

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



Masaya

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

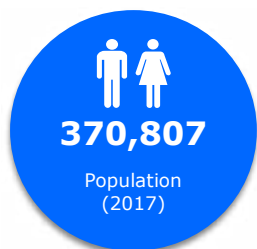
Department: Masaya



Department Capital: Masaya

Area: 611 km²

Masaya is Nicaragua's smallest department. The department is known for being "La Cuna Del Folklore" (The Cradle of Folklore) and has an active volcano within its boundaries, Masaya Volcano.



Municipality	Population
Nindirí	53,811
Masaya	177,269
Tisma	12,200
La Concepción	41,716
Masatepe	38,655
Nandasmo	14,787
Catarina	8,723
San Juan de Oriente	7,216
Niquinohomo	16,430



**Multi-Hazard Risk Rank:
Medium (9 of 17)**

**Lack of Resilience Rank:
Low (13 of 17)**

RVA Component Scores

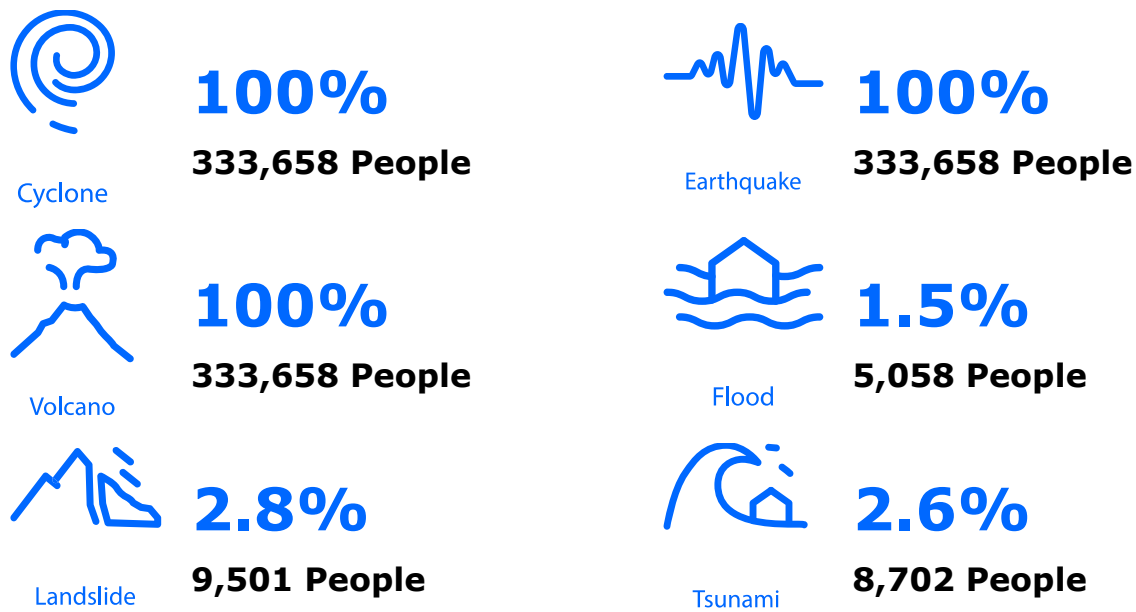
Table 1. Department scores and ranks (compared across departments) for each index

Multi-Hazard Risk		Lack of Resilience		Multi-Hazard Exposure		Vulnerability		Coping Capacity	
Medium		Low		High		Very Low		High	
Score	Rank (of 17)	Score	Rank (of 17)	Score	Rank (of 17)	Score	Rank (of 17)	Score	Rank (of 17)
0.473	9	0.349	13	0.720	4	0.307	15	0.609	4

Multi-Hazard Exposure (MHE)

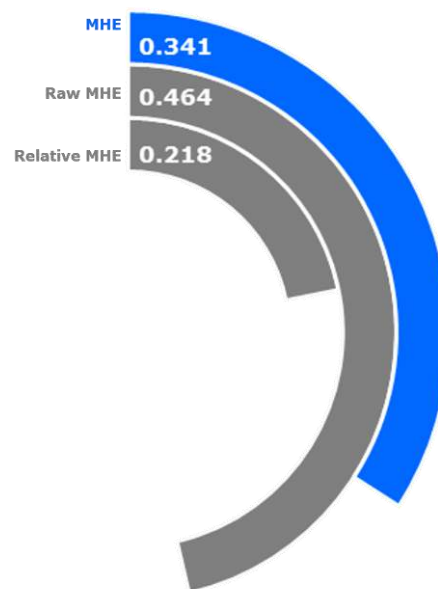
Multi-Hazard Exposure¹ Rank: 4 of 17 Departments (Score: 0.720)

Table 2. Estimated ambient population² exposed to each hazard



Case Study

Masaya has 19 critical communities that become isolated after four hours of rain. Once it has been raining for four hours, Medical and police brigades are activated. These brigades are constantly training and exercising for disaster events. During Hurricane Otto, the population was evacuated to safe areas and there was no loss of life.



¹ Multi-Hazard Exposure: Average exposure of the population to hazards.

² Ambient Population: 24-hour average estimate of the population in each department. Ambient population typically differs from census population.

Vulnerability (V)

Vulnerability³ Rank: 15 of 17 Departments

(Score: 0.307) Vulnerability in Masaya is primarily driven by Environmental Stress. The bar chart on the right indicates the socioeconomic themes contributing to the department's overall Vulnerability score.

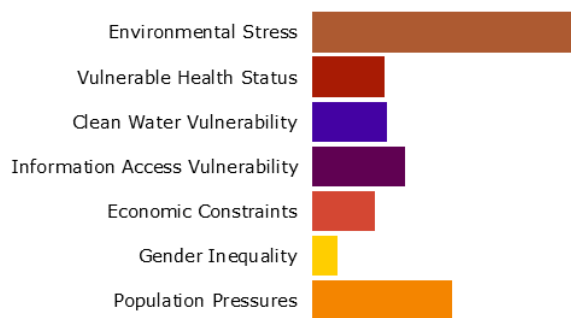


Table 3. Component scores for each vulnerability sub-component

	Environmental Stress	100% Province at Drought Risk	27.2% Erosion Risk	112.7 Livestock per km ²			
	Vulnerable Health Status	12.0 Infant Mortality Rate	14.0 Maternal Mortality Rate	74.9 yrs Average Life Expectancy	0.2% Acute Malnutrition (Children < 5)	1.3% Population Disabled	
	Clean Water Vulnerability	93.5% Households with Access to Improved Water	37.4% Households with Access to Flush Toilets				
	Information Access Vulnerability	15.9% Illiteracy	6.7 yrs Average Years of Schooling	89.4% Primary School Enrollment	93.0% Households without Internet	10.3% Households without TV	62.9% Households without Radio
	Economic Constraints	53.5 Economic Dependency Ratio	58.2% Population in Poverty				
	Gender Inequality	50.0% Female Seats in Government	1.16 Female to Male Secondary Education Enrollment	0.18 Female to Male Labor Ratio			
	Population Pressures	1.96% Average Annual Population Change	2.91% Average Annual Urban Population Change				

³ **Vulnerability:** The socioeconomic conditions that are associated with the susceptibility to disruptions in a country's normal functions.

Coping Capacity (CC)

Coping Capacity⁴ Rank: 4 of 17 Departments (Score: 0.609) Masaya exhibits weaker Coping Capacity in the area of Health Care Capacity. The bar chart on the right indicates the socioeconomic themes contributing to the department’s overall Coping Capacity score.

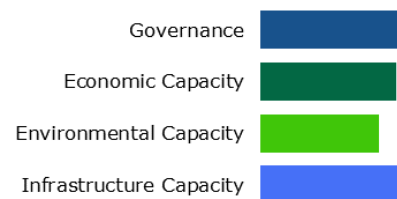


Table 4. Component scores for each coping capacity sub-component

	Economic Capacity	6.3% Households that Receive Remittances	76.2% Employment Rate (Male)	62.8% Employment Rate (Female)	20.2% Population in Highest Welfare Quintile	\$2,713 Annual Nominal Global Revenue per Capita
	Governance	93.9% Crime Complaints Cleared	1292.8 Crime Rate per 100k Persons	68.2% Households without Garbage Collection	53.6% Voter Participation (2016 Election)	
	Environmental Capacity	29.1% Protected or Reforested Land				
	Infrastructure Capacity					
	Health Care Capacity		6.0 Hospital Beds per 10,000 Persons	8.6 Nurses per 10,000 Persons	5.7 Physicians per 10,000 Persons	8.36 km Average Distance to Nearest Hospital
	Communications Capacity		14.7% Households with Access to Fixed Phone Line	80.5% Households with Access to Mobile Phone		82.2% Children Completed Immunization Schedule
	Transportation Capacity		16.1 km Average Distance to Nearest Port or Airport	1.05 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.

Lack of Resilience (LR)

Lack of Resilience⁵ Rank: 13 of 17 Departments (Score: 0.349)

Masaya's score and ranking are due to very low Vulnerability combined with high Coping Capacity scores.

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



Environmental Stress



Health Care Capacity



Population Pressures

Multi-Hazard Risk (MHR)

Multi-Hazard Risk⁶ Rank: 9 of 17 Departments (Score: 0.473)

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

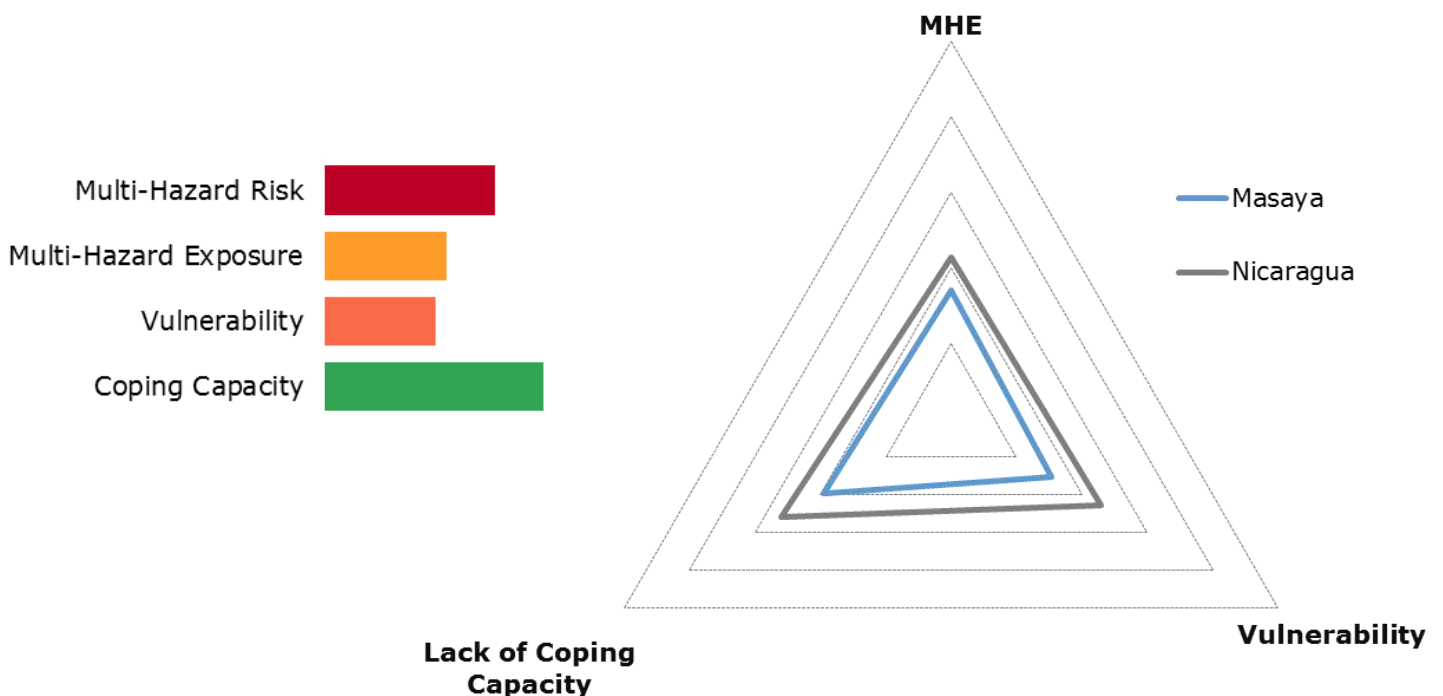


Figure 1. Department Multi-Hazard Risk component scores compared to overall average country scores

⁵ **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.

⁶ **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



Lowest gender inequality

Ranked 17 of 17 departments, 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.



Lowest vulnerable health status

Ranked 17 of 17 departments, low health vulnerability indicates a population that will be more resilient to the negative health impacts associated with major disaster events.



Highest transportation capacity

Ranked 1 of 17 departments, well developed transportation networks facilitate the movement of goods and services, decreasing wait times for response and relief supplies.

Recommendations

01

Reduce environmental stress

Invest in drought- and erosion-mitigation projects, and sustainable livestock-management practices to reduce environmental stress and degradation.

02

Invest in health infrastructure and resources

Invest in physical and human resources in the health sector to improve health-care capacity in the department.



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