

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



# Guatemala: Sacatepéquez

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

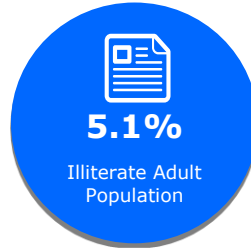
**Department: Sacatepéquez**



Department Capital: Antigua

Area: 464.9 km<sup>2</sup>

Sacatepéquez is to the northwest of Guatemala City and is a very mountainous area. The department is home to the most active volcanoes in Guatemala, including Acatengo, Volcán de Agua, and Volcán de Fuego.



**Municipality**

- Antigua Guatemala
- Sumpango
- Ciudad Vieja
- Alotenango
- Santiago Sacatepéquez
- San Lucas Sacatepéquez
- Jocotenango
- Santa Lucía Milpas Altas
- Santa María de Jesús
- Pastores
- San Miguel Dueñas
- Magdalena Milpas Altas
- Santo Domingo Xenacoj
- San Antonio Aguas Calientes
- San Bartolomé
- Santa Catarina Barahona

**Population**

- 46,534
- 41,789
- 40,676
- 33,824
- 32,656
- 28,221
- 21,242
- 17,433
- 17,347
- 16,439
- 12,218
- 11,933
- 11,313
- 10,771
- 10,422
- 3,654



**Multi-Hazard Risk Rank: Low (18 of 22)**

**Lack of Resilience Rank: Very Low (22 of 22)**

**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	
Low		Very Low		High		Very Low		Very High	
Score	Rank (of 22)	Score	Rank (of 22)	Score	Rank (of 22)	Score	Rank (of 22)	Score	Rank (of 22)
0.467	18	0.359	22	0.682	6	0.332	21	0.613	2

## Multi-Hazard Exposure (MHE)

**Multi-Hazard Exposure<sup>1</sup> Rank: 6 of 22 Departments (Score: 0.682)**

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



Cyclone

**100%**

**325,051 People**



Earthquake

**100%**

**325,051 People**



Volcano

**100%**

**325,051 People**



Flood

**19%**

**62,918 People**



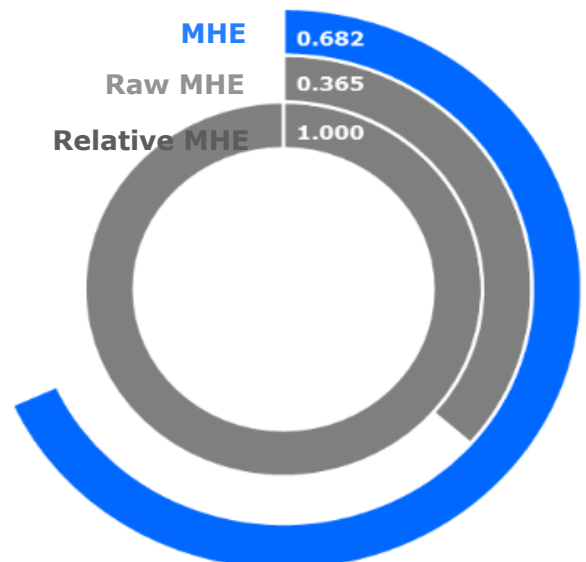
Landslide

**10%**

**31,193 People**

### Volcán de Fuego

On the border of Sacatepéquez, Chimaltenango, and Escuintla departments, Volcán de Fuego is Central America's most active volcano. Fuego is almost constantly active at a low level with smoke visible emanating from its top daily. While large eruptions are rare, Sacatepéquez department's capital city of Antigua sitting in the volcano's shadow is constantly aware of the potential danger. The last major eruption was in 1974, but smaller eruptions have blanketed area towns and crops in ash as recently as 2017.



<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: 21 of 22 Departments (Score: 0.332)** Vulnerability in Sacatepéquez is very low, but is influenced by Environmental Stress, Vulnerable Health Status, and Gender Inequality. The bar chart on the right indicates the socioeconomic themes contributing to the department's overall Vulnerability score.

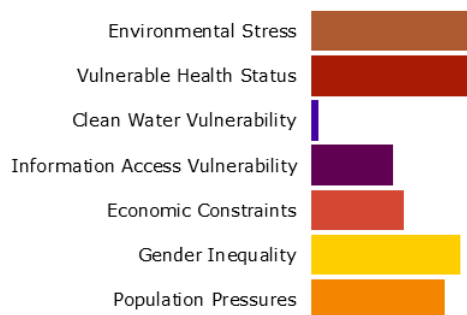









Table 3. Component scores for each Vulnerability sub-component

	<b>Environmental Stress</b>	<b>73.2%</b> Province at Drought Risk	<b>0.8%</b> Annual Forest Change					
	<b>Vulnerable Health Status</b>	<b>29</b> Infant Mortality Rate	<b>64.3</b> Maternal Mortality Ratio	<b>0.9%</b> Acute Malnutrition	<b>1.0%</b> Population Disabled	<b>9.5</b> TB Incidence	<b>6.8</b> Dengue Prevalence	<b>22.6</b> Malaria Prevalence
	<b>Clean Water Vulnerability</b>	<b>94.9%</b> Households with Access to Improved Water	<b>89.9%</b> Households with Access to Improved Sanitation					
	<b>Information Access Vulnerability</b>	<b>5.1%</b> Adult Illiteracy	<b>6.7</b> Average Years of Schooling	<b>84.7%</b> Primary School Enrollment	<b>10.4%</b> Households with Internet	<b>49.0%</b> Households with Cable TV	<b>84.8%</b> Households with Radio	<b>36.5%</b> Speak Indigenous Language
	<b>Economic Constraints</b>	<b>0.69</b> Economic Dependency Ratio	<b>41.1%</b> Population in Poverty	<b>0.48</b> GINI Coefficient				
	<b>Gender Inequality</b>	<b>0.0%</b> Female Seats in Congress	<b>0.05</b> Ratio of Female to Male Secondary Education Enrollment	<b>0.03</b> Ratio of Female to Male Economic Activity				
	<b>Population Pressures</b>	<b>3.0%</b> Average Annual Population Change	<b>1.3%</b> Average Annual Urban Population Change	<b>46.1%</b> Food Insecurity				

<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 22 Departments (Score: 0.613)** Sacatepéquez displays a very high level of Coping Capacity, which is attributable to high Economic Capacity, Infrastructure Capacity, and Governance. The bar chart on the right indicates the socioeconomic themes contributing to the department's overall Coping Capacity score.

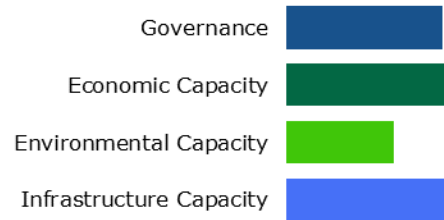









Table 4. Component scores for each Coping Capacity sub-component

	<b>Governance</b>	<b>332.7</b> Crime Victims per 100K	<b>41.3%</b> Households with Garbage Collection			
	<b>Economic Capacity</b>	<b>\$324.0</b> Remittances per Capita (USD)	<b>20.1</b> Businesses per 1,000 persons	<b>19,816</b> GDP per Capita (Quetzales)		
	<b>Environmental Capacity</b>	<b>17.4%</b> Protected Land	<b>1.4%</b> Reforested Area			
	<b>Infrastructure Capacity</b>					
	<b>Health Care Capacity</b>	<b>11.0</b> Hospital Beds per 10,000 Persons	<b>6.7</b> Nurses per 10,000 Persons	<b>7.6</b> Physicians per 10,000 Persons	<b>8.4 km</b> Average Distance to Nearest Hospital	<b>91.2%</b> Children Completed Immunization Schedule
	<b>Communications Capacity</b>	<b>10.1%</b> Households with Access to Fixed Phone Line	<b>86.8%</b> Households with Access to Mobile Phone	<b>99.7%</b> Households with Access to Electricity		
	<b>Transportation Capacity</b>	<b>25.6 km</b> Average Distance to Nearest Port or Airport	<b>36.7 km</b> Total Length of Road per 100 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: 22 of 22 Departments (Score: 0.359)**

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

Table 5. The 3 thematic areas with the weakest relative scores



**Vulnerable Health Status**



**Environmental Stress**



**Gender Inequality**

## Multi-Hazard Risk (MHR)

**Multi-Hazard Risk<sup>6</sup> Rank: 18 of 22 Departments (Score: 0.467)**

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

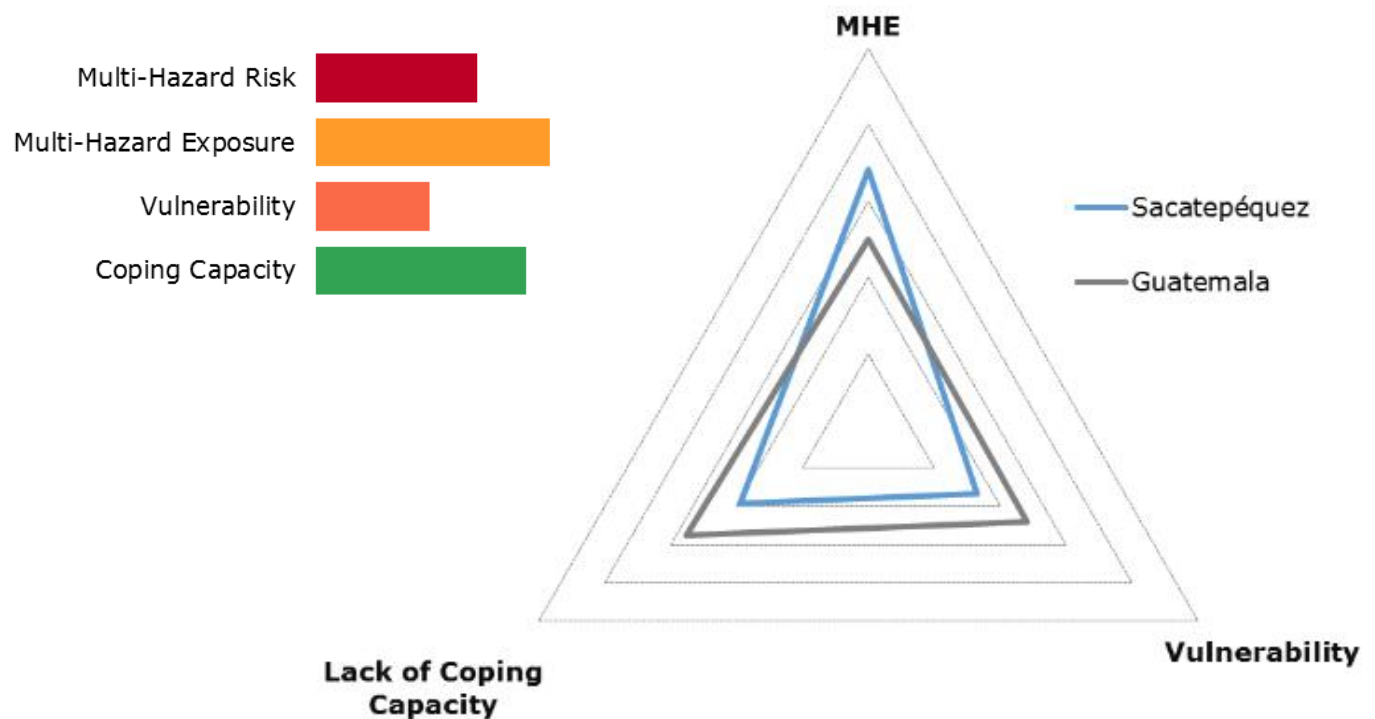


Figure 1. Department Multi-Hazard Risk component scores compared to overall average country scores

<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



### Lowest clean water vulnerability

Ranking 22 of 22 departments, low clean water vulnerability indicates that a population has access to high water quality and good containment systems, reducing susceptibility to disaster.



### Low economic constraints

Ranking 20 of 22 departments, low economic constraints indicate an increased ability to invest in mitigation and preparedness measures at the individual, household, and department level.



### High overall coping capacity

Ranking 2 of 22 departments, high coping capacity indicates the department's ability, using existing skills and resources, to face and manage adverse conditions, emergencies, or disasters.

## Recommendations

01

### Increase health education

Providing education programs to the public, especially young/expectant mothers and special needs populations, vulnerability can be decreased.

02

### Increase environmental programs

Invest in environmental protection programs to preserve land and vegetation, increasing resiliency and coping capacity.

03

### Provide opportunities for women

Public education and awareness programs that focus on increasing the role of women in the workplace and the society will improve resilience and decrease vulnerability.



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