



**TRINIDAD AND TOBAGO**

---

# **SANGRE GRANDE**

---

**NDPBA MUNICIPALITIES PROFILE**

# TRINIDAD AND TOBAGO

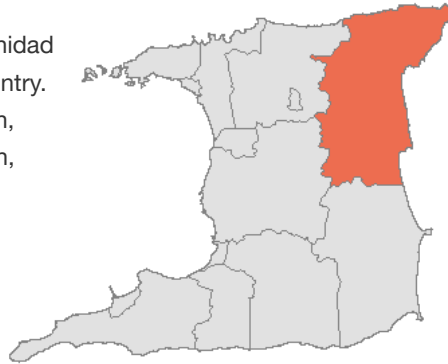
## SANGRE GRANDE



### CAPITAL: SANGRE GRANDE

Area: 927 km<sup>2</sup>

The Municipality of Sangre Grande is located in northeast Trinidad and is the largest municipality/regional corporation in the country. Sangre Grande is bordered by the Caribbean Sea to the north, the Atlantic Ocean on the east, Mayaro-Rio Claro to the south, Couva-Tabaquite-Talparo to the southwest, and Tunapuna-Piarco to the west. Geographic features include the Northern Range, the Northern Basin, consisting of river systems, floodplains and wetlands, the Central Range, and 24% of Trinidad's coastline. Land use is predominantly agricultural. Primary economic drivers are agriculture, fisheries, quarrying, tourism, commerce and distribution, and services.



## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - High**  
Score: 0.522 • Rank: 4/15



**RESILIENCE (R) - Very Low**  
Score: 0.436 • Rank: 14/15



**MULTI-HAZARD EXPOSURE (MHE) - Moderate**  
Score: 0.436 • Rank: 8/15



**VULNERABILITY (V) - Very High**  
Score: 0.623 • Rank: 1/15



**COPING CAPACITY (CC) - Moderate**  
Score: 0.495 • Rank: 7/15



Population (2011 Census)  
**75,766**



Population in Poverty  
**39.1%**



Population with less than a secondary education  
**34.6%**



Access to improved water  
**94.6% households**



Infant mortality rate (per 1,000 live births)  
**38**

\*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 8 / 15 MUNICIPALITIES  
SCORE: 0.436



MHE  
0.436

Raw MHE  
0.322

Relative MHE  
0.55

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**100.0%**

**79,660**

**\$3.3 Billion**



Flood

**92.4%**

**73,583**

**\$3.2 Billion**



Landslide

**54.8%**

**43,644**

**\$2.6 Billion**



Coastal Flood

**4.1%**

**3,292**

**\$29.8 Million**



Tropical Cyclone Winds

**100.0%**

**79,660**

**\$3.3 Billion**



Wildfire

**0.3%**

**209**

**\$4.6 Million**




## VULNERABILITY (V)

**RANK: 1 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.623**

Vulnerability in Sangre Grande is primarily driven by Information Access Vulnerability and Economic Constraints. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.



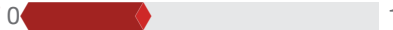
### Environmental Stress

0  1 **SCORE: 0.505** **RANK: 7/15 MUNICIPALITIES ASSESSED**

<b>0.7%</b> Households affected by deforestation	<b>33%</b> Households affected by drainage issues	<b>19.3%</b> Households affected by flooding	<b>1.43%</b> Households affected by sewage issues	<b>5.9%</b> Households affected by soil erosion	<b>1.9%</b> Households affected by solid waste issues	<b>2.1%</b> Households affected by wastewater issues	<b>1.0%</b> Households affected by water contamination
---	--	---	--	--	--	---	---




### Vulnerable Health Status

0  1 **SCORE: 0.333** **RANK: 14/15 MUNICIPALITIES ASSESSED**

<b>21.1%</b> Persons with chronic illness	<b>38.3</b> Infant mortality rate (per 1k live births)	<b>4.1%</b> Persons with long-standing disability	<b>0.2%</b> Population in collective living quarters	<b>1.45</b> Chikungunya cases per 10k	<b>0.26</b> Dengue cases per 10k	<b>2.38</b> Zika cases per 10k	<b>0.00</b> Leptospirosis cases per 10k
--	---	--	---	--	-------------------------------------	-----------------------------------	--




### Clean Water Vulnerability

0  1 **SCORE: 0.809** **RANK: 2/15 MUNICIPALITIES ASSESSED**

<b>94.6%</b> Households with access to improved water	<b>24.4%</b> Households with inadequate toilet facilities
--	--




### Information Access Vulnerability

0  1 **SCORE: 0.881** **RANK: 2/15 MUNICIPALITIES ASSESSED**

<b>34.6%</b> Population with less than secondary education	<b>79.1%</b> Households with no Internet	<b>13.3%</b> Households with no TV	<b>22.6%</b> Households with radio
---	---	---------------------------------------	---------------------------------------




### Economic Constraints

0  1 **SCORE: 0.856** **RANK: 1/15 MUNICIPALITIES ASSESSED**

<b>44.2</b> Age dependency ratio	<b>58.0%</b> Households with no vehicle	<b>15.0%</b> Population with unmet housing need	<b>39.1%</b> Poverty rate
-------------------------------------	--	--	------------------------------



### Gender Inequality


0  1 **SCORE: 0.444** **RANK: 10/15 MUNICIPALITIES ASSESSED**

**0.65**  
Female to male labor  
participants

**0.97**  
Female to male secondary  
education attainment



### Population Pressures

0  1 **SCORE: 0.536** **RANK: 5/15 MUNICIPALITIES ASSESSED**

**1.3%**  
Average annual  
population  
change

**25.1**  
Net migration  
rate



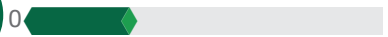
# COPING CAPACITY (CC)

**RANK: 7 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.495**

Sangre Grande exhibits weaker Coping Capacity in the areas of Transportation Capacity and Economic Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Coping Capacity score.




## Economic Capacity

0  1 **SCORE: 0.283** **RANK: 13/15 MUNICIPALITIES ASSESSED**

**44.3%** Labor force participation rate  
**\$5,150** Annual household income per capita (USD)  
**1.0** Financial institutions per 10k persons




## Governance

0  1 **SCORE: 0.714** **RANK: 3/15 MUNICIPALITIES ASSESSED**

**92.8** Serious crimes reported per 10k persons  
**39.0%** Voter participation  
**1.1%** Households with unmet need for refuse collection



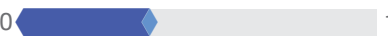
## Environmental Capacity

0  1 **SCORE: 0.861** **RANK: 3/15 MUNICIPALITIES ASSESSED**

**41.6%** Protected areas (sq km)



## Infrastructure Capacity

0  1 **SCORE: 0.366** **RANK: 12/15 MUNICIPALITIES ASSESSED**



## Health Care Capacity

**SCORE: 0.371** **RANK: 9/15 MUNICIPALITIES ASSESSED**

**1.5** Health care facilities (per 10k persons)  
**8.8** Average distance to hospital (km)  
**9.5%** Population with private health insurance



## Transportation Capacity

**SCORE: 0.022** **RANK: 15/15 MUNICIPALITIES ASSESSED**

**1.2** Road density (km per sq. km)  
**24.8** Average distance to nearest port (km)



## Communications Capacity

**SCORE: 0.643** **RANK: 4/15 MUNICIPALITIES ASSESSED**

**87.9%** Population using mobile phones  
**11.7** Mobile and wireless infrastructure (per 10k persons)



## Emergency Services Capacity

**SCORE: 0.428** **RANK: 11/15 MUNICIPALITIES ASSESSED**

**8.7** Average distance to fire station (km)  
**3.2** Average distance to police station (km)  
**5.8** Emergency shelters (per 10k persons)



## RESILIENCE (R)

**RANK: 14 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.436**

Sangre Grande's score and ranking are due to Very High Vulnerability combined with Moderate Coping Capacity scores.

**Below are the four thematic areas with the weakest relative scores:**



**Information  
Access  
Vulnerability**



**Economic  
Constraints**



**Transportation  
Capacity**



**Economic Capacity**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 5 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.355**



**Coastal Flood**

**RANK: 13 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.043**



**Flood**

**RANK: 6 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.299**



**Landslide**

**RANK: 4 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.304**



**Wildfire**

**RANK: 13 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.011**



**Tropical Cyclone Winds**

**RANK: 5 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.355**



## MULTI-HAZARD RISK (MHR)

**4 / 15**

RANK WITHIN MUNICIPALITIES  
Score: 0.522



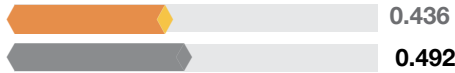
Sangre Grande's score and ranking are due to Moderate Multi-hazard Exposure combined with Very High Vulnerability and Moderate Coping Capacity scores.



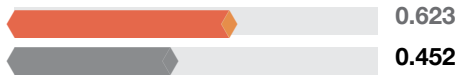
### Multi-hazard risk component scores compared to overall average country scores:



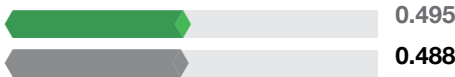
#### Multi-Hazard Exposure



#### Vulnerability



#### Coping Capacity





# SANGRE GRANDE RECOMMENDATIONS

## 1

### Information Access Vulnerability

Sangre Grande has the 2nd highest Information Access Vulnerability ranking in the country, with the highest percentage of Households with No TV (13%). In addition, 79% of households have No Internet Access, 23% have No Radio Access, and 35% of the population have less than a Secondary Education. Constraints related to Information Access can influence how people prepare for and respond to disasters.

Implement community outreach and education programs focused on hazard awareness, disaster preparedness, and health and safety practices to build community resilience. Include information and resources for audiences requiring special considerations such as the very young, elderly, and differently-abled.

Boost public-private collaboration and coordination to ensure that hazard warning information is disseminated as broadly as possible through multiple communications channels.

## 2

### Economic Constraints

Findings show that Sangre Grande has the highest overall ranking for Economic Constraints, with the highest Poverty rate (39%), and the highest percentage of the population with an Unmet Housing Need (15%). In addition, 58% of households do not have a Vehicle. Sangre Grande also has the highest Adolescent Fertility Rate (75.2 per 1,000 women), according to the Trinidad and Tobago Human Development Atlas 2012.

The economic constraints and very high overall vulnerability facing Sangre Grande will have bearing on the ability of residents to effectively prepare for, respond to, and recover from disasters. Poor or inadequate housing conditions leave populations vulnerable to the negative effects of hazards and unable to repair or replace damaged property. Those with dependents and no vehicle will be challenged to evacuate to safety when necessary. Consider long-term economic plans and programs that both promote social benefits for elderly, low income, and single-parent households, and allocate the revenue required to balance the costs of these benefits.

Increase opportunities to expand participation of women in education and economic activities through the enactment of policies that provide quality, affordable childcare and health care services.

# SANGRE GRANDE RECOMMENDATIONS

## 3 Transportation Capacity

Sangre Grande has the lowest Transportation Capacity ranking in the country, with the greatest Distance to Port Facility and second lowest Road Density. Limited transportation networks in this primarily rural municipality will impede disaster response and recovery activities and limit timely delivery or distribution of goods and services, which can have undesirable economic impacts. Sangre Grande is also prone to hazards such as flooding, landslides, earthquakes, tropical cyclone winds and coastal flooding.

Protect existing transportation infrastructure from hazard impacts by improving roadways and drainage systems and mitigating the potential for landslides and rockfalls.

Expanded transportation networks will support economic growth, provide alternative evacuation routes and increase delivery of water, energy and communications services.

---

## 4 Economic Capacity

Sangre Grande has the 3rd lowest overall Economic Capacity score, influenced by the 3rd lowest Household Income per Capita (\$5,150) in the country.

Institute vocational and technical training programs that bridge the gap between labor market needs and the lower levels of education typical in the municipality to increase household incomes.

As a primarily agricultural municipality, increase access to financing and support structures (e.g. microfinance services and loans) to build the capacity of farmers, small businesses and household enterprises to enhance production and increase household incomes.

**Better solutions.  
Fewer disasters.**

# Safer world.

**1305 N Holocono Street  
Suite 2, Kihei, HI 96753**

**P: (808) 891-0525  
F: (808) 891-0526**



**@PDC\_Global**



**/PDCGlobal**



**www.pdc.prg**



**ndpba@pdc.org**