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Fewer disasters.  
Safer world.



# Santiago Rodríguez

Dominican Republic National Disaster Preparedness  
Baseline Assessment  
Province Profile

## Findings: Risk and Vulnerability Assessment (RVA)

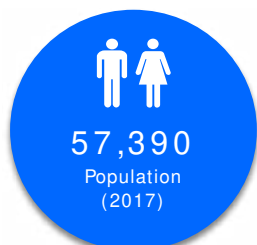
### Province: Santiago Rodríguez

Province Capital: San Ignacio de Sabaneta



Area: 1,295 km<sup>2</sup>

Located in the northwest of the country in the Cibao sub-region, Santiago Rodríguez is an important center of commerce in the region including manufacturing and agriculture.



Municipality	Population
San Ignacio De Sabaneta	34,490
Los Almácigos	11,167
Monción	11,733



**Multi-Hazard Risk Rank:  
Very Low (31 of 32)**

**Lack of Resilience Rank:  
Low (24 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		Low		Very Low		Low		High	
Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)
0.411	31	0.439	24	0.355	28	0.353	25	0.475	13

## Multi-Hazard Exposure (MHE)

Multi-Hazard Exposure<sup>1</sup> Rank: 28 of 32 Provinces (Score: 0.355)

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



Cyclone

100%

72,132 People



Earthquake

100%

72,132 People



Landslide

55%

39,828 People



Flood

2%

1,690 People



Tsunami

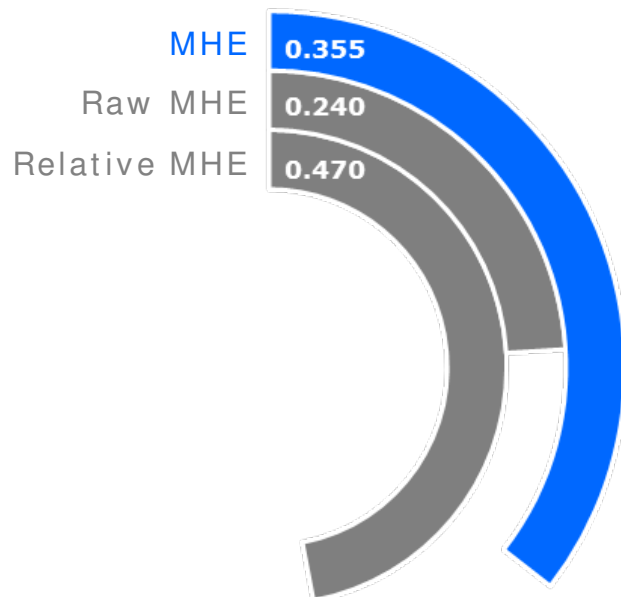
0%

0 People

### Case Study: Bananas, Climate, and Deforestation

Santiago Rodríguez falls within the Yaque del Norte River basin and is an important location for the country's banana production. However, this production has been negatively affected in recent years "by the destruction of the forest layer in the upper part of the Yaque del Norte basin, and by the erosion of soils that lost their water retention capacity and the sedimentation of the river bed..." Environmental degradation, alongside substantial drought concerns, are proving to be of significant concern for one of the country's primary exports and, in extension, for the country's economy.

"Dominican Republic: Deforestation and Climate Affect Banana Exports" – <https://www.freshplaza.com/article/2199779/dominican-republic-deforestation-and-climate-affect-banana-exports/>, 21 August 2018



<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: 25 of 32 Provinces (Score: 0.353) Vulnerability in Santiago Rodríguez is moderately influenced by Gender Inequality, Information Access Vulnerability, and Economic Constraints. The bar chart on the right indicates the socioeconomic themes contributing to the Province's overall Vulnerability score.

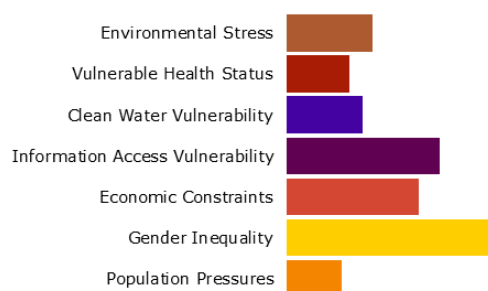









Table 3. Component Scores for each Vulnerability Sub-component

	<b>Environmental Stress</b>	<b>16.6%</b> Province Susceptible to Drought	<b>0.3%</b> Average Annual Forest Change				
	<b>Vulnerable Health Status</b>	<b>15.4</b> Infant Mortality Rate	<b>110.0</b> Maternal Mortality Rate	<b>7.5</b> Chronic Malnutrition	<b>4.6%</b> Population Disabled		
	<b>Clean Water Vulnerability</b>	<b>15.5%</b> Households without Access to Improved Water	<b>5.4%</b> Households without Access to Flush Toilets				
	<b>Information Access Vulnerability</b>	<b>19.1%</b> Illiteracy	<b>83.9%</b> Primary School Enrollment	<b>92.2%</b> Households without Internet	<b>29.2%</b> Households without TV	<b>47.3%</b> Households without Radio	<b>6.1</b> Average years of Schooling
	<b>Economic Constraints</b>	<b>58.0</b> Economic Dependency Ratio	<b>48.2%</b> Population in Poverty	<b>41.9%</b> CEP Beneficiaries			
	<b>Gender Inequality</b>	<b>35.7%</b> Female Seats in Government	<b>1.1</b> Female to Male Years of Schooling	<b>0.56</b> Female to Male Labor Ratio			
	<b>Population Pressures</b>	<b>0.07%</b> Average Annual Population Change	<b>0.8%</b> 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: 13 of 32 Provinces (Score: 0.475) The thematic areas with the weakest relative scores are Economic Capacity and Infrastructure (Transportation). The bar chart on the right indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.

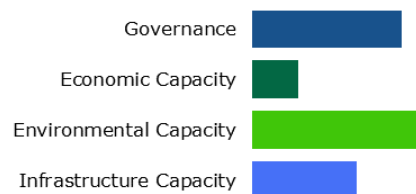


Table 4. Component Scores for each Coping Capacity Sub-component

	<b>Economic Capacity</b>	<b>0.98</b> Debt to Service Ratio	<b>90.2%</b> Employment Rate (Male)	<b>RD\$ 15,118</b> Average Annual Income per Capita			
	<b>Governance</b>	<b>76.6%</b> Registered Voter Participation (2016 Election)	<b>10.4</b> Homicide Rate per 100k persons	<b>58.7%</b> Households with Garbage Collection			
	<b>Environmental Capacity</b>	<b>52.6%</b> Protected or Reforested Land					
	<b>Infrastructure Capacity</b>						
	<b>Health Care Capacity</b>		<b>23.1</b> Hospital Beds per 10,000 Persons	<b>28.5</b> Nurses per 10,000 Persons	<b>16.7</b> Physicians per 10,000 Persons	<b>3.8 km</b> Average Distance to Nearest Hospital	<b>0.70</b> Vaccination Index <sup>5</sup>
	<b>Communications Capacity</b>		<b>14.0%</b> Households with Access to Fixed Phone Line	<b>73.2%</b> Households with Access to Mobile Phone			
	<b>Transportation Capacity</b>		<b>53.9 km</b> Average Distance to Nearest Port or Airport	<b>0.47 km</b> 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: 14 of 32 Provinces (Score: 0.439)

Santiago Rodríguez's score and ranking are due to low Vulnerability combined with moderate Coping Capacity scores. Santiago Rodríguez ranks 25th in Vulnerability and 13th in Coping Capacity.

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



Economic Capacity



Transportation Infrastructure Capacity



Gender Inequality

## Multi-Hazard Risk (MHR)

Multi-Hazard Risk<sup>7</sup> Rank: 31 of 32 Provinces (Score: 0.411)

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

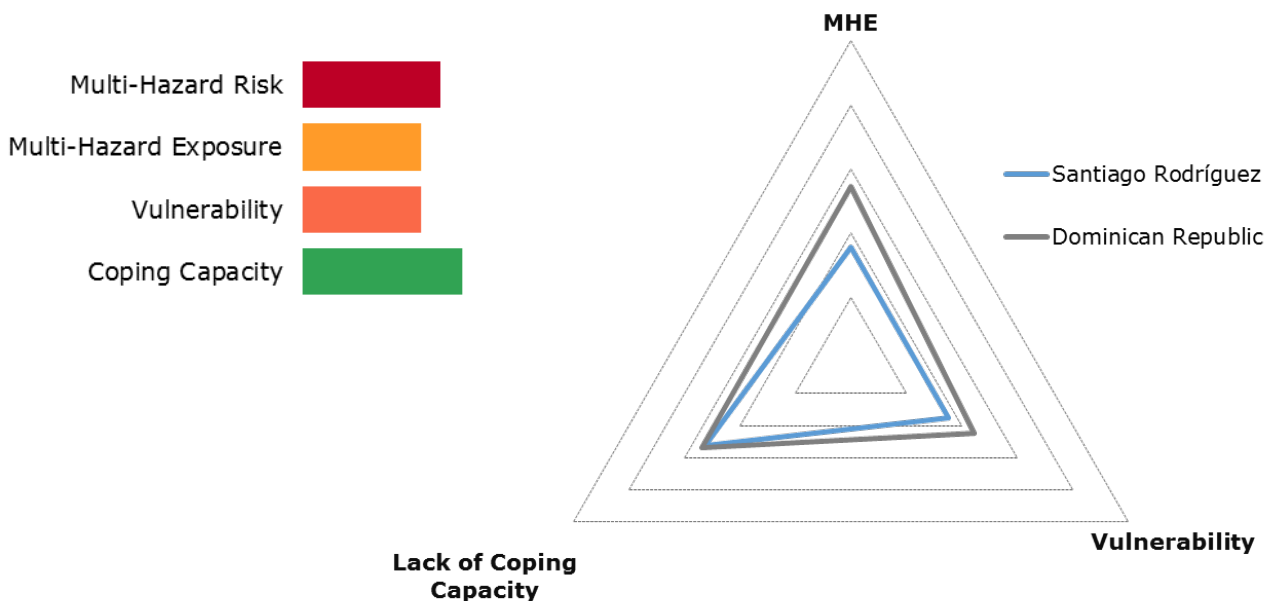


Figure 1. Province Multi-Hazard Risk Component Scores Compared to Overall Average Country Scores

<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



### High overall governance

Ranked 3 of 32 provinces, high governance could facilitate the implementation of disaster management initiatives into provincial and municipal communities.



### Low vulnerable health status

Ranked 29 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.



### Lowest population pressures

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

## Recommendations

01

### Increase business development

Invest in business development and education programs to boost economic capacity and increase the number of businesses and the likelihood of success of those businesses.

02

### Provide opportunities for women

Public education and awareness programs, as well as increased business and political opportunities that focus on advancing the role of women in the workplace and the society, will improve resilience and decrease vulnerability.

03

### Invest in transportation infrastructure

Investing in transportation infrastructure will facilitate the distribution of goods and services before, during, and after a disaster event.