

**Better solutions.  
Fewer disasters.  
Safer world.**



# Carazo

**Nicaragua National Disaster Preparedness Baseline Assessment  
Department Profile**

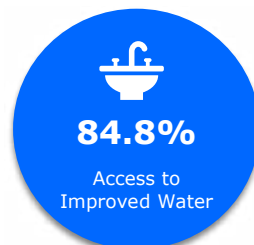
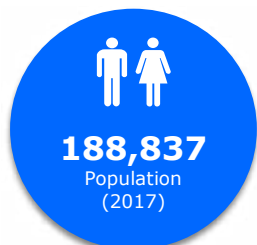
**Department: Carazo**



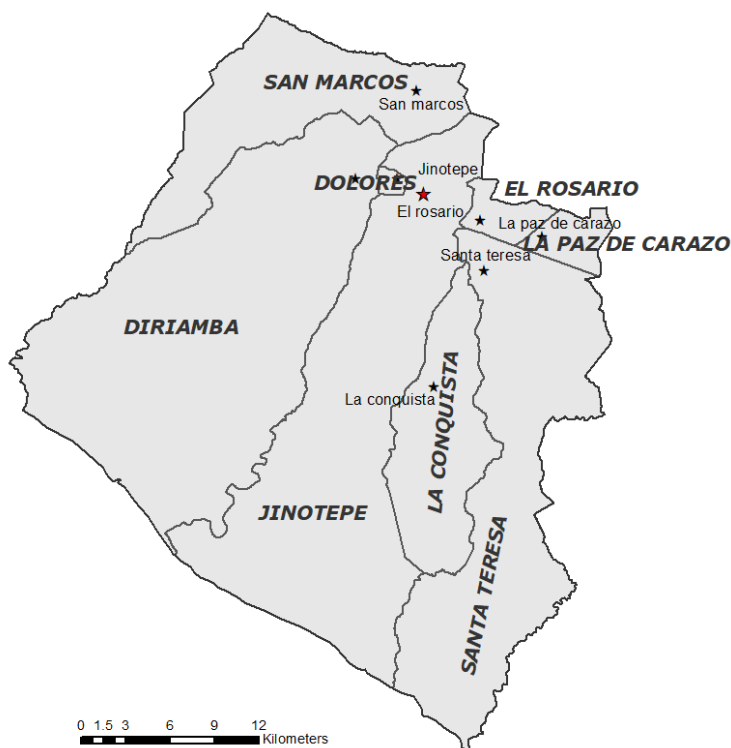
Department Capital: Jinotepe

Area: 1,081 km<sup>2</sup>

Carazo is located on the Pacific Coast of Nicaragua and is known for its sea-turtle wildlife reserves, volcanic rock quarries, and agricultural production.



Municipality	Population
San Marcos	32,671
Jinotepe	47,616
Dolores	8,488
Diriamba	64,647
El Rosario	7,616
La Paz de Carazo	5,658
Santa Teresa	18,098
La Conquista	4,043



**Multi-Hazard Risk Rank: Medium (10 of 17)**

**Lack of Resilience Rank: Low (11 of 17)**

**RVA Component Scores**

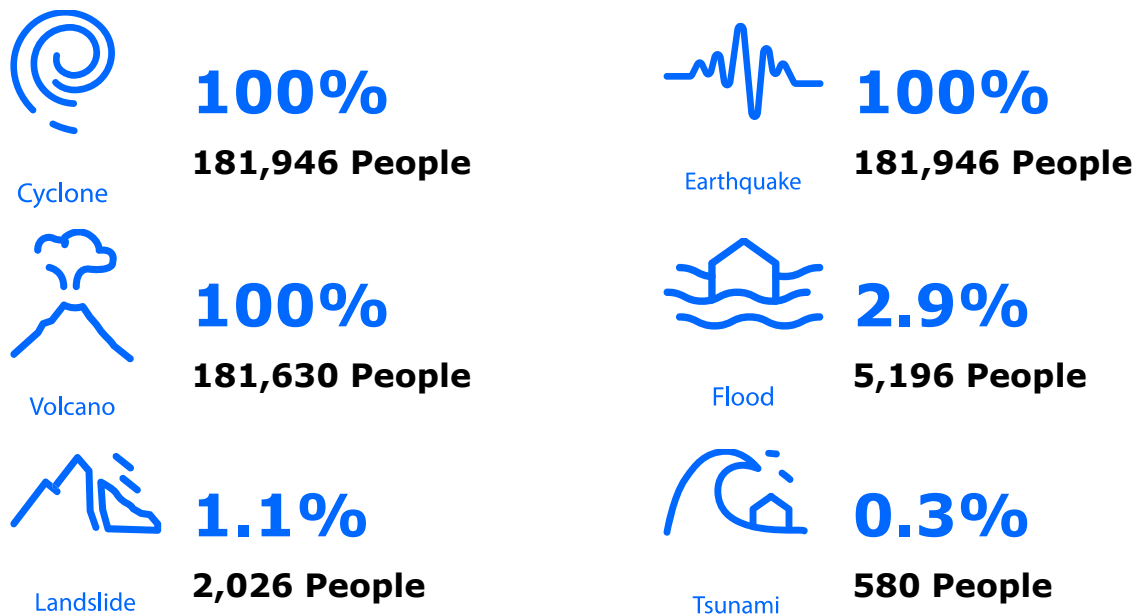
Table 1. Department scores and ranks (compared across departments) for each index

Multi-Hazard Risk		Lack of Resilience		Multi-Hazard Exposure		Vulnerability		Coping Capacity	
Medium		Low		High		Low		Medium	
Score	Rank (of 17)	Score	Rank (of 17)	Score	Rank (of 17)	Score	Rank (of 17)	Score	Rank (of 17)
0.469	10	0.388	11	0.632	6	0.322	13	0.546	7

## Multi-Hazard Exposure (MHE)

Multi-Hazard Exposure<sup>1</sup> Rank: 6 of 17 Departments (Score: 0.632)

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



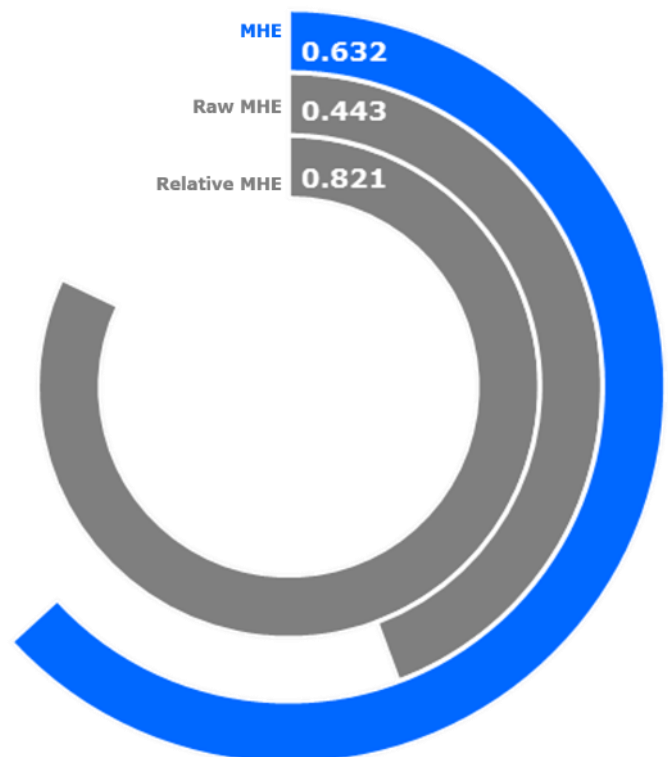
### Case Study: Namotivas Development Program

World Vision is working in Carazo to improve the well-being of children using a long-term approach focused on the underlying causes of poverty.

Activities within the program include:

- Growing community gardens;
- Educating parents on childhood illness;
- Tutoring primary school students; and
- Training community members on emergency preparedness and other response activities.

<https://www.ngoaidmap.org/projects/14893>



<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 department. Ambient population typically differs from census population.

## Vulnerability (V)

**Vulnerability<sup>3</sup> Rank: 13 of 17 Departments (Score: 0.322)** Vulnerability in Carazo is primarily driven by Vulnerable Health Status and Environmental Stress. The bar chart on the right indicates the socioeconomic themes contributing to the department's overall Vulnerability score.

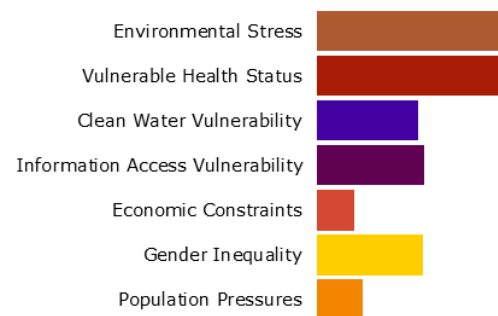









Table 3. Component scores for each vulnerability sub-component

	<b>Environmental Stress</b>	<b>100%</b> Province at Drought Risk	<b>30.0%</b> Erosion Risk	<b>69.3</b> Livestock per km <sup>2</sup>			
	<b>Vulnerable Health Status</b>	<b>15.0</b> Infant Mortality Rate	<b>25.0</b> Maternal Mortality Rate	<b>73.4 yrs</b> Average Life Expectancy	<b>3.3%</b> Acute Malnutrition (Children <5)	<b>2.9%</b> Population Disabled	
	<b>Clean Water Vulnerability</b>	<b>84.8%</b> Households with Access to Improved Water	<b>35.0%</b> Households with Access to Flush Toilets				
	<b>Information Access Vulnerability</b>	<b>16.2%</b> Illiteracy	<b>6.9 yrs</b> Average Years of Schooling	<b>88.4%</b> Primary School Enrollment	<b>94.8%</b> Households without Internet	<b>11.9%</b> Households without TV	<b>64.5%</b> Households without Radio
	<b>Economic Constraints</b>	<b>50.8</b> Economic Dependency Ratio	<b>55.9%</b> Population in Poverty				
	<b>Gender Inequality</b>	<b>43.8%</b> Female Seats in Government	<b>0.86</b> Female to Male Secondary Education Enrollment	<b>0.29</b> Female to Male Labor Ratio			
	<b>Population Pressures</b>	<b>1.49%</b> Average Annual Population Change	<b>1.97%</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.

## Coping Capacity (CC)

**Coping Capacity<sup>4</sup> Rank: 7 of 17 Departments (Score: 0.546)** Carazo exhibits weaker Coping Capacity in the areas of Environmental Capacity and Governance. The bar chart on the right indicates the socioeconomic themes contributing to the department's overall Coping Capacity score.

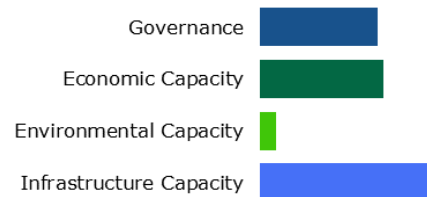


Table 4. Component scores for each coping capacity sub-component

	<b>Economic Capacity</b>	<b>9.6%</b> Households that Receive Remittances	<b>83.0%</b> Employment Rate (Male)	<b>58.8%</b> Employment Rate (Female)	<b>23.4%</b> Population in Highest Welfare Quintile	<b>\$766.7</b> Annual Nominal Global Revenue per Capita	
	<b>Governance</b>	<b>91.5%</b> Crime Complaints Cleared	<b>2172.3</b> Crime Rate per 100k Persons	<b>53.3%</b> Households without Garbage Collection	<b>62.5%</b> Voter Participation (2016 Election)		
	<b>Environmental Capacity</b>	<b>7.3%</b> Protected or Reforested Land					
	<b>Infrastructure Capacity</b>						
	<b>Health Care Capacity</b>		<b>13.8</b> Hospital Beds per 10,000 Persons	<b>20.6</b> Nurses per 10,000 Persons	<b>10.8</b> Physicians per 10,000 Persons	<b>13.0 km</b> Average Distance to Nearest Hospital	<b>91.4%</b> Children Completed Immunization Schedule
	<b>Communications Capacity</b>		<b>12.5%</b> Households with Access to Fixed Phone Line	<b>79.3%</b> Households with Access to Mobile Phone			
	<b>Transportation Capacity</b>		<b>26.5 km</b> Average Distance to Nearest Port or Airport	<b>0.79 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.

## Lack of Resilience (LR)

**Lack of Resilience<sup>5</sup> Rank: 11 of 17 Departments (Score: 0.388)**

Carazo's score and ranking are due to low Vulnerability combined with medium Coping Capacity scores.

Table 5. The three thematic areas with the weakest relative scores



**Governance**



**Environmental Capacity**



**Vulnerable Health Status**

## Multi-Hazard Risk (MHR)

**Multi-Hazard Risk<sup>6</sup> Rank: 10 of 17 Departments (Score: 0.469)**

Carazo's score and ranking are a product of high Multi-Hazard Exposure combined with low Vulnerability and medium Coping Capacity scores.

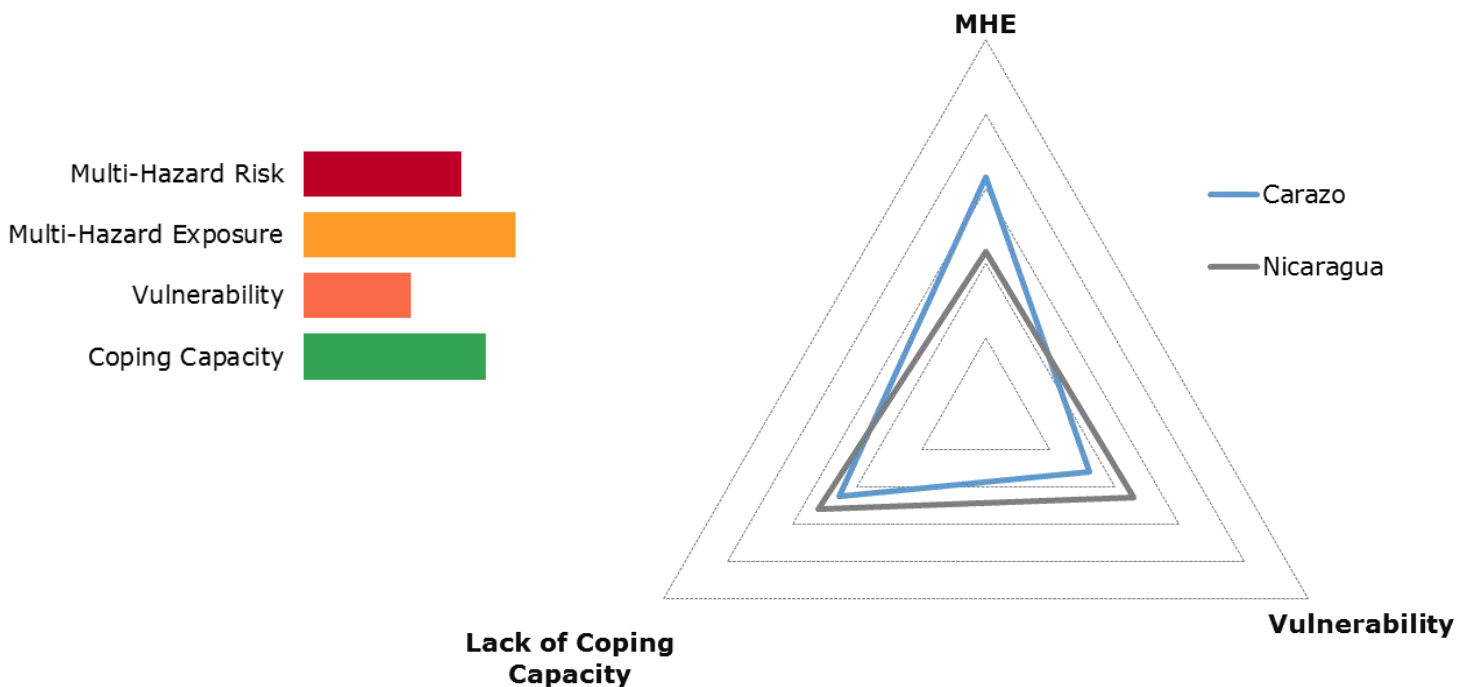


Figure 1. Department Multi-Hazard Risk component scores compared to overall average country scores

<sup>5</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 socioeconomic conditions.

<sup>6</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



### Very low economic constraints

Ranked 16 of 17 departments, low economic constraints indicate that Carazo may be able to invest in additional mitigation and preparedness measures at the local and community level.



### Highest overall infrastructure capacity

Ranked 1 of 17 departments, well developed infrastructure – communication, health care, transportation - facilitates the exchange of information, and physical distribution of goods and services to the population.



### Very low population pressures

Ranked 14 of 17 departments, limited population change allows disaster managers to form accurate evacuation, sheltering, and resource plans.

## Recommendations

01

### Invest in public safety and crime prevention

Provide additional support for local police, firefighters, and emergency medical resources to improve public safety and decrease crime rates.

02

### Reduce vulnerable health status

Invest in public welfare services to decrease malnutrition, support the disabled population, and decrease infant and maternal mortality.



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