



**TRINIDAD AND TOBAGO**

# **SIPARIA**

**NDPBA MUNICIPALITIES PROFILE**

# TRINIDAD AND TOBAGO

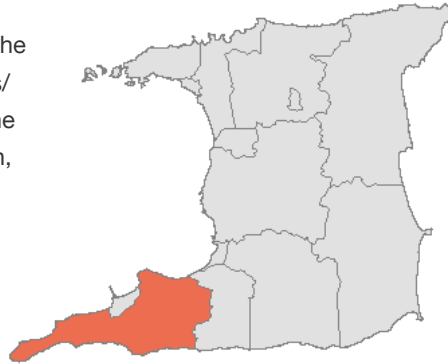
## SIPARIA



### CAPITAL: SIPARIA

Area: 495 km<sup>2</sup>

Situated in southwest Trinidad, the Municipality of Siparia is the sixth largest and seventh most populous of the municipalities/ regional corporations in the country. Siparia is bordered by the Gulf of Paria to the north, the Columbus Channel to the south, Penal-Debe to the east, and encompassing the Borough of Point Fortin with a portion of its northern border. Geographic features include extensive coastline, forested areas, and wetlands. Land use is predominantly rural. Primary economic drivers are retail and distribution, personal services, construction, and petroleum and other mining industries.



## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Low**  
Score: 0.468 • Rank: 11/15



**RESILIENCE (R) - Low**  
Score: 0.481 • Rank: 11/15



**MULTI-HAZARD EXPOSURE (MHE) - Low**  
Score: 0.366 • Rank: 12/15



**VULNERABILITY (V) - High**  
Score: 0.498 • Rank: 5/15



**COPING CAPACITY (CC) - Low**  
Score: 0.461 • Rank: 10/15



Population (2011 Census)  
**86,949**



Population in Poverty  
**27.7%**



Population with less than a secondary education  
**29.7%**



Access to improved water  
**93.9% households**



Infant mortality rate (per 1,000 live births)  
**61**

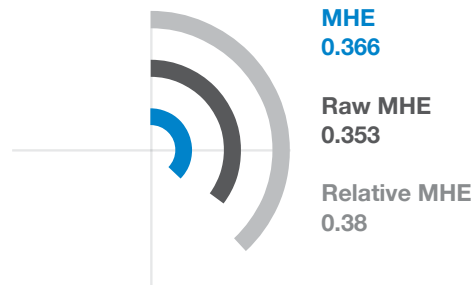
\*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 12 / 15 MUNICIPALITIES

SCORE: 0.366



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



Earthquake

**100.0%**

**89,715**

**\$4.1 Billion**



Flood

**88.7%**

**79,572**

**\$3.8 Billion**



Landslide

**28.4%**

**25,494**

**\$898.7 Million**



Coastal Flood

**15.1%**

**13,559**

**\$495.8 Million**



Tropical Cyclone Winds

**100.0%**

**89,715**

**\$4.1 Billion**



Wildfire

**3.9%**

**3,505**

**\$196.9 Million**



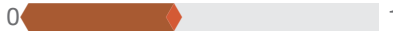
## VULNERABILITY (V)

**RANK: 5 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.498**

Vulnerability in Siparia is primarily driven by Clean Water Access Vulnerability and Information Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.




### Environmental Stress

0  1 **SCORE: 0.423** **RANK: 10/15 MUNICIPALITIES ASSESSED**

<b>0.4%</b> Households affected by deforestation	<b>26%</b> Households affected by drainage issues	<b>15.7%</b> Households affected by flooding	<b>1.33%</b> Households affected by sewage issues	<b>5.3%</b> Households affected by soil erosion	<b>1.4%</b> Households affected by solid waste issues	<b>2.9%</b> Households affected by wastewater issues	<b>1.2%</b> Households affected by water contamination
---	--	---	--	--	--	---	---




### Vulnerable Health Status

0  1 **SCORE: 0.459** **RANK: 5/15 MUNICIPALITIES ASSESSED**

<b>20.6%</b> Persons with chronic illness	<b>61.3</b> Infant mortality rate (per 1k live births)	<b>4.8%</b> Persons with long-standing disability	<b>0.1%</b> Population in collective living quarters	<b>1.50</b> Chikungunya cases per 10k	<b>0.58</b> Dengue cases per 10k	<b>3.11</b> Zika cases per 10k	<b>0.69</b> Leptospirosis cases per 10k
--	---	--	---	--	-------------------------------------	-----------------------------------	--




### Clean Water Vulnerability

0  1 **SCORE: 0.681** **RANK: 4/15 MUNICIPALITIES ASSESSED**

<b>93.9%</b> Households with access to improved water	<b>16.8%</b> Households with inadequate toilet facilities
--	--




### Information Access Vulnerability

0  1 **SCORE: 0.577** **RANK: 4/15 MUNICIPALITIES ASSESSED**

<b>29.7%</b> Population with less than secondary education	<b>76.5%</b> Households with no Internet	<b>10.3%</b> Households with no TV	<b>19.0%</b> Households with radio
---	---	---------------------------------------	---------------------------------------




### Economic Constraints

0  1 **SCORE: 0.515** **RANK: 7/15 MUNICIPALITIES ASSESSED**

<b>42.2</b> Age dependency ratio	<b>51.6%</b> Households with no vehicle	<b>10.9%</b> Population with unmet housing need	<b>27.7%</b> Poverty rate
-------------------------------------	--	--	------------------------------



### Gender Inequality

0  1 **SCORE: 0.567** **RANK: 7/15 MUNICIPALITIES ASSESSED**

**0.59**

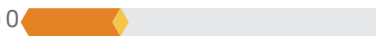
Female to male labor participants

**0.97**

Female to male secondary education attainment



### Population Pressures

0  1 **SCORE: 0.266** **RANK: 11/15 MUNICIPALITIES ASSESSED**

**0.6%**

Average annual population change

**-10.2**

Net migration rate



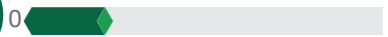
# COPING CAPACITY (CC)

**RANK: 10 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.461**

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




## Economic Capacity

0  1 **SCORE: 0.212** **RANK: 14/15 MUNICIPALITIES ASSESSED**

<b>42.7%</b> Labor force participation rate	<b>\$5,904</b> Annual household income per capita (USD)	<b>0.2</b> Financial institutions per 10k persons
--	--	--




## Governance

0  1 **SCORE: 0.760** **RANK: 2/15 MUNICIPALITIES ASSESSED**

<b>75.1</b> Serious crimes reported per 10k persons	<b>45.6%</b> Voter participation	<b>2.2%</b> Households with unmet need for refuse collection
--	-------------------------------------	---



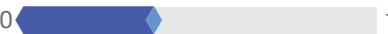
## Environmental Capacity

0  1 **SCORE: 0.553** **RANK: 4/15 MUNICIPALITIES ASSESSED**

**26.7%**  
Protected areas (sq km)



## Infrastructure Capacity

0  1 **SCORE: 0.379** **RANK: 11/15 MUNICIPALITIES ASSESSED**



## Health Care Capacity

**SCORE: 0.264** **RANK: 10/15 MUNICIPALITIES ASSESSED**

<b>1.0</b> Health care facilities (per 10k persons)	<b>12.5</b> Average distance to hospital (km)	<b>11.6%</b> Population with private health insurance
--	--	--



## Transportation Capacity

**SCORE: 0.356** **RANK: 12/15 MUNICIPALITIES ASSESSED**

<b>2.7</b> Road density (km per sq. km)	<b>13.0</b> Average distance to nearest port (km)
--	--



## Communications Capacity

**SCORE: 0.470** **RANK: 8/15 MUNICIPALITIES ASSESSED**

<b>87.1%</b> Population using mobile phones	<b>9.0</b> Mobile and wireless infrastructure (per 10k persons)
--	--



## Emergency Services Capacity

**SCORE: 0.425** **RANK: 12/15 MUNICIPALITIES ASSESSED**

<b>7.9</b> Average distance to fire station (km)	<b>2.8</b> Average distance to police station (km)	<b>3.8</b> Emergency shelters (per 10k persons)
---	---	--



## RESILIENCE (R)

**RANK: 11 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.481**

Siparia's score and ranking are due to High Vulnerability combined with Low Coping Capacity scores.

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



Clean Water  
Access  
Vulnerability



Information Access  
Vulnerability



Economic Capacity



Transportation  
Capacity



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 6 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.343**



**Coastal Flood**

**RANK: 5 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.239**



**Flood**

**RANK: 9 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.242**



**Landslide**

**RANK: 12 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.116**



**Wildfire**

**RANK: 10 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.062**



**Tropical Cyclone Winds**

**RANK: 6 / 15 MUNICIPALITIES ASSESSED**  
**SCORE: 0.343**



## MULTI-HAZARD RISK (MHR)

**11 / 15**

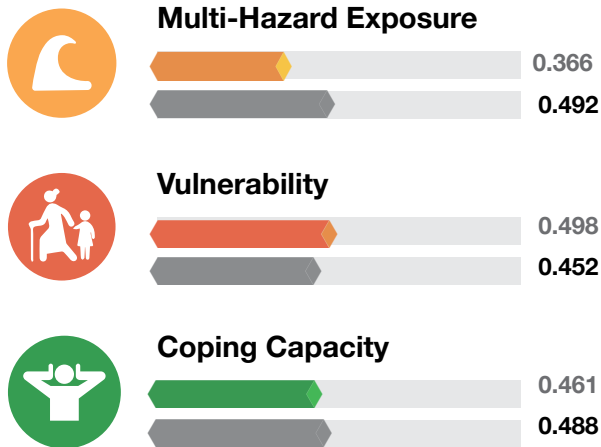
RANK WITHIN MUNICIPALITIES  
Score: 0.468



Siparia's score and ranking are due to Low Multi-hazard Exposure combined with High Vulnerability and Low Coping Capacity scores.



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





## SIPARIA RECOMMENDATIONS

# 1

### Clean Water Access Vulnerability

Siparia ranks 4th for overall Clean Water Access Vulnerability, with nearly 17% of households having Inadequate Toilet Facilities.

Invest in clean water and sanitation infrastructure and delivery systems, particularly in underserved areas.

Improve waste management planning and practices to prevent pollution of drinking water sources and the environment.

# 2

### Information Access Vulnerability

Siparia ranks 4th for overall Information Access Vulnerability, driven primarily by the percentage of households with No Internet Access (77%), and secondarily by the 30% of the population with less than a Secondary Education. Both have implications for disaster preparedness and response.

While connectivity is reported to be reliable and of high quality in urban areas, rural areas within Siparia lack dependable Internet access, reducing the effectiveness of this mechanism for important early warning information during a disaster.

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.

## SIPARIA RECOMMENDATIONS

### 3

#### Economic Capacity

Siparia has the 2nd lowest Economic Capacity score in the country, having the lowest density of Financial Institutions, the 4th lowest Labor Force Participation rate (43%), and the 5th lowest Household Income per Capita (\$5,904).

Strengthen implementation of 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.

Improve access to low-cost loans and financing support through institutions such as the National Entrepreneurship Development Company Limited (NEDCO), Agricultural Development Bank, Credit Unions, Ministry of Community Development, and local Chamber of Commerce to increase the economic capacity of micro- to medium-scale businesses.

### 4

#### Transportation Capacity

Findings show that Siparia has the 4th lowest overall Transportation Capacity in Trinidad and Tobago, driven by the 5th lowest scores for both Road Density and Distance to Port Facility. According to the Municipality of Siparia Local Economic Profile, road infrastructure serving the region is not well-maintained and frequently suffers from flooding and poor drainage in inland and coastal areas. It neither meets traffic demands, nor does it meet the weight requirements of the heavy vehicles serving the energy industry. Explore public-private partnerships to improve the quality of existing transportation infrastructure utilized by the oil and gas sector and extraction industries (e.g., ensure that roadways are designed and built to sustain the weight of heavy vehicles).

Secure investments to expand transportation networks, particularly in underserved areas to meet increasing demand and improve response times and access to emergency services. Increasing transportation capacity will have the added benefit of enhanced distribution of goods and services to support the local economy.

Protect investments and service provision by implementing mitigation strategies (e.g., improve storm water management) to reduce hazard impacts.

**Better solutions.  
Fewer disasters.**

# Safer world.

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

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



**@PDC\_Global**



**/PDCGlobal**



**www.pdc.prg**



**ndpba@pdc.org**