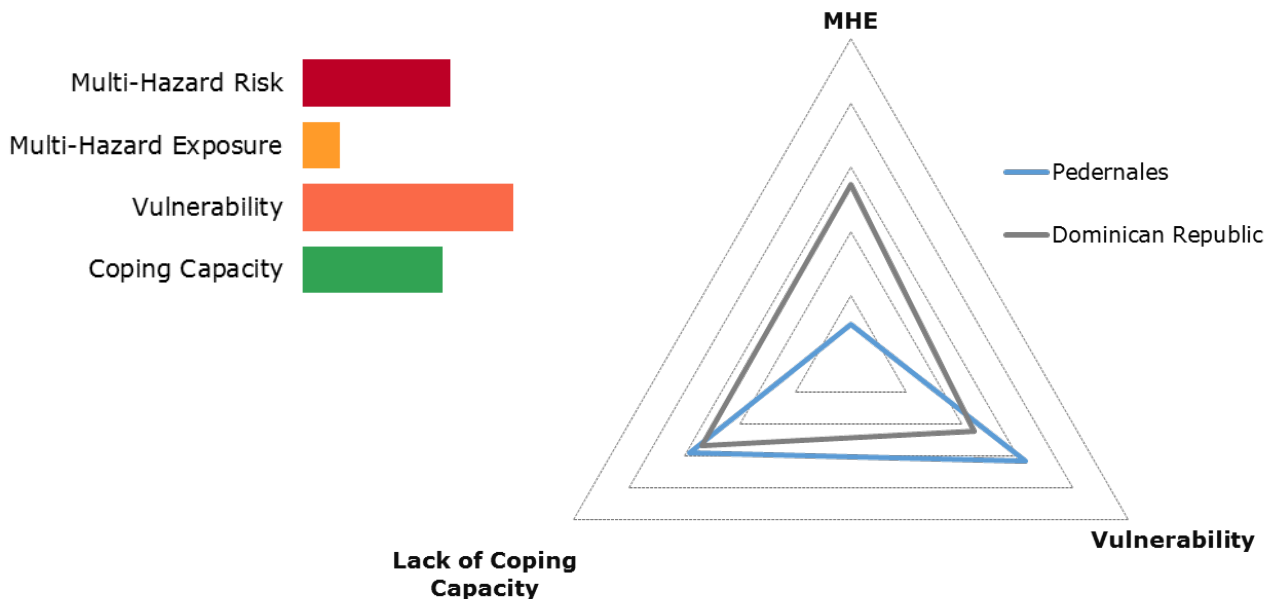


Figure 1. Province Multi-Hazard Risk Component Scores Compared to Overall Average Country Scores

<sup>6</sup> 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.

<sup>7</sup> 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 gender inequality

Ranked 27 of 32 provinces, low gender inequality indicates that vulnerable populations are more likely to have their needs met under 'normal' conditions and may be less susceptible during times of disaster.



### Low vulnerable health status

Ranked 23 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.



### Highest environmental capacity

Ranked 1 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.

## Recommendations

01

### 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.

02

### Increase economic capacity

Encourage business development and education programs to increase economic opportunities in the region.