

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



# Estelí

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

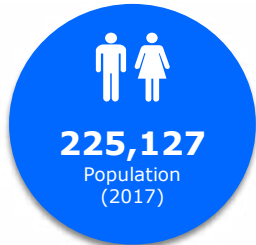
**Department: Estelí**



Department Capital: Estelí

Area: 2,230 km<sup>2</sup>

Estelí is a small province located in the northern part of Nicaragua, primarily known for its tobacco industry, nature reserves, and archaeological sites.



Municipality	Population
Pueblo Nuevo	23,768
Condega	30,556
Estelí	125,245
San Juan de Limay	15,350
La Trinidad	22,653
San Nicolás	7,555



**Multi-Hazard Risk Rank:  
Very Low (17 of 17)**

**Lack of Resilience Rank:  
Very Low (15 of 17)**

**RVA Component Scores**

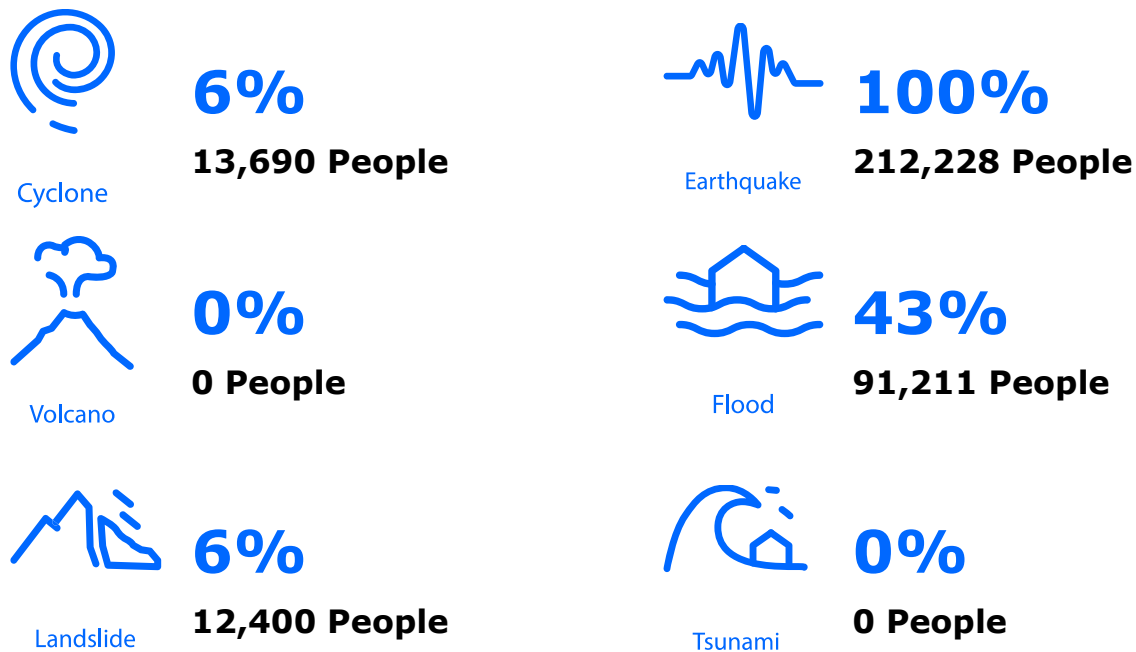
Table 1. Department scores and ranks (compared across departments) for each index

Multi-Hazard Risk		Lack of Resilience		Multi-Hazard Exposure		Vulnerability		Coping Capacity	
Very Low		Very Low		Medium		Very Low		Very High	
Score	Rank (of 17)	Score	Rank (of 17)	Score	Rank (of 17)	Score	Rank (of 17)	Score	Rank (of 17)
0.331	17	0.334	15	0.325	9	0.303	16	0.636	2

## Multi-Hazard Exposure (MHE)

Multi-Hazard Exposure<sup>1</sup> Rank: 9 of 17 Departments (Score: 0.325)

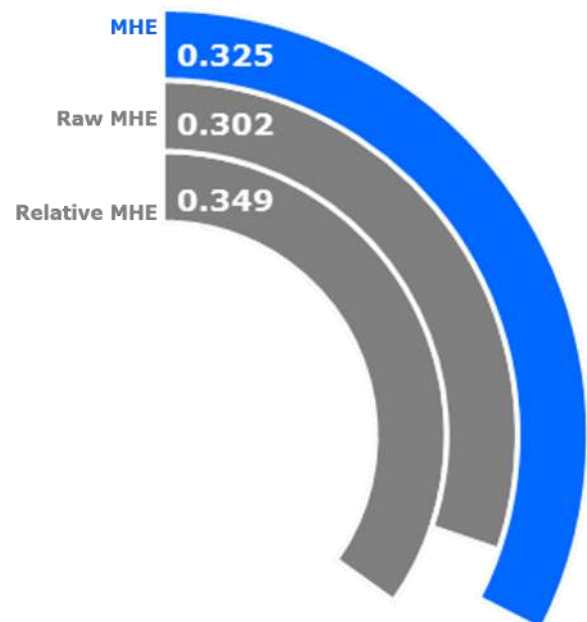
Table 2. Estimated ambient population<sup>2</sup> exposed to each hazard



12 neighborhoods in Estelí reside in flood-hazard zones. Specific plans exist to evacuate these populations in the event of flooding.

### Case Study: Department Exercise

Estelí follows the national guideline of fostering a culture of prevention. Monthly gatherings with representatives from each government sector are conducted to discuss and update preparedness and response plans. In a May 2017 exercise, 77 neighborhoods, 82 communities, all government ministries, and the private sector (tobacco companies, shop owners, gas stations) participated in a municipal-wide exercise to practice response to the specific hazards that impact the region. After-action reports were completed immediately. Concerns included a lack of available resources (equipment and people).



<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: 16 of 17 Departments (Score: 0.303)** Vulnerability in Estelí is primarily driven by Environmental Stress. The bar chart on the right indicates the socioeconomic themes contributing to the department's overall Vulnerability score.

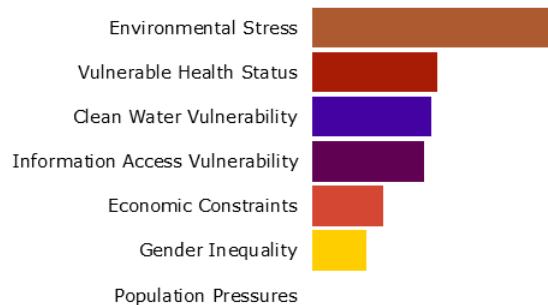









Table 3. Component scores for each vulnerability sub-component

	<b>Environmental Stress</b>	<b>100%</b> Province at Drought Risk	<b>55.8%</b> Erosion Risk	<b>75.5</b> Livestock per km <sup>2</sup>		
	<b>Vulnerable Health Status</b>	<b>11.7</b> Infant Mortality Rate	<b>19.8</b> Maternal Mortality Rate	<b>74.3 yrs</b> Average Life Expectancy	<b>1.5%</b> Acute Malnutrition (Children < 5)	<b>2.6%</b> Population Disabled
	<b>Clean Water Vulnerability</b>	<b>67.5%</b> Households with Access to Improved Water	<b>40.8%</b> Households with Access to Flush Toilets			
	<b>Information Access Vulnerability</b>	<b>19.1%</b> Illiteracy	<b>6.15 yrs</b> Average Years of Schooling	<b>90.5%</b> Primary School Enrollment	<b>93.4%</b> Households without Internet	<b>20.8%</b> Households without TV <b>58.2%</b> Households without Radio
	<b>Economic Constraints</b>	<b>52.5</b> Economic Dependency Ratio	<b>61.2%</b> Population in Poverty			
	<b>Gender Inequality</b>	<b>58.3%</b> Female Seats in Government	<b>1.01</b> Female to Male Secondary Education Enrollment	<b>0.31</b> Female to Male Labor Ratio		
	<b>Population Pressures</b>	<b>1.13%</b> Average Annual Population Change	<b>1.67%</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: 2 of 17 Departments (Score: 0.636)** Estelí exhibits weaker Coping Capacity in the areas of Economic Capacity and Transportation Infrastructure. The bar chart on the right indicates the socioeconomic themes contributing to the department's overall Coping Capacity score.

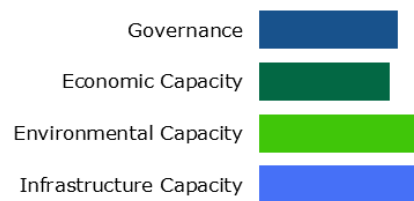


Table 4. Component scores for each coping capacity sub-component

	<b>Economic Capacity</b>	<b>12.2%</b> Households that Receive Remittances	<b>76.7%</b> Employment Rate (Male)	<b>53%</b> Employment Rate (Female)	<b>24.4%</b> Population in Highest Welfare Quintile	<b>\$1,084</b> Annual Nominal Global Revenue per Capita	
	<b>Governance</b>	<b>92.5%</b> Crime Complaints Cleared	<b>1809.7</b> Crime Rate per 100k Persons	<b>53.9%</b> Households without Garbage Collection	<b>66.9%</b> Voter Participation (2016 Election)		
	<b>Environmental Capacity</b>	<b>37.0%</b> Protected or Reforested Land					
	<b>Infrastructure Capacity</b>						
	<b>Health Care Capacity</b>		<b>13.9</b> Hospital Beds per 10,000 Persons	<b>19.4</b> Nurses per 10,000 Persons	<b>12.5</b> Physicians per 10,000 Persons	<b>9.8 km</b> Average Distance to Nearest Hospital	<b>95.1%</b> Children Completed Immunization Schedule
	<b>Communications Capacity</b>		<b>18.2%</b> Households with Access to Fixed Phone Line	<b>78.9%</b> Households with Access to Mobile Phone			
	<b>Transportation Capacity</b>		<b>77.7 km</b> Average Distance to Nearest Port or Airport	<b>0.57 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: 15 of 17 Departments (Score: 0.334)**

Estelí's score and ranking are a product of very low Vulnerability combined with very high Coping Capacity scores.

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



**Environmental Stress**



**Transportation Capacity**



**Economic Capacity**

## Multi-Hazard Risk (MHR)

**Multi-Hazard Risk<sup>6</sup> Rank: 17 of 17 Departments (Score: 0.343)**

Estelí's Multi-Hazard Risk score and ranking are due to medium Multi-Hazard Exposure combined with very low Vulnerability and very high Coping Capacity scores.

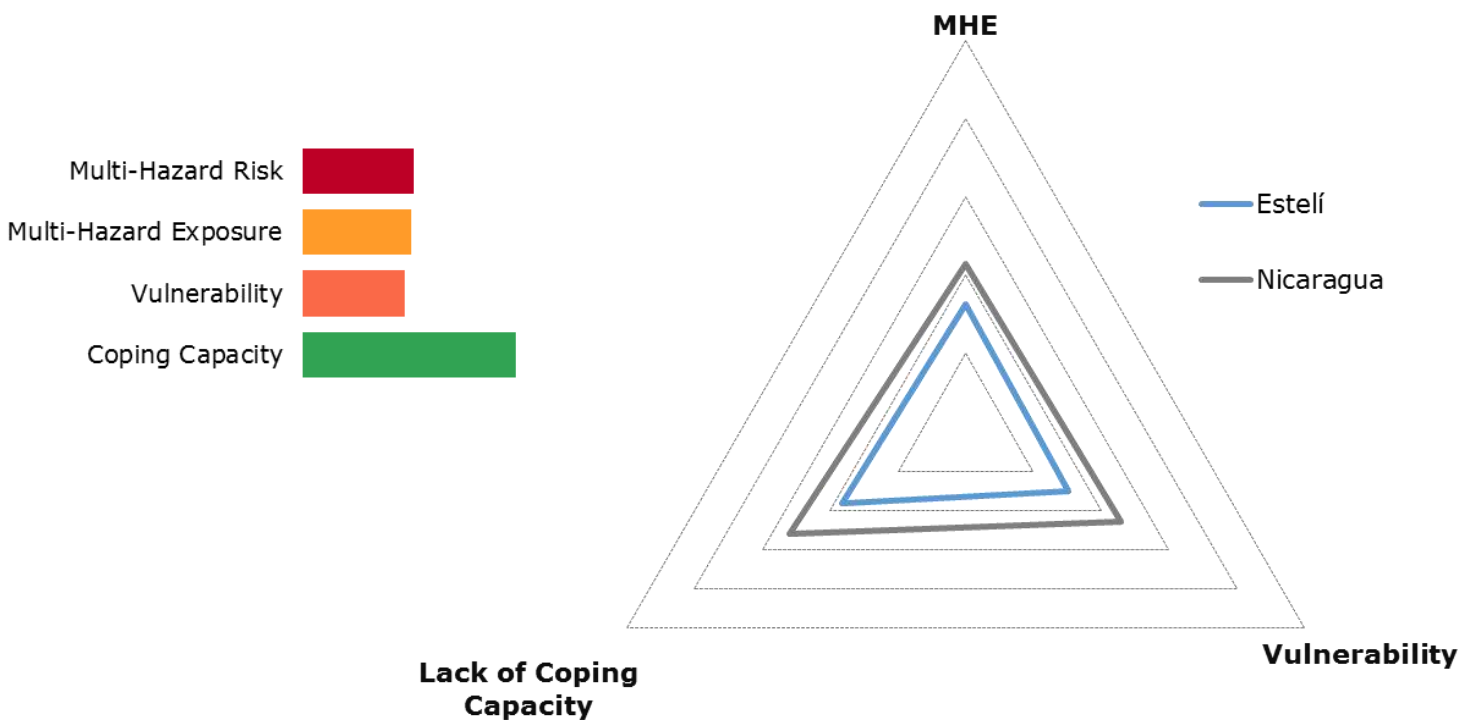


Figure 1. Department Multi-Hazard Risk component scores compared to overall average country scores

<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



### **Inclusive exercise**

Department level exercises are inclusive of all stakeholders, including SINAPRED staff, private companies, government organizations, NGOs, and the public.



### **Very low overall vulnerability**

Ranked 16 of 17 departments, low overall vulnerability indicates that Guatemala department is less susceptible to the negative impacts of a disaster and will likely recover faster after an event.



### **Highest health care capacity**

Ranked 1 of 17 departments, high health care capacity indicates that the population will have access to healthcare services before, during, and after a disaster.

## Recommendations

**01**

### **Reduce environmental stress**

Invest in drought- and erosion-mitigation projects to reduce environmental stress and degradation.



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